Sexual orientation, self-esteem, and academic achievement during adolescence¹

Orientación sexual, autoestima y rendimiento académico en la adolescencia

https://doi.org/10.4438/1988-592X-RE-2023-399-562

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¹ This article has been funded by the BBVA Foundation Grant to Scientific Research Groups 2017, Leonardo Grant for Researchers and Cultural Creators 2020 of the BBVA Foundation and FEDER through PO FEDER from La Rioja 2014-2020 (SRS 6FRSABC026).

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Abstract

Despite the social changes of recent years, the evidence shows that belonging to a sexual orientation minority group is associated with inequality, discrimination and a stigma that places individuals in a situation of vulnerability. This psychosocial vulnerability can have a particularly negative impact on adolescents. Specifically, scientific evidence has shown a clear relationship between non-heterosexual orientation and the presence of mental health issues. In association with this, some studies have also shown the impact of sexual minority status on academic performance. However, research in this area is still lacking, especially with regard to adolescence, when academic development is crucial. The aim of the present study was to examine, in a representative sample of adolescents, whether belonging to a minority sexual orientation group (homosexual, bisexual, or questioning) was associated with poorer academic achievement. In addition, due to the importance of self-esteem in academic achievement, we analyzed whether an adequate level of self-esteem might moderate the relationship between the two variables. The study was conducted with a sample of 1,777 adolescents (M=15.70 years; SD=1.26) selected by stratified random cluster sampling. Sexual orientation was assessed as one's experience of attraction toward others. Grade point average from the previous school year and the number of failed subjects in the previous grading period were used as indicators of academic achievement. The results showed no significant main effect of sexual orientation or its interaction with self-esteem on these indicators of academic achievement. These results disagree with those obtained in earlier studies and indicate that belonging to sexual orientation minorities is not associated with academic difficulties.

Keywords: sexual orientation, academic achievement, self-esteem, adolescence, educational context

Resumen

A pesar de los cambios sociales producidos en los últimos años, la evidencia pone de manifiesto que la pertenencia a colectivos de minorías sexuales se asocia a desigualdades, discriminaciones y a un estigma que ubica a las personas en situación de vulnerabilidad. Esta vulnerabilidad psicosocial puede tener un impacto especialmente negativo en la adolescencia. En concreto, la evidencia científica ha mostrado una clara relación entre la orientación sexual no heterosexual y la presencia de dificultades en el ámbito de la salud mental. Asociado a este hecho, algunos estudios han indicado también el impacto de la pertenencia a minorías sexuales sobre el rendimiento académico. Sin embargo, los estudios realizados hasta la fecha son escasos, especialmente en la etapa adolescente, donde el ámbito académico es crucial. El objetivo del presente estudio fue examinar, en una muestra representativa de adolescentes, si la pertenencia a un grupo minoritario de orientación sexual (homosexuales, bisexuales o questioning) estaba asociada con un peor rendimiento académico. Además, debido a la importancia de la autoestima sobre el rendimiento académico, se pretendía analizar si un adecuado nivel de autoestima podría moderar la relación entre ambas variables. El estudio se condujo con una muestra de 1.777 adolescentes (M=15,70 años; SD=1,26) seleccionados mediante un muestreo aleatorio estratificado por conglomerados. La orientación sexual fue evaluada por la atracción experimentada hacia otras personas. Como indicadores de rendimiento académico se usaron la nota media del curso anterior y el número de asignaturas suspensas en la evaluación anterior. Los resultados no mostraron un efecto principal significativo de la orientación sexual ni de su interacción con la autoestima sobre los indicadores de rendimiento académico utilizados. Los resultados contrastan con los obtenidos en estudios previos e indican que la pertenencia a minorías sexuales por orientación sexual no está asociado a dificultades a nivel académico.

Palabras clave: orientación sexual, rendimiento académico, autoestima, adolescencia, educación

Introduction

Adolescence is a key period for the development of identity; though tentative, the identity formed at this stage becomes the basis for later reformulations during the adult years (Topolewska & Cieciuch, 2017; Schwartz, 2007). Every adolescent establishes how they identify with a number of categories, notably the professional, religious, political, gender and sexual.

