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Sexual Diversity Bullying and Cyberbullying Questionnaires: An inclusive approach to measure sexuality-based bullying

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LGBTQ+ bullying is a specific type of stigma-based bullying with a high prevalence among LGBTQ+ people. However, instruments to assess this phenomenon are scarce and focus on homophobic aggressions, and the motivations therefor, mainly in relation to gay and lesbian youths. In this study, we introduce and validate an instrument to assess LGBTQ+ bullying. The instrument covers general and specific aggressions, as well as dimensions of sexuality besides sexual orientation such as gender identity and expression, as a more comprehensive approach to understand the phenomenon. The study included 2,552 adolescents ($M_{Age} = 14.54$, $SD = 1.76$) from 13 Andalusian public secondary schools. Regarding gender identity, 43.9% of participants were cisgender boys, 53.5% were cisgender girls, and 2.6% were trans-binary and non-binary gender youths. In terms of sexual orientation, 81.1% of participants were heterosexual students, 2.4% lesbian/gay, 11.2% bisexual/pansexual, 4.4% questioning, and 0.9% asexual. Second-order models for bullying and cyberbullying had a good fit. Moreover, invariance was seen for bullying [$\Delta CFI = -.003$] and cyberbullying [$\Delta CFI = .003$] victimization measures. Furthermore, there was a sexual diversity bias: cisgender heterosexual students were more likely to perpetrate LGBTQ+ aggressions, and LGBTQ+ students were more likely to be targets of general and specific aggressions.

Keywords: Sexual minorities; bullying; cyberbullying; adolescents; LGBTQ+; sexual orientation; gender

Introduction

Bullying and cyberbullying have received significant attention from society and the scientific community because of their damaging consequences for those involved and their presence in schools and virtual environments where minors interact (Zych et al., 2019). According to the meta-analysis conducted by Li et al. (2022), victims of bullying and cyberbullying are at increased risk of depression, suicidal ideations, self-harm, and suicide attempts. Moreover, victims of both bullying and cyberbullying have the highest risk of suffering these consequences.

Bullying is defined as any aggressive and repetitive behavior aimed at causing harm or discomfort, where the victim experiences difficulty defending himself/herself (Smith, 2016). A few researchers consider cyberbullying as a type of bullying occurring because of new technologies (Kowalski & Limber, 2007; Menesini & Nocentini, 2009). Peter and Petermann (2018), following a conceptual review of the phenomenon of cyberbullying, defined it as the use of the Internet and social networks to intentionally attack another person repeatedly over time. In addition, there are particularities of cyberbullying that differentiate it from bullying. Among them, in cyberbullying the public audience may be larger than that for bullying, the potential for anonymity of the aggressor is greater, cyber-attacks can occur anywhere and at any time, and there may be less supervision in cyberbullying episodes (Sticca & Perren, 2013).

In terms of prevalence, the rates are different for the two phenomena: 9% to 97.9% for bullying (see the meta-analysis of Modecki et al., 2014) and, for cyberbullying, between 1.9% and 84% for cybervictimization, and between 5.3% and 66.2% for cyberaggression (see the meta-analysis of Camerini et al., 2020). Modecki et al. (2014), in their meta-analysis, concluded that bullying is twice as prevalent as cyberbullying, with average prevalence rates

of 35% and 15%, respectively. Although cyberbullying is a less prevalent phenomenon, the possibility of an attack occurring at any time of the day, regardless of location (Patchin & Hinduja, 2006), and the greater perceived vulnerability of and impact on the victims (Kowalski & Limber, 2007; Smith, 2012), justify the scientific and social attention that this phenomenon has received in recent years.

Bullying and cyberbullying are considered psychosocial and group phenomena (Zych et al., 2015) in which aggressions are maintained by the reinforcement and reactions of those who watch and participate in it, that is, the spectators of violence (Salmivalli, 2010). From a socio-ecological perspective, the school and virtual environments inhabited by adolescents are social contexts that are infiltrated by the prejudices and beliefs of society, including those associated with sexual and gender diversity. As such, they are influenced by the socio-historical and political zeitgeist (Bronfenbrenner & Morris, 2006).

Thus, certain social groups, including LGBTQ+ (an acronym used to refer to lesbians, gays, bisexuals, trans, questioning, queers, and any other sex and gender minority) people, are at increased risk of bullying and cyberbullying in adolescence. LGBTQ+ people are up to three times more likely to be victims of bullying (Elipe et al., 2018; Mennicke et al., 2021; Toomey & Russell, 2016; Webb et al., 2021) and polyvictims (i.e., experiencing more than one type of bullying) compared to heterosexual youths (Elipe et al., 2021).

The consequences of involvement in bullying in adolescence also appear to be greater for LGBTQ+ people. Garaigordobil and Larrain (2020) concluded that young people belonging to sexual minorities, and victims and aggressors of bullying and cyberbullying, were more susceptible to depression and social anxiety, among other mental health problems, compared to heterosexual young people. Additionally, LGBTQ+ people who are victimized at school experience more significant school problems, such as expulsion or suspension, and are more likely to be involved in a legal process, such as being arrested (Palmer & Greytak, 2017;

Poteat et al., 2011). Moreover, the consequences of bullying have been shown to be very serious among LGBTQ+ people. For example, Witcomb et al. (2019) found that, in a sample of transgender and gender-diverse youths, victimization was associated with self-harm, suicidal thoughts, depression, anxiety, poor family relationships, poor schoolwork, and low self-esteem. These results necessitate continuous efforts to investigate experiences of bullying among LGBTQ+ people because such efforts could inform tailored interventions.

