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## Working Paper

# Does gender and sexual diversity lead to greater conflict in the school?

IDB Working Paper Series, No. IDB-WP-1399

### Provided in Cooperation with:

Inter-American Development Bank (IDB), Washington, DC

*Suggested Citation:* Frisancho Robles, Verónica; Herrera, Alejandro; Nakasone, Eduardo (2022) : Does gender and sexual diversity lead to greater conflict in the school?, IDB Working Paper Series, No. IDB-WP-1399, Inter-American Development Bank (IDB), Washington, DC, <https://doi.org/10.18235/0004609>

This Version is available at:

<https://hdl.handle.net/10419/289987>

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# Does Gender and Sexual Diversity Lead to Greater Conflict in the School?

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December 2022

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Cataloging-in-Publication data provided by the  
Inter-American Development Bank  
Felipe Herrera Library

Frisancho Robles, Verónica C.

Does gender and sexual diversity lead to greater conflict in the school? / Veronica

Frisancho, Alejandro Herrera, Eduardo Nakasone.

p. cm. — (IDB Working Paper Series ; 1399)

Includes bibliographic references.

1. Bullying-Uruguay. 2. High school students-Violence against-Uruguay. 3. Cultural pluralism-Uruguay. I. Herrera, Alejandro. II. Nakasone, Eduardo. III. Inter-American Development Bank. Department of Research and Chief Economist. IV. Series. IDB-WP-1399

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## Abstract

Diversity in gender identity and sexual orientation challenges traditional institutions, social norms, and gendered stereotypes. This may translate into greater levels of conflict in society. Using data from 95 middle and high schools in Uruguay, we exploit plausibly exogenous variation in the share of LGBT students across classrooms and estimate its impact on the prevalence of psychological, physical, and sexual violence in the school. On average, we do not find support for a strong link between the share of LGBT students in the classroom and the prevalence of violence, yet we show that there are gendered effects of greater diversity: a larger share of LGBT students in the classroom is associated with greater levels of psychological and physical violence among LGBT girls.

**JEL classifications:** J16, J24, I21, I24

**Keywords:** LGBT, Diversity, Conflict, Contact hypothesis, Violence, Secondary school

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We would like to thank seminar participants at the Inter-American Development Bank and the 11th Annual Workshop on Economics of Risky Behavior for their useful comments and suggestions. Frisncho acknowledges financial support from the Inter-American Development Bank. The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

# 1 Introduction

Intergroup conflict is more likely to emerge in diverse settings due to low levels of interpersonal trust, diverging preferences for public goods, and inequality between groups (Alesina and La Ferrara, 2005, Arbatl et al., 2020). Reducing hostility may become quite challenging when diversity is related to identity-based discrimination, prejudice, or stereotyping. At the core of all inter-group conflicts, there is a reluctance to see each other's perspective and refusal to see the other as someone similar to oneself in several aspects (Alan et al., 2021).

Diversity in gender identity and sexual orientation challenges traditional institutions, social norms, and gendered stereotypes. This may translate into greater levels of conflict, particularly among conservative segments of the society and the LGBT (i.e., lesbian, gay, bisexual, and transgender) population and their allies. This paper investigates whether greater representation of LGBT students in the classroom affects the prevalence of violence in the school. Using data from 95 middle and high schools in Uruguay, we exploit plausibly exogenous variation in the share of LGBT students across classrooms (within schools) and estimate its impact on the prevalence of psychological, physical, and sexual violence in schools.

We focus on gender and sexual diversity in the secondary school setting due to the important role that education systems play in reducing social distance between individuals. Our focus is also due to adolescence being a crucial stage in which individuals construct their identities, develop their personalities, and have a tendency to experiment. It is also a stage in which the levels of bullying and cyberbullying dramatically increase relative to infancy or puberty, particularly among LGBT students (Johns et al., 2020). Indeed, most bullying in schools seems to be sexual or gender-based in terms of the selection of victims (i.e., girls and those students perceived as not conforming to prevailing sexual and gender norms) and the nature of the abuse, with verbal bullying consisting mainly of sexual and gender derogatory language (UNESCO, 2012).