With regard to gender and sexuality, despite the legal and social advances that have been achieved, the evidence shows that belonging to sexual minority groups is associated with inequalities and with a stigma that places individuals in a situation of vulnerability, where they must face multiple obstacles (Oswalt & Wyatt, 2011; Pachankis, & Bränström, 2018).

We must stress, however, that in referring to greater psychosocial vulnerability, there is no intention of ascribing a pathological nature to the LGTBIQ+ experience (lesbian, gay, transexual, bisexual, intersexual, queer). On the contrary, the intent is to highlight the impact of the existing social prejudice and discrimination toward this population, which can be especially impactful in the stage of adolescence (Espada et al., 2012; Rodríguez-Castro et al., 2013). Following Meyer's model (2003), it is the stress caused by an expectation of social rejection and discrimination that explains this greater vulnerability. Research indicates that youth who belong to sexual minorities are in fact confronted with psychological and physical aggression more often and more sharply (Garchitorena, 2009; Kosciw, 2009), in different contexts such as the family (Baiocco et al., 2015; Castillo, 2010), couple relationships (Edwards, 2015; Longobardi Badenes-Ribera, 2017) and education (Birkett et al., 2009; Garaigordobil & Larrain, 2020; Generelo & Pichardo, 2005; Patchin & Hinduja, 2017).

International research shows greater prevalence of depressive symptoms (Bostwick et al., 2014; Spittlehouse et al., 2020), anxiety (Bostwick et al., 2014; Hatzenbuehler et al., 2009), and suicidal behavior (Bostwick et al., 2014; Duncan & Hatzenbuehler, 2014; Hatzenbuehler et al., 2014; Plöderl et al., 2010; Raifman et al., 2020; Salway et al., 2019) in adolescents belonging to sexual minorities.

The impact that discrimination has on sexual minorities also extends to the educational sphere, and requires in-depth analysis (Poteat et al., 2014). Students who belong to groups that suffer discrimination may respond by not getting involved in a context that stigmatizes them, and this can have consequences for their educational process. Following the Johnson et al. (2001) explanatory hypothesis on the educational difficulties of ethnic minority students, Pearson et al. (2007) propose that an undeveloped sense of belonging or the expectation of rejection leads students in sexual orientation minorities to lose motivation for learning, and they may engage in different risk behaviors such as not paying attention in class, not doing homework, or even skipping class altogether.

In line with this hypothesis, certain studies have suggested that sexual minority status may be associated with academic difficulties. In a university population, Rankin (2003) and Rankin et al. (2010) underscored that female and male non-heterosexual students had low participation in academic activities and events, and stressful experiences may have had a inhibiting role in their academic potential. Oswalt and Wyatt (2011) and Klein and Dudley (2014) observed that students belonging to sexual orientation minorities indicated a greater frequency of experiencing stressful life events and mental health problems. They also perceived that these problems had an academic impact more often than their heterosexual peers. The bisexual group reported a poorer situation than the other minority groups in both of these studies. Unfortunately, these studies did not evaluate academic achievement.

Studies that address this question in the adolescent population are few, but the existing studies tend to show that male and female adolescents belonging to sexual orientation minorities present poorer academic achievement than their heterosexual peers (Aragon et al, 2014; Birkett et al., 2014; Díaz et al., 2005; Pearson et al., 2007; Poteat et al., 2011; Rostosky et al., 2003; Russell et al., 2001) and greater presence of risk behaviors such as school absenteeism, negative attitudes toward education, lower expectations, and less participation in out-of-school activities to improve scholastic performance (Aragon et al., 2014; Birkett et al., 2014; Massachusetts Department of Education, 2020; Poteat et al., 2011; Robinson & Espelage, 2011; Russell et al., 2001).

Regarding academic achievement, several studies have observed statistically significant differences in self-reported grades when comparing heterosexual and non-heterosexual groups (Aragon et al., 2014; Birkett et al., 2014; Díaz et al, 2005; Poteat et al., 2011; Rostosky et al., 2003; Russell et al., 2001). Many of these studies did not analyze the achievement of the different sexual orientation groups (Aragon et al., 2014; Díaz et al., 2005; Poteat et al., 2011; Rostosky et al., 2003). Birkett et al. (2014) observed significantly lower grades in the homosexual and bisexual groups of both sexes, as compared to the heterosexuals, although the results did not indicate differences for the questioning group. Russell et al. (2001) indicated differences between the heterosexual and bisexual groups but did not find achievement to be significantly lower in the homosexual group.