The first step toward effectively preventing a behavior is to accurately identify, define, and evaluate it. Previous results suggest that LGBTQ+ youths are more frequently and severely victimized than their heterosexual cisgender counterparts, both internationally (i.e., in the USA, Asia, Canada and Europe; Jonas et al., 2022) and domestically (i.e., in Spain; Garaigordobil & Larrain, 2020; Ojeda et al., 2023). However, some systematic reviews analyzing studies from the USA, Portugal, Canada, Italy, the UK, Spain, Israel, Ireland, Bulgaria, Poland, Africa, Chile and Mexico, among other countries, have shown that diversity in the definitions used has contributed to wide prevalence estimates of between 22% and 87% according to Earnshaw et al. (2018), and between 3.6% and 50% according to Moyano & Sánchez-Fuentes, (2020). Thus, recent synthesis and review studies called for rigorous and precise measures to evaluate the phenomenon (Earnshaw et al., 2018; Espelage et al., 2019). This will allow us to dimensionalize bullying aimed at LGBTQ+ people appropriately and better understand the magnitude of the problem. Various terms related to this phenomenon have been identified in the literature, such as homophobic bullying (Moyano & Sánchez-Fuentes, 2020), bullying based on stigma (Earnshaw et al., 2018), bullying based on sexual orientation (Gower et al., 2018; Tavares et al., 2021), gender-based bullying (Brinkman & Manning, 2016; Goldblum et al., 2012), and gendered harassment (Meyer, 2008), among others.

The diversity of the labels used for homophobic bullying also extends to its definition. A few studies have considered homophobic bullying as any bullying in which the victims are LGBTQ+ people (Moyano & Sánchez-Fuentes, 2020; Nappa et al., 2019). Bullying based on stigma is defined as bullying predicated on discrimination, which is therefore a form of bullying experienced by people belonging to socially stigmatized groups (Earnshaw et al., 2018). Bullying based on sexual orientation has been defined as violence experienced because of sexual preference (Gower et al., 2018; Tavares et al., 2021). Gender-based bullying is considered to be bullying targeting the gender identity or gender expression of people who break society's pre-established gender norms (Anagnostopoulus et al., 2009; Brinkman & Manning, 2016). Finally, gendered harassment encompasses (hetero) sexual harassment, homophobic harassment, and harassment because of gender non-conformity (Meyer, 2008).

This article proposes the use of the term LGBTQ+ bullying as an inclusive concept aiming to integrate the previous definitions. In this way, it is expected to improve understanding of the phenomenon. LGBTQ+ bullying is defined as repeated aggressions based on, or motivated by, homophobia, biphobia, or transphobia, as well as gender, aimed at rejecting or denigrating a person's sexual orientation, identity, or gender expression. Such bullying would be related, although not exclusively, to aggressions predicated on the target's (or a relative thereof) sexual orientation, identity, and/or gender expression. Aggressions aimed at LGBTQ+ people or minors whose family composition diverges from the "traditional" one formed by a heterosexual couple would also be included under this term. It is also proposed that LGBTQ+ bullying should be considered a distinct phenomenon with its own characteristics (Elipe, 2019; Espelage & Swarer, 2008; Prati, 2012), where the purpose is to not recognize, reject, or punish the person on the basis of their identity (Poteat et al., 2011).

The lack of consensus on how to label to and define this phenomenon has also carried over to its assessment. Although the studies cited below have made significant efforts to

advance our understanding of LGBTQ+ bullying, they nonetheless only partially evaluated the phenomenon. A few studies have adapted items from instruments typically used to evaluate bullying, such as verbal, physical, and/or relational aggressions, and have contextualized them on the basis of the motivation for bullying, that is, whether it occurred because of the target's sexual orientation (Tavares et al., 2021), because they appeared to be gay, lesbian, or bisexual (Fabris et al., 2020; Gower et al., 2018; Nappa et al., 2019; Parent et al., 2020; Poteat et al., 2011), or because of their gender expression (Goldblum et al., 2012). Following this line of work, the Homophobic Bullying Scale was developed (Prati, 2012).

This scale evaluates bullying, sexual harassment, and cyberbullying behaviors and contextualizes them on the basis of whether they were aimed at people who are, or appear to be, gay or lesbian, taking account of the perspectives of the aggressor, the victim, and the observer. The Homophobic Bullying Scale possesses construct and discriminant validity, but it does not assess LGBTQ+-phobic behaviors specifically. Other works have focused on this latter point by analyzing certain homophobic behaviors. In this regard, a few authors have added items specifically pertaining to homophobic bullying linked with sexual orientation (e.g., calling someone gay or lesbian as an insult) to general bullying instruments (Camodeca et al., 2019).

Based on the content of the aggression, the Homophobic Content Agent Target (HCAT) scale was developed and validated by Poteat and Espelage (2005). The HCAT scale evaluates aggression toward and victimization of individuals in relation to their sexual orientation. Specifically, it assesses pejorative (homophobic) verbal expressions or comments related to sexual orientation (Poteat & Rivers, 2010). This scale possesses convergent validity and discriminant validity (Poteat & Espelage, 2005), and it has been adapted to other cultures and countries such as Spain (Sánchez-SanSegundo et al., 2020). The HCAT scale analyzes one of the most prevalent forms of homophobic bullying, that is, homophobic name-calling

(Kosciw et al., 2009), but it does not consider other aspects of LGBTQ+ bullying such as aggressions, persecution, and stigmatization in relation to gender expression and identity. Additionally, it does not analyze other harassing behaviors such as threats, relational aggressions, or LGBTQ+ cyberbullying.

This literature review shows that measures designed to assess LGBTQ+ bullying with proven validity and reliability are still extremely scarce (Poteat & Espelage, 2005; Prati, 2012). Additionally, previous studies have evaluated specific facets of the phenomenon and have been concerned with certain groups of LGBTQ+ people, which makes it difficult to ascertain the overall magnitude of the problem. These limitations highlight the need for a more inclusive instrument to measure LGBTQ+ bullying and cyberbullying.