We collected a self-administered and anonymous survey among students attending a representative sample of Uruguayan schools. We randomly selected up to four classes per school and administered the survey during the school day. The questionnaire included self-identification questions on gender identity, sexual orientation, and sexual attraction, as well as information about the respondent's personal experience of psychological, physical, and sexual violence. Since Uruguay is the most LGBT-friendly country in Latin America, we expect low reporting biases in this context, especially among youth who have been raised during a period in which several laws have been enacted to limit discrimination and foster inclusion in the country.

Our results show that the share of LGBT students in a classroom is not significantly linked to the prevalence of violence. Yet, this result seems to mask considerable heterogeneity. We present suggestive evidence showing a possible non-linear relationship: we find a positive relationship between the size of the LGBT population in a classroom and violence when the share of

LGBT students is relatively small. However, this relationship levels off as this share increases. We also find gendered effects of greater diversity: a larger share of LGBT students in the classroom is associated with greater levels of psychological and physical violence among LGBT girls. This group is at the intersection of two vulnerable populations, which seems to increase their risk of experiencing greater levels of violence as the classroom becomes more sexually and gender diverse.

Our study contributes to the literature that aims at comparing alternative frameworks for the analysis of conflict. A prominent strand focuses on the “contact hypothesis” (or “Inter-group Contact Theory,” Allport 1954), which suggests that prejudice emerges from fear, ignorance, and lack of shared goals. Under appropriate conditions, interactions between the prevailing “ingroup” and an “outgroup” can bring opportunities to overcome fears, get to know each other, and appreciate different points of view. These interactions can thus *reduce* prejudice and discrimination between the majority and minority group members. Contrary to the contact hypothesis, the “Integrated Threat Theory” (or Intergroup Threat Theory, Stephan and Stephan 2000) argues that contact between groups can heighten tensions between them if they perceive each other as threats. Members of an ingroup (a prevailing group) might *perceive* (real or illusory) threats from a relatively unknown outgroup (Stephan et al. 2009). Under this framework, ingroup members consider their relations with members of the outgroup as a zero-sum game and respond to such threats with exclusionary attitudes. Thus, closer interactions between them can exacerbate perceptions of threats to the status quo (regardless of the accuracy of the threats) and may lead to *increased* conflict.

The contact hypothesis has mainly been applied to understand racial divisions and ethnic conflicts. A meta-analysis of the literature on contact theory finds that out of more than 526 papers, half of them focused on the relations between racial or ethnic groups (Pettigrew and Tropp, 2006). Contact theory has also been applied to study religious divides (Paolini et al., 2004, Kanas et al., 2015, Tausch et al., 2009). A few relatively recent studies have tested whether the contact hypothesis applies to relationships between LGBT and heterosexual and/or cisgender individuals. Previous studies have found that heterosexual individuals’ interpersonal contact with gays and lesbians is linked with more favorable attitudes towards these groups in the United States (Herek and Glunt 1993, Herek and Capitanio 1996), the United Kingdom (Brown et al. 2007), Canada (Mohipp and Morry 2004), Norway (Anderssen 2002), and Turkey (Çirakoğlu 2006). Other studies have applied the contact hypothesis to investigate whether interpersonal relations with LGBT individuals can lead to reductions in trans prejudice (King et al. 2009) or opposition to gay parenting (Costa et al. 2015).

The integrated threat theory has also been applied to study the social divide on racial issues, focusing on immigration and affirmative action. Stephan et al. (1999) find that prejudice against Mexican, Cuban, and Asian immigrants in the United States is highly correlated with perceived

realistic threats, symbolic threats, and negative stereotypes. A similar result is found in Stephan et al. (1998) in relation to attitudes towards immigrant groups in Spain and Israel. Renfro et al. (2006) find that perceived threats also explain opposition to affirmative action. In addition, the integrated threat theory has been used to understand political polarization on social media platforms (Bail et al. 2018).