Pearson et al. (2007) observed indicators of poorer academic achievement between adolescents (significantly lower grade point average, higher likelihood of repeating a school year, and a lower number and

range of additional preparatory courses for university). For the girls, the differences disappeared when controlling for background, namely, when taking into account ethnic characteristics, family characteristics (parents' educational level and family structure), and cognitive capacity; only the non-heterosexual males showed indicators of poorer achievement. This study did not differentiate between subgroups of sexual minorities.

As one can observe, the research in this area associates affective-sexual diversity with lower academic achievement. But it is essential to also consider the factors that contribute to resilience in these groups (Poteat et al., 2014) and allow for healthful development despite stigma, discrimination, victimization, and other health risks that are observed in these groups (Kosciw et al., 2015; Poteat et al., 2014, 2021; Saewyc, 2011). In fact, the evidence shows that many sexual minority youths show a great capacity for countering the effects of stigma and rejection (Fernández-Rodríguez & Calle, 2013; Savin-Williams, 2005).

It is therefore worthwhile to ask what factors are associated with resilience. Authors like Perpiñà et al. (2022) show the importance of students' social-emotional competencies in their attainment of optimal academic and personal potential. From our viewpoint, this is an especially relevant concern in vulnerable students. According to Herrman et al. (2011), personal factors include aspects such as self-esteem, intellectual functioning, cognitive flexibility, and emotional regulation. In this regard, Espada et al. (2012) concur in pointing out that adequate self-esteem can be a moderating variable in many effects that stem from a situation of vulnerability. Self-esteem has been noted as an important indicator in understanding student behavior (Gutiérrez & Goncalves, 2013), and has been positively associated with academic achievement (Cid-Sillereo et al., 2020). It would then be interesting to analyze the possible moderating role of self-esteem between sexual minority status and academic achievement.

In conclusion, there are few studies that analyze the hypothesis that male and female adolescents belonging to sexual minorities present poorer academic achievement. Moreover, most available studies did not differentiate sexual minority subgroups (i.e., homosexuals, bisexuals) and did not include the "questioning" students (unsure of their sexual attraction). Finally, it is important to also analyze possible gender differences, given that some studies have shown differences in this regard (Molborn & Everett, 2015).

In the foregoing research context, the aim of the present study was to examine whether there was a relationship between sexual orientation and academic achievement in a representative sample of adolescents. In addition, we analyzed whether sexual orientation and academic achievement might be moderated by self-esteem in male and female youths. Finally, possible gender differences were analyzed, given that previous studies have pointed in this direction.

Taking into account the prior evidence, the initial study hypothesis is that belonging to sexual orientation minority groups will be associated with poorer academic achievement. It is also expected that self-esteem will prove to be a moderating factor in this relationship, acting as a protective factor.

Method

Sample

The sample was obtained by stratified random cluster sampling from a population of approximately 15,000 students. A total of 1,972 students from 98 classrooms at 30 schools in the autonomous region of La Rioja were involved in the study. Participants belonged to public (45.2%) and charter schools (54.8%). The schools offered secondary education and vocational training in areas with different socioeconomic levels. The variables used to stratify were geographic area and educational level.

Participants with more than two points (n=146) on the Oviedo Response Infrequency Scale-Revised (Fonseca-Pedrero et al., 2019) and those age 19 and older (n=36) were eliminated. Of the 1,790 students, 816 were boys (45.6%), 961 were girls (53.7%). Thirteen participants presented sex-gender diversity (0.7%) and could not be included in the analyses due to limited sample size, leaving the final sample at a total of 1,777 participants.

The mean age was 15.70 years (SD = 1.26) and ages ranged from 14 to 18 years. Age distribution of the participants was: 14 years (n=338; 19.1%), 15 years (n=534; 30.1%), 16 years (n=409; 23.1%), 17 years (n=297; 16.7%), and 18 years (n=196; 11.0%). Distribution by sexual orientation (attraction) was: heterosexual (n=1640; 92.3%), homosexual (n=46; 2.6%), bisexual (n=49; 2.8%), and questioning or unsure (n=42; 2.5%).