This study intends to make advances in this respect by developing two new instruments to evaluate bullying and cyberbullying in general and LGBTQ+ populations. Aggressions and cyberaggressions related to sexual orientation, gender identity, and expression are all considered. A measure is developed to advance our understanding of victimization and aggression in the LGBTQ+ context given that aggression, and especially cyberaggression, has been less explored in this group to date (Garaigordobil & Larrain, 2020). Additionally, the sex, gender, and sexual orientation of the participants are considered, as well as the reasons for aggression and victimization (Lessard et al., 2020). Finally, this study evaluates the perceptions of victims regarding their ability to defend themselves from attacks as this is a crucial aspect when conceptualizing bullying (Smith, 2016). It is hoped that this multifaceted approach will lead to a deeper understanding of general and LGBTQ+ bullying and cyberbullying.

In terms of socio-political context, this study was carried out in Andalusia, Spain. Spain is one of the eight countries in the European Union that has approved gender self-determination for trans people (TGEU, 2023) and is also one of the 14 countries in the

European Union that legally recognizes marriage between same-sex couples (ILGA-Europe, 2023). According to Castro-Peraza et al. (2019), some American and Asian countries have also passed laws recognizing the rights of trans people. Moreover, Spain recently passed Law 4/2023, ensuring genuine equality for LGTBI people and their families. For its part, Andalusia was a pioneer, passing the comprehensive Law 2/2014 for non-discrimination on the grounds of gender identity and recognition of trans people's rights in Andalusia.

Regarding the educational field, in Andalusia the III Strategic Plan for Gender Equality in Education was published in 2016 and includes, among its measures, the prevention of gender-based violence in educational centers. In the case of LGBTQ+ bullying, the Order of June 20, 2011, subsequently modified by the Order of April 28, 2015, specifies organizational measures to be adopted in schools, as well as awareness-raising actions and measures for the prevention, detection, and intervention in cases of possible discrimination or bullying of underage students who do not conform in terms of their gender identity. The development of these public policies shows the interest in Spain in general, and in Andalusia specifically, in combating the social inequality suffered by LGBTQ+ people. Despite all these advances, however, Spanish studies of LGBTQ+ bullying are still very scarce (for a systematic review, see Espino et al., 2023).

Based on a literature review, this study aims to provide an instrument that integrates measures of general bullying and cyberbullying currently used in schools for application to LGBTQ+ bullying. Specifically, the objectives are as follows: 1) to analyze the factorial structure of the measures of bullying and cyberbullying; 2) to test the factorial invariance of bullying and cyberbullying measures based on gender identity and sexual orientation; 3) to determine the criterion validity and internal consistency of the measures of bullying and cyberbullying (general and LGBTQ+); 4) to compare types of bullying and cyberbullying, both general and LGBTQ+, based on gender identity and sexual orientation; and finally, 5) to

analyze the perceived ability of victims to defend themselves according to their gender identity and sexual orientation and to describe the perceived motives for being bullied.

Materials and methods

Participants

A total of 2,552 adolescents ($M_{\text{Age}} = 14.54$ years, $SD = 1.76$) participated in this study. The students were recruited from 13 public secondary schools in Andalusia (Spain). Regarding gender identity, 43.9% were cisgender boys, 53.5% were cisgender girls, and 2.6% were trans-binary and non-binary gender youths. In terms of sexual orientation, 81.1% were heterosexual students, 2.4% were lesbian/gay, 11.2% were bisexual/pansexual, 4.4% were questioning, and 0.9% were asexual. Concerning cultural background, 96% of the participants were born in Spain. Moreover, the majority (92.3%) of their parents were born in Spain, although 5.8% indicated that they were born in another country, and 1.9% did not answer this question.

Measures

Sex and gender identity

To determine the sex assigned at birth, a "Sex" item asked the participants directly if they were male or female. To evaluate gender identity, the item "You consider yourself" was included with answer options of boy, girl, both, or neither. Both questions are considered suitable for assessing sex assigned at birth and gender identity (Bradlow et al., 2017; Kosciw et al., 2018). Based on the responses to the two questions, the participants were categorized as cisgender boys, cisgender girls, trans girls, trans boys, or non-binary gender youths.

Sexual orientation

To determine the sexual orientation of the participants, first, sexual attraction was determined using a modified version of the measure proposed by Austin et al. (2007). The item "Generally, you feel romantic and/or sexual attraction to..." had answer options of "boys," "girls," "boys and girls," "people regardless of their sex or gender," "neither to boys nor to girls," "I am not clear". Then, based on the participant's response to this question and their previously established gender identity, they were categorized as heterosexual, lesbian/gay, bisexual/pansexual, questioning, or asexual.

General and LGBTQ+ bullying

The Sexual Diversity Bullying Questionnaire (SDBQ) was developed based on the European Bullying Intervention Project Questionnaire (EBIP-Q; Ortega-Ruiz et al., 2016), which evaluates both general and LGBTQ+ bullying. General bullying was assessed using the 14 items of the Spanish version of the EBIP-Q, which are responded to using a 5-point Likert scale (0 = Never; 4 = Yes, more than once a week), and the frequency with which behaviors such as dissemination of rumors, insults, and physically striking someone/being struck, among others, were performed (seven items evaluated aggression) or experienced (seven items evaluated victimization) in the last two months was recorded. This measure includes items on different types of traditional bullying, such as physical, verbal, and relational bullying. The items are shown in Table 1, and the internal consistency of the scales is provided in Table 3. LGBTQ+ bullying was assessed through a total of 10 Likert items (five each for aggression and victimization) with five response options (0 = Never; 4 = Yes, more than once a week). Both carrying out and being the target of bullying behaviors related to sexual orientation, gender identity, and expression was assessed. The items are shown in Table 1, and the internal consistency of the scales is provided in Table 3.