Several studies have tried to identify a set of factors that can mediate the effect of social interactions on perceptions of other groups and the level of conflict in society. A critical factor is how the size of the outgroup can alter the outcomes of their interactions with the ingroup. The evidence shows that the link between increased exposure to diverse groups and conflict may be non-linear. Blalock (1956) finds that an increase in the size of the Black population has a larger effect on labor market discrimination in metropolitan areas in the United States with relatively fewer Blacks than in areas where they are more numerous. Wagner et al. (2006) find that an increase in the population size of ethnic minorities improves how German citizens perceive them but supports the claim that this relationship is non-linear. Taylor (1998) finds that white individuals' perceptions of Blacks worsen as the local share of the Black population increases, but this relationship is non-linear and even reverses slightly as the percentage of Blacks reaches its highest levels. Forman (2001) finds that an increasing number of Black high school students is negatively correlated with prejudice among their white peers, but only once the share of Black students in the school is over a third.

This paper contributes to at least two strands of the literature. First, our study contributes to the still inconclusive debate around the contact hypothesis and the integrated threat theory, focusing on the interactions between LGBT students and their heterosexual and/or cisgender peers. We overcome reverse causation issues, which are hard to deal with as people with different prior attitudes may differentially seek out contact with outgroup members (Hewstone, 2009). An increasing number of recent studies rely on experimental designs by randomly assigning information campaigns (Broockman and Kalla, 2016) or randomly matching individuals to participate in group activities (Finseraas and Kotsadam, 2017, Scacco and Warren, 2018) to artificially increase exposure to an outgroup. However, these activities are somewhat forced upon individuals and are relatively short-lived, which generates a potentially shallow level of contact. Our paper is the first to exploit quasi-random variation in sustained exposure to LGBT students in a real-life setting. This allows us to better understand intergroup contact patterns where relations between groups have been long established. In our setting, middle school and high school students spend most of the school day with the same classroom peers, and, in general, they do not choose the group to which they are assigned within the school. The allocation of students to classes is determined by principals or school staff, and it is likely uncorrelated to students' gender identity or sexual orien-



tation. We thus exploit the variation in the share of LGBT students within the school and across classes to study its impact on violence.

We also contribute to the field of LGBT Economics. While the field has been producing more high-quality studies due to new and better data availability, most of the existing work is related to labor and demographic outcomes in developed countries (Badgett et al., 2021). We aim to contribute to this literature by providing novel research on how the increasing representation of LGBT students can shape violence in schools in a developing country. While there is considerable evidence showing that LGBT students are particularly prone to being victimized in schools, there has been little work analyzing whether a larger presence of LGBT students in a classroom leads to more generalized violence. Previous research has shown that violence and bullying experienced during childhood and adolescence can have large negative long-term consequences. Children bullied in school suffer higher levels of depression, anxiety, and suicidal ideation (Takizawa et al., 2014); have more problems in their social relations (Wolke and Lereya, 2015); earn lower wages (Brown and Taylor, 2008); and accumulate less wealth as adults (Brimblecombe et al., 2018). From a policy perspective, it is thus crucial to better understand how increased diversity in schools can lead to higher levels of violence, which can have severe and long-lasting consequences on children's well-being.

## **2 Context and Data**

### *2.1 Context*

Uruguay ranks first in Latin America for LGBT acceptance.<sup>1</sup> In the span of a few years, important norms linked to the rights of LGBT people have been advanced, including the enactment of laws that recognize civil unions, the modification of provisions to allow adoptions by couples in civil unions, legislation protecting the right to gender identity (authorizing changes of names and sex in identification documents), and the protection of marriage equality. However, the country still faces important challenges regarding prejudice against this group in different settings. For instance, data from the Ibero-American LGBTI Education Network<sup>2</sup> indicates that 42.6 percent of students state that no one intervened when they heard homophobic comments.

The Uruguayan National Public Education Administration (ANEP) has been progressively strengthening its sexual education program and fostering gender policies in the school setting. In this context, ANEP has been integrating gender policies within its cross-cutting goal of protecting human rights in schools. To monitor the progress in recent years, ANEP and the Uruguayan Ministry of Social Development (MIDES) teamed up with the Inter-American Development Bank

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<sup>1</sup> According to the LGBTI Global Acceptance Index proposed by Flores (2021), Uruguay ranks first among Latin American countries and 16th among the countries of the world for its relative acceptance of the LGBTI community.