Instruments

Sexual orientation scale

A modified version of the Kinsey scale (Kinsey et al., 1948) was used to examine sexual orientation. This scale is a widely used index that designates a sexual continuum from attraction to the opposite sex to exclusively same-sex attraction, with degrees of non-exclusivity between these two poles. Participants were presented with the phrase "Normally, you feel physical and romantic attraction for ...", and asked to complete it with one of the following options: 1) boys, always; 2) most often boys, and sometimes girls; 3) boys and girls, similarly; 4) most often girls, and sometimes boys: 5) girls, always: 6) not sure. Although some researchers (e.g., Haslam, 1997; Savin-Williams, 2014) affirm that sexual orientation is best represented by a continuum, for methodological reasons (too many categories could have a limiting effect on sample size in each category), for our analyses the sexual orientation variable was defined along four patterns of sexual attraction: heterosexual (options 1 and 2 for girls, 4 and 5 for boys), homosexual (1 and 2 for boys, 4 and 5 for girls), bisexual (option 3 for both genders) and questioning (6 in both genders).

Rosenberg self-esteem scale (Rosenberg, 1965)

Contains 10 items on a four-point Likert scale (1 = strongly disagree; 4 = strongly agree). The Spanish version of the scale (Oliva et al., 2011) has shown adequate psychometric properties (Vázquez et al., 2004) and was used in the present study. McDonald's ω for the total score was 0.89 in this study.

Academic achievement

Students' academic achievement was measured using two self-reported indicators. First, as in several previous studies in this area of research, participants were asked to report their grade point average from the previous school year (e.g., Aragon et al, 2014; Birkett et al., 2014; Poteat et al., 2011). Second, given that some authors (e.g., Pearson et al., 2007) analyze indicators of poor performance (i.e., grade repetition or failures), participants were asked to report their number of failed subjects in the previous grading period.

Oviedo Response Infrequency Scale-Revised (INF-OV-R) (Fonseca-Pedrero et al., 2009; Fonseca-Pedrero et al., 2019).

The scale was administered to participants to detect random, pseudorandom, or dishonest respondents. The INF-OV-R instrument is a self-report composed of 10 items on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Students with two or more incorrect responses on the INF-OV-R scale were eliminated from the sample.

Procedure

The research was approved by the General Directorate of Education of La Rioja region, and the Clinical Research Ethics Committee of La Rioja (CEICLAR). The school administration team at each randomly selected school received a visit where the research project was explained. The instrument administration process was standardized by means of a protocol for all the research staff. The questionnaires were administered collectively during school hours, by computer, during a 50-minute session, in a classroom specially prepared for this purpose. Informed consent was requested from the families for participants under 18 years of age, and the confidentiality and voluntary nature of the study were guaranteed.

Data analyses

First, descriptive statistics were calculated for academic achievement indicators according to the subgroups of sexual orientation, gender and level of self-esteem.

Second, a Multivariate Analysis of Variance (MANOVA) was carried out to determine the impact of participants' sexual orientation, gender and self-esteem on their academic achievement indicators. Wilks's Lambda value (Wilks λ) was used to observe whether there were significant main effects and interactions between the variables of sexual orientation, gender and self-esteem. The partial eta squared statistic (*partial* η^2 : small =.01; medium=.06; large=.14) was used as an index of effect size. Next, ANOVAs were conducted to analyze the individual effects on the two

academic performance indicators. All analyses were conducted using SPSS software (version 26).

Results

First, descriptive statistics (means and standard deviations) were calculated for the academic achievement indicators (grade point and number of fails) as a function of participants' sexual orientation, gender and self-esteem (see Tables I and II).

TABLE I. Mean (Standard Deviation) of male and female participants' grade point average from the previous school year, as a function of sexual orientation, gender and (low-medium-high) level of self-esteem