General and LGBTQ+ cyberbullying

Cyberbullying was evaluated through the Sexual Diversity Cyberbullying Questionnaire (SDCBQ), an instrument based on the European Cyberbullying Intervention Project Questionnaire (ECIP-Q; Del Rey et al., 2015) that evaluates general and LGBTQ+ cyberbullying. General cyberbullying was assessed through the items of the Spanish version of the European Cyberbullying Intervention Project Questionnaire, which comprises 22 Likert-type items (11 items evaluating aggressive behaviors and 11 evaluating victimization) with five response options (0 = Never; 4 = Yes, more than once a week). The items are shown in Table 2, and the internal consistency of the scales is shown in Table 3. LGBTQ+ cyberbullying was analyzed through a total of 10 Likert-type items (five items evaluated cyber-aggression and five evaluated cyber-victimization) with five response options (0 = Never; 4 = Yes, more than once a week). Performing and being the target of cyberbullying behaviors related to sexual orientation, gender identity, and expression were evaluated. The items are shown in Table 2, and the internal consistency of the scales is shown in Table 3.

Homophobic verbal content

To test the criterion validity of the developed measures, the Spanish version (Sánchez-SanSegundo et al., 2020) of the HCAT (Poteat & Espelage, 2005) was used to assess the agent (aggression) and target (victimization) dimensions through 10 items evaluated on a 5-point Likert scale (0 = 0 times; 4 = 6 or 7 times). An example item is as follows: "I've used phrases like 'that's being gay' in a conversation." Internal consistency was adequate for both the agent (.70) and target (.73) dimensions.

Perceived ability to stand up for oneself

From the perspective of the victim, the following question was asked: "If any of the previous

situations was experienced by you, did you feel that you were able to extricate yourself from or defend yourself?". The answer options were as follows: "Yes, I was capable," "I was not capable," and "It has never happened to me." From the aggressor's perspective, the following question was asked: "If you have performed any of the above behaviors, do you think the person who you targeted was able to defend themselves?" The answer options included: "Yes, they were capable," "They were not capable," and "I have never done this."

Bullying motives

Bullying motives were analyzed from the perspective of the victim via the following question: "If this has happened to you, was it for any of the following reasons?" Many of the suggested reasons were in line with the measure proposed by Lessard et al. (2020), including sexual diversity ("For being, or because they believe I am, lesbian, gay, bisexual, or trans") and gender expression ("For not appearing as 'feminine' as other girls, or as 'masculine' as other boys."). All of the answer options are provided in Table 5.

Procedure

Cluster sampling was performed; educational centers offering compulsory secondary education, training cycle, and vocational training formed the clusters. During the academic year 2021–2022, educational centers were contacted and provided with information about the nature of the study, its objectives, and the requirements for participation. Schools that agreed to participate in the study shared information about it with families or legal guardians and obtained informed consent. Ultimately, students could decide to voluntarily participate in the study and the anonymity of their responses was guaranteed. Due to the COVID-19 pandemic, schools decided whether to collect the data offline or electronically using SurveyMonkey. In all the cases, participants received face-to-face instructions regarding how to answer the

questionnaire. This study was approved by the Ethics Committee of University of Jaén (Code: OCT.20/6.PRY).

Data analysis

As a preliminary analysis, a descriptive evaluation of the items of the new bullying and cyberbullying assessment instruments was performed. Data of cisgender–heterosexual and LGBT students were distinguished. Additionally, the response options were reclassified into three frequency categories based on the response to each item. The categories were: students not involved or having low involvement (chose the “never” or “yes, once or twice” options), moderate involvement (chose the option “once or twice a month”), and high involvement (chose the option “once a week” or more frequently).

Regarding the main analyses, for objective 1, confirmatory factor analyses were performed with the weighted least square mean and variance adjusted (WLSMV) estimation method, given that the items were categorical and there was a notable floor effect, i.e., a large percentage of respondents had a score near the lower limit (see Tables 1 and 2). For objective 2, multigroup analyses were performed to test the factorial invariance of bullying and cyberbullying measures among cisgender–heterosexual and LGBT students. This analysis was conducted with the WLSMV estimation method and the THETA parameterization (Muthén & Muthén, 2012). This was performed in two steps; in the first step, a configural model in which factorial weights and thresholds were freely estimated between the groups was constructed. The residual variance was set at 1 in both groups, and the mean factor value was set at 0 in both groups. In the second step, a metric-scalar model in which the factorial weights and thresholds were equal between the groups was constructed. The residual variance was set to 1 in one group and freely estimated in the other, and the mean factor value was set at 0 in one group and freely estimated in the other. To confirm the invariance of the bullying and cyberbullying measures, the increase in the comparative fit index (ΔCFI) between the

configural and metric-scalar model was used. ΔCFI values equal to or less than .010 confirm invariance of measurements at the metric-scalar level (Cheung & Rensvold, 2002). For objective 3, Pearson correlation coefficients between the dimensions of bullying and cyberbullying were estimated with the HCAT instrument validated in Spanish by Sánchez-SanSegundo et al. (2020). Positive correlations suggest that participants' responses to bullying and cyberbullying instruments are consistent with previously validated measures. Additionally, as part of objective 3, the reliability of the measurements was analyzed by calculating Cronbach's alpha values, where values equal to or greater than .70 suggested adequate internal consistency between the items. For objective 4, the mean scores of the cisgender–heterosexual and LGBT participants on the bullying and cyberbullying dimensions were compared, Student's *t*-test was used to assess the differences between the groups, and Cohen's *D* was used to ascertain the magnitude of the differences. Regarding objective 5, the percentages of participants who considered that the victims were, or were not, capable of standing up for and defending themselves in a bullying situation were calculated. Questions were asked from the perspectives of the aggressor (or cyberaggressor) and the victim (or cybervictim), and the cisgender–heterosexual and LGBT youth groups were compared. The Chi-square test was used to confirm the differences between groups and the corrected residues were used to detect cells in which the percentages were higher or lower than expected. Finally, the reasons for harassing or being a victim were analyzed and are described in percentage terms as a measure of the degree of agreement. The results are differentiated on the basis of the motives for bullying indicated by the aggressors and the motives perceived by the victims.

Results

Preliminary results

Table 1 shows the response rates for the items that evaluated aggression and victimization in the cisgender–heterosexual and LGBT groups. Generally, a floor effect can be observed for all items, especially those evaluating aggression, where more than 90% of students reported not being involved or having low involvement. As for victimization, although a high percentage of participants reported not being the target of bullying behaviors, a significantly higher number of LGBT students reported experiencing them compared to students in the cisgender–heterosexual group, with both general and LGBTQ+ phobic behaviors being involved.