<sup>2</sup> <http://educacionlgbti.org/>

(IDB) in 2019 to conduct a survey to characterize the school climate in middle and high schools (equivalent to grades 7 to 12 in the United States) in the country. The main goal of the survey was to gauge the prevalence of violence and harassment that takes place in the school setting (Rocha et al., 2022). ANEP and MIDES were particularly interested in understanding the situation of LGBT students, Afro-descendants, migrants, and students with disabilities.

## **2.2 Sample**

To conduct the study, ANEP, MIDES, and the IDB first defined a sample of schools that was representative of Montevideo (the capital city) and the rest of the regions in the country. The sample was also representative of the three types of schools in the Uruguayan system (public, private, and technical).<sup>3</sup> The only sample restriction was that the school belonged to a community with ten thousand or more inhabitants. The selection probability for each school was based on its enrollment in 2018 with a target sample of 100 schools. Once these schools were chosen, the sample was stratified by level (middle and high school), and up to four classes were randomly selected per school. All classes within a school had the same selection probability. Once the sample was defined, all students in the selected classes were invited to participate in the survey.

Due to logistical difficulties, the survey could not be conducted in 5 out of the 100 schools selected. In the end, a total of 5,995 students from 365 classrooms in 95 schools were surveyed between June and July 2019.<sup>4</sup>

## **2.3 Data and Measurement**

Since many of the questions in the survey were sensitive, data collection was anonymous and self-administered (Tourangeau and Yan, 2007). Eliminating interactions between an interviewer and study participants can help reduce biased responses via enumerator effects. Each student independently filled out the survey at school, using their personal computer and a secure web platform hosted by MIDES to protect the confidentiality of the data.<sup>5</sup>

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<sup>3</sup> Secondary education in Uruguay encompasses six years of instruction, divided into two three-year levels, lower secondary and upper secondary. These levels are roughly equivalent to middle and high school, respectively, in the United States (Ness and Lin, 2015). Education in middle and high schools is free. Additionally, middle school attendance is compulsory, though high school (which is geared to prepare students for university) is not. Students can attend either public or private schools. Alternatively, a smaller share of students can attend technical education programs (similar to vocational schools). The latter programs are offered by the University of the Republic of Uruguay, a public institution sponsoring technical high schools across the country.

<sup>4</sup> Unfortunately, we do not have access to data on class size to estimate survey response rate. The best we can do is to rely on information from the Education Monitor on ANEP's website, which provides each public school's average class size by grade level in 2019. Focusing on the 45 schools of our sample that are public, these data yield a high response rate: only 5.9% of the classes surveyed have a response rate below 50%, while only 20.2% of classes have a response rate below 75%.

<sup>5</sup> All students in Uruguay have access to a personal computer at school. Unfortunately, 849 surveys were filled out on paper due to connectivity issues in remote areas. However, the survey was anonymous and self-administered even in those cases.

The instrument aimed to measure the climate and discrimination levels in the school setting. To do this, the questionnaire included questions on students' perceptions of the school environment, the experience of violence and discrimination, perceptions of harassment and safety, as well as their knowledge and usage of institutional support resources. In addition, the instrument collected individual characteristics such as sex and age, as well as self-identification questions on race, nationality, gender identity, sexual orientation, and sexual attraction.

Identifying the LGBT population is quite challenging, as it encompasses dealing with fluid and overlapping identities. The gold standard to measure sexual orientation and transgender-inclusive gender identities is to ask about several dimensions of individual preferences and behavior in order to be able to capture sub-groups of interest (Badgett et al., 2009, Patterson et al., 2017). Our survey included three different questions on gender identity, sexual orientation, and sexual attraction. Table 1 presents details on each of these multiple choice questions as well as the response alternatives provided.

We construct an indicator variable, LGBT, that is equal to one if a student responds to any of the three questions on gender identity, sexual orientation, and sexual attraction with an option that is considered non-cisgender, non-heterosexual, or that reflects attraction for same-sex individuals or more than one sex. Students are considered non-cisgender if their biological sex does not correspond to their gender identity or if they choose trans, other, or unsure. Students are considered non-heterosexual if they self-identify as bisexual, gay, lesbian, other or if they are unsure. Finally, we consider non-heterosexual attraction when the student is attracted to same-sex individuals (e.g., biologically female or with female gender identity who is attracted to women), both sexes, or others, as well as those who are not sure about their sexual attraction. We do not intend to reduce or transform complex identities into binary concepts, but in turn, we try to maximize the chances of identifying students who belong to the LGBT minority correctly. Our definition of LGBT in the study is thus the most inclusive possible.