		Self-esteem				
	Gender (n)	Low M (DT)	Medium M (DT)	High M (DT)	Total M (DT)	
Heterosexual	Boys (n=776)	5,61 (1,21)	6,08 (1,12)	6,39 (1,47)	6,28 (1,42)	
	Girls (n=864)	6,09 (1,37)	6,59 (1,30)	6,92 (1,66)	6,67 (1,55)	
	Total (n=1640)	5,97 (1,35)	6,41 (1,26)	6,62 (1,58)	6,48 (1,50)	
Homosexual	Boys (n=24)	6,17 (0,98)	6,50 (0,71)	7,21 (1,72)	6,86 (1,52)	
	Girls (n=22)	5,80 (1,23)	6,13 (1,25)	7,83 (1,72)	6,42 (1,56)	
	Total (n=46)	5,94 (1,12)	6,20 (1,14)	7,40 (1,70)	6,63 (1,54)	
Bisexual	Boys (n=8)	5,00 (0)	5,33 (0,58)	6,00 (1,73)	5,50 (1,07)	
	Girls (n=41)	6,13 (0,96)	5,83 (1,03)	6,00 (1,29)	6,00 (1,07)	
	Total (n=49)	6,00 (0,97)	5,73 (0,96)	6,00 (1,32)	5,92 (1,08)	
Questioning	Boys (n=10)	-	5,67 (1,53)	5,57 (1,27)	5,60 (1,26)	
	Girls (n=32)	6,63 (1,77)	6,40 (0,89)	6,95 (1,61)	6,78 (1,54)	
	Total (n=42)	6,63 (1,77)	6,13 (1,13)	6,58 (1,63)	6,50 (1,55)	
Total	Boys (n=816)	5,64 (1,18)	6,06 (1,11)	6,39 (1,48)	6,28 (1,43)	
	Girls (n=961)	6,10 (1,35)	6,54 (1,29)	6,91 (1,65)	6,63 (1,54)	
	Total (N=1777)	5,99 (1,33)	6,37 (1,25)	6,62 (1,58)	6,47 (1,50)	

TABLE II. Mean (Standard Deviation) of the number of subjects failed in the last grading period, according to participants' sexual orientation, gender and (low-medium-high) level of self-esteem

		Self-esteem				
	Gender (n)	Low M (DT)	Medium M (DT)	High M (DT)	Total M (DT)	
Heterosexual	Boys (n=776)	2,66 (2,06)	2,18 (2,21)	1,66 (1,91)	1,81 (2.00)	
	Girls (n=864)	2,01 (2,08)	1,40 (1,77)	1,21 (1,62)	1,42 (1,79)	
	Total (n=1640)	2,17 (2,09)	1,67 (1,97)	1,46 (1,80)	1,61 (1,90)	
Homosexual	Boys (n=24)	2,50 (2,43)	0 (0)	1,07 (2,06)	1,36 (2,15)	
	Girls (n=22)	2,50 (1,65)	1,75 (2,12)	1,17 (1,17)	1,92 (1,74)	
	Total (n=46)	2,50 (1,90)	1,40 (2,01)	1,10 (1,80)	1,65 (1,95)	
Bisexual	Boys (n=8)	5,50 (2,12)	3,33 (3,51)	1,67 (2,89)	3,25 (3,01)	
	Girls (n=41)	1,87 (2,06)	2,00 (2,76)	0,85 (1,68)	1,59 (2,19)	
	Total (n=49)	2,28 (2,32)	2,27 (2,84)	1,00 (1,86)	1,86 (2,39)	
Questioning	Boys (n=10)		1,33 (1,53)	2,43 (3,95)	2,10 (3,35)	
	Girls (n=32)	1,00 (1,78)	1,00 (1,00)	0,84 (1,74)	0,91 (1,61)	
	Total (n=42)	1,00 (1,77)	1,13 (1,13)	1,27 (2,54)	1,19 (2,17)	
Total	Boys (n=816)	2,72 (2,11)	2,15 (2,22)	1,65 (1,95)	1,82 (2,03)	
	Girls (n=961)	1,98 (2,05)	1,65 (1,95)	1,18 (1,62)	1,42 (1,80)	
	Total (N=1777)	2,16 (2,09)	1,82 (2,03)	1,44 (1,82)	1,60 (1,92)	

Second, to determine whether there were any statistically significant differences, a Multivariate Analysis of Variance (MANOVA) was conducted with academic achievement indicators as dependent variables and participants' sexual orientation, gender and self-esteem as fixed factors. The MANOVA revealed significant main effects for the gender variable [Wilks's λ = 0.99, $F_{(2, 1753)}$ =3.58; p<.05; $partial \eta^2$ =.004], and for self-esteem [Wilks's λ =0.99, $F_{(4, 3506)}$ =4.00; p<.05; $partial \eta^2$ =.003]. However, contrary to expectations, the main effect of sexual orientation was not significant [Wilks's λ =0.99, $F_{(6, 3506)}$ = 1.35; p>.05; $partial \eta^2$ =.002].