Insert Table 1 here

Table 2 shows the response rates of items related to cyberaggression and cybervictimization, separately for the cisgender–heterosexual and LGBT groups. Again, a floor effect was observed for all items, especially those related to cyberaggression. As for cybervictimization, a higher percentage of LGBTQ+ people reported being the target of these behaviors (both general and LGBTQ+-specific).

Insert Table 2 here

Confirmatory Factor Analysis (CFA)

To confirm the factorial structure of the measures of bullying and cyberbullying, a model comprising four first-order factors correlated with bullying (general aggression, LGBTQ+ aggression, general victimization, and LGBTQ+ victimization) was tested. Another model of four first-order factors correlated with cyberbullying (general cyberaggression, LGBTQ+ cyberaggression, general cybervictimization, and LGBTQ+ cybervictimization) was also tested. Both the bullying [$X^2(246) = 1259.36$; RMSEA = .040; CFI = .951] and cyberbullying

$[X^2(458) = 1696.35; RMSEA = .033; CFI = .942]$ first-order models showed a good fit. However, very high correlations were observed between general and LGBTQ+ behaviors, both in the bullying (between .77 and .85) and cyberbullying models (between .82 and .96). Therefore, we decided to test more parsimonious second-order models, following the recommendations of Chen et al. (2005). A model comprising two second-order factors correlated with both bullying (aggression and victimization) and cyberbullying (cyberaggression and cybervictimization), and four first-order factors (cyber) general aggression, (cyber) LGBTQ+ aggression, (cyber) general victimization, and (cyber) LGBTQ+ victimization, was tested. Second-order models showed a good fit both for bullying $[X^2(249) = 1351.57; RMSEA = .042; CFI = .947]$ and cyberbullying $[X^2(461) = 1683.01; RMSEA = .032; CFI = .943]$.

However, as the objective of the study was to test factorial invariance, and where certain items had empty cells for a few of the five answer options, the second-order model was also tested after recoding to yield three options: the answer options "never" and "once or twice" were recoded as 0, the answer option "once or twice a month" was recoded as 1, and the options "once a week" and "more than once a week" were recoded as 2. Accordingly, a comparison between not involved or involved with low frequency (0), involved with moderate frequency (1), and involved with high frequency (2) groups was possible. Second-order models recoded to yield these three response options showed a better fit than previous models, both for bullying $[X^2(249) = 403.99; RMSEA = .016; CFI = .984]$ and cyberbullying $[X^2(461) = 674.69; RMSEA = .013; CFI = .988]$.

Therefore, it can be concluded that the second-order factorial solution, both for the five- and three-response-option models, showed a good fit and can be used to evaluate general bullying, LGBTQ+ bullying, and cyberbullying.

Factorial invariance of victimization and cybervictimization based on gender identity and sexual orientation (cisgender–heterosexual and LGBT)

In Tables 1 and 2, empty cells were observed for a few recoded response options in both the aggression (Table 1) and cyberaggression (Table 1) columns for LGBT students. This made it difficult to analyze invariance based on gender identity and sexual orientation for assault and cyberaggression. Therefore, multigroup analysis comparing cisgender–heterosexual and LGBT students was performed only for victimization and cybervictimization.

The invariance of a second-order model, three response options for victimization, and another for cybervictimization was tested. In the first step, the configural model showed a good fit for victimization [$X^2(108) = 239.47$; RMSEA = .031; CFI = .982] and cybervictimization [$X^2(208) = 379.78$; RMSEA = .026; CFI = .965]. In the second step, the metric-scalar model showed a good fit for victimization [$X^2(130) = 285.37$; RMSEA = .031; CFI = .979] and cybervictimization [$X^2(238) = 394.86$; RMSEA = .023; CFI = .968]. The results supported full strict invariance for the victimization measures of bullying [$\Delta\text{CFI} = -.003$] and cyberbullying [$\Delta\text{CFI} = .003$].

Criterion validity and internal consistency of bullying and cyberbullying measures

To provide additional evidence of the validity of the proposed measures, the correlations between bullying and cyberbullying measures were analyzed with the Spanish translation of the HCAT instrument (agent and target) (Sánchez-SanSegundo et al., 2020). Table 3 shows that all correlations were positive and of medium effect size. In all cases, the associations were stronger between the LGBTQ+ dimensions and the HCAT instrument compared to the general dimensions and the HCAT instrument, confirming the criterion validity of the developed instruments. Regarding internal consistency, the general and LGBTQ+ dimensions showed good reliability (see Table 3).

Insert Table 3 here

Bullying and cyberbullying among cisgender–heterosexual and LGBT students

Based on the descriptive results provided in Table 3, LGBT youths showed statistically higher mean scores for general and LGBTQ+ victimization, as well as general and LGBTQ+ cybervictimization, compared to cisgender–heterosexual youths. These differences had a small-to-medium effect size for general and LGBTQ+ victimization, and a small effect size for general and LGBTQ+ cybervictimization. No significant differences were found for general and LGBTQ+ aggression and cyberaggression between the groups.

How capable do LGBT youths feel in terms of standing up for or defending themselves against bullying or cyberbullying compared to cisgender–heterosexual youths?

Table 4 provides descriptive statistics relating to the perceived ability to cope with bullying or cyberbullying. The ability of the target of these behaviors to defend themselves was analyzed from the perspective of the aggressor and the victim. From the perspective of the aggressor and/or cyberaggressor, cisgender–heterosexual people involved as aggressors and cyberaggressors believed that victims were better able to defend themselves than LGBT people. From the perspective of the victim and/or cybervictims, LGBT students reported a lower ability to stand out or defend themselves against bullying and cyberbullying by cisgender–heterosexual students, suggesting greater helplessness among LGBT youths in the face of attacks.