Panel A of Table 2 shows basic descriptive statistics for the sample. The mean age among the respondents is 14, reflecting an age range of 11 to 20 years old among middle and high school students. The sample includes over 25% of students who self-identify as Afro-descendants and/or indigenous, and 7% who declare having a disability. Table 2 also presents summary statistics on the LGBT self-identification variables. While only a small share of students (2.8%) are non-cisgender, a larger proportion identifies themselves as non-hetero based on their sexual attraction (13.2%) or their sexual orientation (18.5%). Overall, if we combine these three dimensions, we estimate that the share of LGBT students in our sample is 18.6%. Our data also suggest that a larger share of girls (24.4%) self-identify as LGBT relative to boys (12.5%). The fraction of LGBT students is higher in high school relative to middle school, consistent with youth becoming more aware of their identity as they get older (Rust, 1993, Fernández et al., 2019).

**Table 1. Questions on Gender Identity, Sexual Orientation, and Sexual Attraction**

Concept	Question	Alternatives	Additional alternatives
<i>Gender Identity</i>	How do you describe your gender identity?	a. female b. trans female c. male d. trans male e. other	f. unsure g. prefer not to respond
<i>Sexual Orientation</i>	Which of the following options do you think best describes your sexual orientation?	a. bisexual b. gay c. straight d. lesbian e. other	f. unsure g. does not understand h. prefer not to respond
<i>Sexual Attraction</i>	To whom are you attracted?	a. women b. men c. both d. other	f. unsure g. prefer not to respond

These results are consistent with previous findings in the US and other international studies. For example, in an international poll conducted in 27 countries, IPSOS (2021) found that 4% of the participants that belonged to Generation Z (i.e., born after 1997) identified themselves as transgender, non-binary, non-conforming, or gender fluid. Also, 18% of Gen Z participants were only, mainly, or equally attracted to individuals of their same sex<sup>6</sup>. According to the 2017 US Youth Risk Behavior Surveillance Survey (YRBSS)<sup>7</sup>, 15% of students in grades 9-12 nationwide self-identified as gay, lesbian, or bisexual or were unsure about their sexual identity. The share of LGBT students is even larger (about 18%) in larger urban districts (Kann et al., 2018). The YRBSS also finds that many more women (20.4%) self-identify as LGBT than men (8.4%).

While the data were collected through an anonymous and self-administered survey, one concern is that students might not be accurately self-reporting their gender identity or the nature of their sexual attraction/orientation. We expect low reporting biases in Uruguay due to the inclusive climate in the country, especially among youth who have been raised during a period in which several laws have been enacted to limit discrimination and foster inclusion.

However, it is still possible that students feel ashamed or afraid of disclosing sensitive information about themselves. To minimize these concerns, the survey included a small framing

<sup>6</sup> Interestingly, the data reveal interesting generational patterns. While only 7% of baby boomers (born between 1946-1964) and 9% of Gen X (born 1965-1980) individuals report being only, mostly, or equally attracted to their same sex, this share increases to 12% amongst millennials (born 1981-1986) and 18% amongst Gen Z.

<sup>7</sup> The YRBSS asks students the following: “Which of the following best describes you?” Response options were “heterosexual (straight),” “gay or lesbian,” “bisexual,” and “not sure.” 2.4% of students identified as gay or lesbian, 8% as bisexual, and 4.2% were unsure about their sexual identity.