No significant interaction was found between sexual orientation and gender, between sexual orientation and self-esteem, or in the three-fold interaction among these variables [Wilks's λ =0.99, $F_{(6.3506)}$ =1.35; p>.05; $partial \ \eta^2$ =.002], [Wilks's λ =0.99, $F_{(12.3506)}$ =0.96; p>.05; $partial \ \eta^2$ =0.003], and [Wilks's λ =0.99, $F_{(10.3506)}$ =0.55; p>05; $partial \ \eta^2$ =.002], respectively.

The individual ANOVAs yielded statistically significant gender differences for both grade point average [F (1,1754)=4.17, p<.05] and number of fails [F (1,1754)=6.02, p<.05]. Specifically, the gender results indicated that the girls scored significantly higher in grade point average from the previous school year and significantly lower in the number of fails from the last grading period.

The individual ANOVAs also yielded statistically significant differences according to level of self-esteem, both for grade point average [F(2,1754)=4.18, p<.05] and for number of fails [F(2,1754)=6.19, p<.05]. Bonferroni post-hoc analyses revealed statistically significant differences according to level of self-esteem. Regarding grade point average from the previous school year, participants with high self-esteem showed significantly higher achievement than participants with a medium level of self-esteem, who in turn exhibited significantly higher achievement than participants with a low level of self-esteem (p<.05). Regarding number of subjects failed, results from the post-hoc analysis revealed that participants with high and medium self-esteem showed a significantly lower number than those with low self-esteem.

Conclusions

The aim of the present study was to examine, in a representative sample of adolescents, whether sexual orientation and academic achievement were related, and whether this relationship was moderated by self-esteem.

Regarding the former, the obtained results show that belonging to a minority sexual orientation group was not associated with poorer academic achievement. These results contradict findings from previous studies with adolescents (Aragon et al, 2014; Birkett et al., 2014; Díaz et al., 2005; Pearson et al., 2007; Poteat et al., 2011; Rostosky et al., 2003; Russell et al., 2001) where academic achievement was shown to be poorer in sexual minority groups than in heterosexual groups. Despite the absence of statistically significant differences, the analysis of grade point averages revealed that bisexual and questioning adolescents tended to present poorer achievement. The small sample size of these two groups may have limited the statistical power to exhibit differences that, in any case, appear to be associated with very low effect sizes.

However, previous research with undergraduate students, though not assessing academic achievement per se (Klein & Dudley, 2014; Oswalt & Wyatt; 2011), evidenced that sexual minority participants, especially the bisexual group, claimed to have experienced more difficulties in relation to mental health and academics. Along these lines, previous research has often indicated poorer mental health indicators in the bisexual group (Denny et al., 2014; Hatzenbuehler, 2011; Hatzenbuehler et al., 2014; Marshal et al., 2013) and in sexual-minority males (e.g., Moya & Moya-Garófano, 2020; Semlyen et al., 2016).

It must be noted that, despite an absence of statistically significant differences, the homosexual boys tended to present the highest-grade point averages and the lowest level of fails. These results might follow in the line of the *Best little boy in the world* hypothesis, posed by Pachankis and Hatzenbuehler (2013), whereby they explain the high achievement in sexual minority males that is observed in certain studies. These authors suggest that this group, in an attempt to boost their self-esteem, seeks to excel in academics.

In any case, unlike other studies (Klein & Dudley, 2014; Oswalt & Wyatt, 2011), the present study did not show between-group differences that might indicate the mediation of other variables such as discrimination situations in the relationship between sexual orientation and difficulties in academic performance. Unfortunately, the present study did not analyze this variable, nor its possible mediating role. For example, Kosciw et al. (2012, 2014) indicated that students in sexual minorities differed in their grade point average as a function of their levels of victimization. Birkett et al. (2014) and Aragon et al. (2014) showed a direct effect from belonging to sexual minorities, but in both studies this relationship was also found to be mediated by the participants' experience of victimization situations. Along these lines, Edwards (2015) showed that students from all sexual minority groups were more likely to be victims of intimate partner violence than were their heterosexual peers, and that these situations entailed poorer academic outcomes.