Insert Table 4 here

What are the main reasons reported for being a victim or assailant according to those involved in bullying and cyberbullying?

Table 5 presents the main reasons cited for aggression and victimization. From the aggressor's perspective, it may be that young people who perpetrated these behaviors did so primarily because of the gender expression, overweight status, race, or ethnicity of the victims. From

the victim's perspective, people targeted by bullying behaviors indicated that this was the case primarily because of their gender expression, overweight status, or LGBT status (perceived or actual).

Insert Table 5 here

Discussion

This study provides two new measures to assess LGBTQ+ bullying and cyberbullying from an inclusive perspective. In comparison with the few previous measures available (Poteat & Espelage, 2005; Prati, 2012), this study offered more comprehensive measures based on previous literature, integrating LGBTQ+ bullying behaviors including the use of homophobic language and dissemination of rumors (Camodeca et al., 2019; Poteat & Espelage, 2005), being the target of threats and attacks linked to gender identity and expression (Goldblum et al., 2012), as well as bullying directed toward minors because someone in their family was LGBT. This study represents an advance over previous studies, in that the sexual orientation as well as the gender identity of the participants has been addressed (Toomey & Russell, 2016), with the objective of comparing the experiences of general and LGBTQ+ victimization and aggression between cisgender–heterosexual and LGBT youths. In this regard, the results of the factorial invariance analysis between the cisgender–heterosexual and LGBT groups, thus supporting the adequacy of the proposed measures, regardless of the gender identity or sexual orientation of the population. Factorial invariance ensures that the measures developed in this study, and their scores, are comparable between cisgender–heterosexual and LGBT youths. Therefore, the results of this study expand upon the available literature, as previous evidence of factorial invariance by gender was only provided by the Spanish version of the HCAT instrument (Sánchez-SanSegundo et al., 2020). This study provides an instrument with good psychometric properties and with evidence of construct validity, supported by good CFA and factorial invariance results. Additionally, high criterion validity and internal

consistency were observed, highlighting that the proposed scales are reliable for measuring general and LGBTQ+ bullying in young people. The good psychometric properties of both instruments underscore their robustness, so they could be used to evaluate the effectiveness of interventions to prevent bullying incorporating LGBTQ+ components (Earnshaw et al., 2018).

The results confirm that LGBT students are bullied more (both general and LGBTQ+ bullying) than cisgender–heterosexual students. These results indicate that, regardless of the use of a general or a more inclusive tool to measure bullying, LGBT youths, as a social group, are at a greater risk of bullying. In this regard, several studies have concluded that the rates of victimization and poly-victimization are higher in LGB people compared to heterosexuals (Elipe et al., 2018, 2021; Mennicke et al., 2021; Nappa et al., 2019; Webb et al., 2021). The results of this work indicate that the greater bullying and cyberbullying experienced by LGBT youths has a social and structural basis; it is aimed at denigrating, rejecting, and punishing LGBT people because of their identity (Poteat et al., 2011), thus confirming the gender (Anagnostopoulus et al., 2009; Brinkman & Manning, 2016), and discrimination (Earnshaw et al., 2018) basis of these behaviors. Evaluating general bullying and cyberbullying, together with specific measures of LGBTQ+ bullying, provides a broader vision of the experiences and dynamics of bullying and cyberbullying. This is key for prevention of the phenomenon because it will enable testing of the common and differential correlates of general and LGBTQ+ bullying through comparison between LGBTQ+ people and cisgender–heterosexuals. Finally, the analysis of general and specific forms of bullying is also relevant to estimate the consequences for victims. In this regard, a study has concluded that bullying based on stigma (i.e., bullying associated with sexual orientation together with other factors, such as functional diversity) causes more severe mental health issues than general bullying (Russel et al., 2012). Taken together, findings suggest that general bullying and LGBTQ+

bullying are related but different behaviors (Elife, 2019; Espelage & Swarer, 2008; Prati, 2012)

The findings reported here shed new light on aggression and cyberaggression, both general and LGBTQ+ in nature, by comparing cisgender–heterosexual and LGBT youths and thus addressing a gap in the literature. Our results suggest that there are no differences in aggression or cyberaggression depending on sexual orientation and gender, confirming the results obtained by a few previous studies (Garaigordobil & Larrain, 2020; Wang et al., 2020). Looking at aggression and victimization together, LGBT people were more frequently the victims, but not the aggressors, compared to cisgender–heterosexual people. According to what is known as the bully–victim cycle (Ma, 2001), people involved in victimization are more likely to engage in aggression toward their peers. However, the results of this study suggest that this correlation might not be as strong or clear in LGBT people, which raises the following question: why are LGBT people, as more frequent victims, not more frequently the aggressors? Although more studies are needed to further explore this aspect and the associated variables, one possibility is that LGBTQ+ bullying is a type of bullying fueled by a power imbalance arising from social prejudice and stereotypes (Earnshaw et al., 2018), which could explain the differences from general bullying; victims may internalize their “inferiority”. Future studies could aim to answer this question with the objective of ascertaining the variables mediating the relationship between victimization and aggression in LGBT people.

Along with analyzing the frequency of involvement in bullying and cyberbullying, in both general and LGBTQ+-specific forms, this research has examined the perceived capacity of aggressors and victims to defend themselves against bullying and cyberbullying—a central aspect in the conceptualization of bullying (Smith, 2016). Our results suggest that this phenomenon is perceived differently by cisgender–heterosexual and LGBT youths. LGBT victims felt nearly three times more helpless or unable to defend themselves from assaults

compared to heterosexual victims. Therefore, LGBT people are not only at more risk of being victims of general and LGBTQ+ bullying, but also perceive the imbalance of power to be greater and feel more vulnerable, confirming the structural nature of this type of bullying (Elipe et al., 2021). Finally, this study has analyzed the motives for bullying from the perspectives of the aggressor and the victim. Our analysis uncovered a wide range of reasons for bullying related to human diversity, including being overweight; the family's country of origin; functional diversity; race, ethnicity or cultural group; religious beliefs, being or appearing gay, lesbian, bisexual or trans; or having a non-stereotypical gender expression (i.e., not appearing as feminine as other girls or as masculine as other boys). Being overweight, gender expression, sexual orientation, and gender identity were the most prevalent reasons reported by the victims and perpetrators. The only differences found between perpetrators' cited reasons for bullying and victims' perceived motives is that perpetrators also highlighted race, ethnicity or cultural group as major motives for their attacks. Although we are not aware of studies comparing different motives from the aggressor's perspective, studies that have focused on the motives as perceived by the victims have shown similar results. For example, Lessard et al. (2020) found that almost 70% of bias-based bullying was due to sexual orientation (68%), followed by gender typicality and being overweight, with prevalence rates of 63% and 57%, respectively. Our results were also in line with those of Witcomb et al. (2019), who found that the main reasons victims reported for being bullied were sexual orientation, gender identity, and weight. The fact that the victims believe that attacks are carried out because of aspects of their identity could be associated with internalized beliefs regarding their own identity, such as the awareness of stigma, that is, the perception that they will be rejected and treated in a differential and stigmatizing way owing to their identity. Awareness of stigma has been considered in cross-sectional studies of mental health issues, substance use, and romantic partner violence in adults (Pinel, 1999;

Carvalho et al., 2011) using the Minority Stress model (Meyer, 2003). Future studies could advance this line of research by exploring the longitudinal relationships of victimization, stigma awareness, and intimate partner violence throughout adolescence in LGBTQ+ people.

Future studies aimed at preventing LGBTQ+ bullying should address the phenomenon in a comprehensive and multifaceted manner. They should consider that LGBT youths are more frequently targets of repeated general and LGBTQ+ bullying; a higher percentage of them, compared to their cisgender heterosexual peers, feel that they cannot defend themselves against these attacks, and believe that they are victims of such bullying due to their identity, sexual orientation, and gender expression. These results point to the need to incorporate anti-bullying policies in schools that cover affective-sexual and sex-generic diversity. It is necessary to raise awareness about human diversity, as well as to support LGBT youths through the actions of both their teachers and their peers (Day et al., 2020). In this regard, schools with Gender-Sexuality Alliances (GSAs) show lower levels of bias-based bullying than those without GSAs (Lessard et al., 2020).

This study has some limitations that should be addressed in future studies. It was not possible to analyze factorial invariance for aggression or cyberaggression because of the presence of empty cells. Future studies should make progress in this regard. Additionally, this study grouped LGBT people into a single category. There is a need to expand the sample size in future studies in order to analyze the differences among heterosexuals, lesbians, gays, bisexual, trans, queers, and those questioning gender interactions and expressions with the objective of advancing our understanding of these dynamics and their consequences. Additionally, some factors, such as intersexuality, were not addressed in this study because of the difficulty of formulating questions that the majority of students would understand. Future studies should consider this issue to be truly inclusive. Finally, bullying and cyberbullying were assessed through self-report measures, so the results are not bias-free. In the future,

researchers could include a mixed methodology that allows triangulation of the information obtained.

Disclosure statement

The authors declare that there are no relevant financial or non-financial competing interests to report.

Data availability statement

The data that support the findings of this study are available in the repository of Universidad de Jaén: <https://hdl.handle.net/10953/1188>

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Table 1. Prevalence of assault and victimization based on gender identity and sexual orientation (cisgender–heterosexual = 1; LGBT = 2)

		Aggression			Victimization		
		No or once or twice	Once or twice a month	Once a week or more frequently	No or once or twice	Once or twice a month	Once a week or more frequently
		%	%	%	%	%	%
1. Hitting, kicking, or pushing someone	1	96.4	1.3	2.3	96.4	1.0	2.6
	2	96.5	0.6	2.9	95.0	1.8	3.2
2. Insulting and swearing about someone	1	92.5	3.0	4.5	86.0	4.0	10.0
	2	93.0	2.3	4.7	79.7	7.3	13.0
3. Telling other people swear words about someone	1	95.4	2.0	2.6	86.7	4.6	8.7
	2	94.4	2.3	3.3	77.3	8.6	14.1
4. Threatening someone	1	98.5	0.5	1.1	97.0	1.0	1.9
	2	98.8	0.4	0.8	94.5	2.4	3.0
5. Stealing or spoiling something from someone	1	98.3	0.7	1.0	96.2	1.8	1.9
	2	99.2	0.2	0.6	94.9	2.2	2.8
6. Exclude or ignore someone	1	98.1	0.8	1.1	93.3	2.5	4.2
	2	98.8	0.6	0.6	83.3	7.3	9.3
7. Spreading rumors about someone	1	98.7	0.8	0.5	91.9	3.7	4.4
	2	97.9	1.2	0.8	83.9	8.1	7.9
8. Insulting someone by saying things such as "faggot," "queer," "tomboy," "lesbian," or related terms	1	97.1	0.9	2.0	96.0	1.1	2.9
	2	98.6	0.0	1.4	87.9	4.0	8.1
9. Threatening someone by alluding to their sexual orientation or identity	1	99.4	0.4	0.2	99.1	0.3	0.5
	2	99.6	0.0	0.4	95.6	1.4	3.0
10. Spreading rumors about someone's sexual orientation or identity	1	99.6	0.2	0.3	99.3	0.3	0.4
	2	99.2	0.4	0.4	91.5	2.2	6.3
11. Mocking someone's appearance, clothing, or gestures for not considering them "masculine" or "feminine" enough	1	99.0	0.6	0.5	97.9	0.9	1.2
	2	99.6	0.0	0.4	88.0	5.7	6.3
12. Picking on a member family of someone because they are LGBT	1	99.5	0.2	0.4	98.9	0.4	0.8
	2	99.4	0.4	0.2	94.2	1.6	4.1

Note. Items 1–7 are general bullying behaviors. Items 8–12 are specific LGBTQ+ bullying behaviors.