Regarding the second study aim, that of analyzing whether self-esteem may moderate the relationship between sexual orientation and academic achievement, the results did not reveal the expected interactive effect, instead showing that levels of self-esteem were positively related to academic achievement independently of sexual orientation. These results are consistent with previous studies on the relationship between selfesteem and academic achievement (Cid-Sillereo et al., 2020; Parra et al, 2004; Rodríguez et al, 2004), but do not provide information of interest regarding the academic achievement of participants belonging to sexual minorities. It is to be expected, and research so confirms, that students with adequate self-esteem --whether in the general population (Martín et al., 2012) or within sexual minority groups (Poteat et al., 2014) -- are confident in their abilities and hold high performance expectations, thus promoting their attainment of better outcomes.

In addition, the results of the present study showed gender differences in academic achievement. Specifically, girls reported significantly higher-grade point averages and significantly fewer fails. These results are consistent with previous studies in samples of secondary school students (e.g., Voyer & Voyer, 2014).

Despite all of the above, neither the interactive effect of sexual minority membership and self-esteem nor their interaction with gender were significant, producing no effects of interest for our present objectives.

Some limitations of the present study should be mentioned. First, although the research was carried out with a representative sample from a region of northern Spain, and international recommendations were followed for including different groups of sexual minorities in the analysis (Institute of Medicine, 2011; McDonald, 2018), including questioning students, the size of the sample sub-groups are significantly disproportionate.

Second, the definition of sexual orientation in the present study was limited to evaluating sexual attraction, without taking into account other components such as emotional, identity, or behavioral aspects (e.g., Russell & Consolacion, 2003; Saewyc, 2011). Even though including more indicators would have made it possible to explore the results from other perspectives, the definition of sexual minorities from one perspective does not necessarily correspond to another (Savin-Williams, 2001), and sexual attraction is the most adequate indicator in the stage of adolescence (Pearson et al., 2007).

Third, the indicators of academic achievement were self-reported, due to the inaccessibility of the participating students' academic records. This fact introduces a certain subjectivity, as well as limitations related to memory and social desirability. Future studies could include objective measures of academic achievement, as well as other pertinent indicators such as the existence of conflicts, school absenteeism, a sense of school

belonging, attitudes toward education or participation in out-of-school classes to improve grades (Birkett et al., 2014; Pearson et al., 2007; Rostosky et al., 2003; Russell et al., 2001; Watson & Russell, 2016).

Fourth, the present study did not collect information on possible measures that might be under way, such as the establishment of support groups at schools, or other protective factors such as membership in the so-called gay-straight alliance groups (GSA) (Goodenow et al., 2006; Kosciw et al., 2012; McCormick, 2015), so common in the US. Authors like McCormick et al. (2015) indicate the need for support groups in secondary- and university-level educational contexts and Poteat et al. (2021) underscore that support from educators has proven to have a protective effect against discrimination situations. Consequently, these variables may exercise a protective role in academic performance, buffering the exposure to stigma, and promoting healthful development among the youths. Future studies, therefore, should incorporate the moderating effect of these variables.

In any event, what the results seem to indicate is that belonging to sexual orientation minorities is not directly associated with academic difficulties. The link between sexual orientation and problems in health, social life, and academics is not new. It is therefore important to clearly understand that sexual orientation in itself does not increase the risk of difficulties, but rather the environmental responses and the effect of social stress factors are what increase the risk of such problems (Oswalt & Wyatt, 2011).

Consequently, it is crucial to take into account other variables, such as the discrimination experiences so prevalent in these groups (e.g., Garaigordobil & Larrain, 2020; Kosciw et al., 2009; Poteat et al., 2021), to explain the differences found in the literature. This is indicated in previous studies (Aragon et al., 2014; Birkett et al., 2014; Edwards, 2015; Kosciw et al., 2012; Poteat et al., 2011), which have observed the mediating effect of different victimization situations between sexual minority status and disparities in academic achievement. In addition to these situations of rejection, bullying and discrimination, future research should also take into account school-related variables such as school climate, students' motivation, and a sense of school belonging, which may mediate or moderate the relationship between achievement and membership in a sexual minority. Consequently, it is important that future studies not only include these variables, but also examine their possible mediating or

moderating role in the relationship between identification with a sexual minority and academic achievement.

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