Table 2. Prevalence of cyberaggression and cybervictimization based on gender identity and sexual orientation (cisgender–heterosexual = 1; LGBT = 2)

		Aggression			Victimization		
		No or once or twice	Once or twice a month	Once a week or more frequently	No or once or twice	Once or twice a month	Once a week or more frequently
		%	%	%	%	%	%
1. Swearing to someone or insulting them	1	95.3	2.0	2.7	93.3	2.7	3.9
	2	95.4	2.3	2.3	86.3	5.4	8.3
2. Saying swear words about someone to other people in online messages	1	96.4	1.4	2.2	93.8	2.7	3.5
	2	96.1	1.9	2.1	88.1	5.6	6.3
3. Threatening someone through online messages	1	98.9	0.4	0.8	96.8	1.5	1.7
	2	98.6	0.8	0.6	95.4	2.0	2.6
4. Hacking into someone's account and stealing their personal information	1	99.4	0.1	0.5	99.4	0.3	0.3
	2	99.4	0.2	0.4	97.8	0.6	1.6
5. Hacking into someone's account and impersonating them	1	99.6	0.2	0.2	99.4	0.2	0.3
	2	99.0	0.4	0.6	98.0	1.2	0.8
6. Creating a fake account to impersonate someone else	1	99.1	0.4	0.5	99.6	0.1	0.3
	2	98.6	0.4	1.0	98.6	0.6	0.8
7. Posting someone's personal information	1	99.4	0.2	0.4	99.0	0.7	0.3
	2	99.4	0.2	0.4	98.4	0.6	1.0
8. Posting compromising videos or photos of someone	1	99.3	0.2	0.5	99.3	0.5	0.2
	2	99.2	0.2	0.6	99.2	0.4	0.4
9. Retouching someone's photos or videos	1	99.0	0.3	0.7	99.2	0.4	0.4
	2	99.0	0.4	0.6	98.4	1.0	0.6
10. Excluding or ignoring someone in a group	1	98.1	0.8	1.1	96.7	1.4	1.9
	2	97.3	1.4	1.2	89.2	5.5	5.3
11. Spreading rumors about someone	1	98.8	0.5	0.7	96.9	1.5	1.6
	2	98.1	1.0	0.8	92.9	3.8	3.2
12. Insulting someone by saying things such as "faggot," "queer," "tomboy," "lesbian," or related terms	1	97.5	0.8	1.7	97.4	0.7	1.8
	2	98.8	0.4	0.8	92.1	2.6	5.2
13. Threatening someone by alluding to their sexual orientation or identity	1	99.5	0.1	0.4	99.3	0.3	0.3
	2	99.4	0.0	0.6	97.8	1.2	1.0
14. Spreading rumors about someone's sexual orientation or identity	1	99.4	0.2	0.4	99.3	0.3	0.4
	2	99.6	0.0	0.4	96.0	1.4	2.6
15. Mocking someone's appearance, clothing, or gestures for not considering them "masculine" or "feminine" enough	1	99.0	0.3	0.8	98.6	0.8	0.6
	2	99.6	0.2	0.2	91.3	4.9	3.9
16. Picking on a member family of someone because they are LGBT	1	99.4	0.1	0.5	99.4	0.3	0.3
	2	99.6	0.0	0.4	97.2	0.6	2.2

Note. Items 1–11 are general cyberbullying behaviors. Items 12–16 are specific LGBTQ+ cyberbullying behaviors.

Table 3. Criterion validity and comparison of means for bullying and cyberbullying based on gender identity and sexual orientation

	Criterion validity		Internal consistency	Cisgender–heterosexual	LGBT	T student	Cohen's D
	HCAT	<i>r</i>	α	<i>M (SD)</i>	<i>M (SD)</i>		
General aggression	Aggression	.39	.83	1.21 (0.41)	1.19 (0.42)	1.01	-
LGBTQ+ aggression	Aggression	.47	.79	1.10 (0.20)	1.00 (0.30)	1.64	-
General victimization	Victimization	.30	.85	1.43 (0.61)	1.59 (0.74)	-5.16	0.64
LGBTQ+ victimization	Victimization	.43	.78	1.10 (0.30)	1.39 (0.69)	-14.28	0.41
General cyberaggression	Aggression	.37	.92	1.10 (0.28)	1.10 (0.31)	0.00	-
LGBTQ+ cyberaggression	Aggression	.41	.88	1.05 (0.26)	1.03 (0.23)	1.53	-
General cybervictimization	Victimization	.38	.84	1.17 (0.31)	1.27 (0.41)	-6.13	0.33
LGBTQ+ Cybervictimization	Victimization	.47	.75	1.06 (0.23)	1.27 (0.53)	-12.82	0.31

Note. In bold, significant student T's have been identified; HCAT = Homophobic Content Agent Target Scale.

Table 4. Perceived ability to stand out or defend oneself in a bullying or cyberbullying situation (cisgender–heterosexual = 1; LGBT = 2)

		Yes, I was capable	No, I was not capable	It hasn't happened to me or I haven't done so	Chi-square
Aggression	1	28.9	3.2	67.9	5.04
	2	23.6	3.3	73.1	
Victimization	1	41.3	4.9	53.8	80.60
	2	48.1	14.9	37	
Cyberaggression	1	21.9	2.9	75.2	3.52
	2	18.1	3.5	78.4	
Cybervictimization	1	34.5	3.3	62.2	61.03
	2	42.9	10.1	46.9	

Note. In bold, cells with significant corrected residuals have been identified.

Table 5. Reasons to get involved in bullying and cyberbullying according to those concerned

Reasons	Aggression	Victimization
Being overweight	3.9	30.1
Disability or functional diversity	2.1	3.9
Not looking as feminine as other girls, or as masculine as other boys	4.9	28.2
Being (or believed to be) gay, lesbian, bisexual, or transgender	3.2	23.4
Family's country of origin	2.1	7.3
Religion or religious beliefs	3.2	7.8
Race, ethnicity, or cultural group	3.9	7.1