**Table 2. Descriptive Statistics**

	All	Level		Sex	
		Middle School	High School	Female	Male
	(1)	(2)	(3)	(4)	(5)
<b><i>Panel A: Characteristics</i></b>					
Age	14.747 (1.885)	13.538 (1.289)	16.389 (1.201)	14.742 (1.903)	14.763 (1.864)
Afro-indigenous	0.265 (0.441)	0.258 (0.437)	0.274 (0.446)	0.247 (0.431)	0.285 (0.452)
Migrant	0.036 (0.185)	0.037 (0.189)	0.033 (0.180)	0.034 (0.180)	0.038 (0.190)
Expected Education: Tertiary	0.494 (0.500)	0.454 (0.498)	0.547 (0.498)	0.560 (0.497)	0.423 (0.494)
Any Disability	0.070 (0.254)	0.077 (0.266)	0.060 (0.238)	0.069 (0.254)	0.070 (0.255)
Lives in Montevideo	0.449 (0.497)	0.475 (0.499)	0.414 (0.493)	0.459 (0.498)	0.441 (0.497)
Private education	0.243 (0.429)	0.238 (0.426)	0.249 (0.433)	0.250 (0.433)	0.236 (0.425)
Public education	0.558 (0.497)	0.572 (0.495)	0.540 (0.498)	0.591 (0.492)	0.528 (0.499)
Technical education	0.198 (0.399)	0.190 (0.392)	0.210 (0.408)	0.159 (0.366)	0.236 (0.425)
LGTB	0.186 (0.389)	0.179 (0.384)	0.196 (0.397)	0.244 (0.429)	0.125 (0.331)
Non-Cisgender (Gender Identity)	0.028 (0.165)	0.032 (0.175)	0.023 (0.151)	0.031 (0.174)	0.024 (0.154)
Non-Hetero (Sexual Orientation)	0.185 (0.388)	0.190 (0.393)	0.178 (0.382)	0.246 (0.431)	0.116 (0.321)
Non-Hetero (Sexual Attraction)	0.132 (0.339)	0.110 (0.313)	0.161 (0.368)	0.193 (0.395)	0.068 (0.252)
<b><i>Panel B: Violence</i></b>					
Any Violence	0.450 (0.498)	0.506 (0.500)	0.376 (0.485)	0.471 (0.499)	0.427 (0.495)
Psychological Violence	0.408 (0.492)	0.459 (0.498)	0.341 (0.474)	0.435 (0.496)	0.378 (0.485)
Physical Violence	0.162 (0.369)	0.220 (0.414)	0.086 (0.280)	0.129 (0.335)	0.198 (0.398)
Sexual Violence	0.125 (0.330)	0.143 (0.351)	0.100 (0.300)	0.139 (0.346)	0.109 (0.311)

Note: Standard deviations in parentheses.

experiment aimed at testing the change in reporting due to the variation in the presentation of the LGBT identification questions. We randomly varied the introductory paragraph to the section on gender identity, sexual orientation, and sexual attraction in the following way: 80% of the students in the sample were provided with questionnaires with a neutral statement about the objective of the survey, while the remaining 20% received one with a friendlier and more encouraging language. The neutral statement read: “The following questions cover personal and sensitive issues about your identity. Your answers are confidential, and no one will be able to link them to you. Please, answer the following questions as honestly as possible.” The more supportive statement instead read: “The following questions cover personal and sensitive issues about your identity. *Your answers are important because they will allow us to work to assure equal rights for everyone, regardless of race, religion, or identity.* Your answers are confidential, and no one will be able to link them to you. Please, answer the following questions as honestly as possible.” We estimate regressions where the dependent variables are binary indicators for self-identifying as (a) non-cisgender, (b) non-heterosexual, (c) being attracted to their same-sex or to both sexes, and (d) our overall LGBT indicator based on the three previous questions. In these regressions, we test whether the framing in our survey generated differential reporting.

**Table 3. Differential LGBT Report in Framing Experiment**

	Non-Hetero / Non-Cisgender			
	LGBT	Gender Identity	Sexual Orientation	Sexual Attraction
Friendlier Frame	0.0038 (0.013)	0.0001 (0.005)	-0.0079 (0.014)	-0.0002 (0.012)
Constant	0.1834*** (0.011)	0.0279*** (0.005)	0.1910*** (0.012)	0.1324*** (0.010)
Observations	5,901	5,809	5,031	5,466

Stars denote significance levels (\* p<0.1, \*\* p<0.05, \*\*\* p<0.01).

Table 3 reports the results of the framing experiment. We find minimal differential reporting based on the alternative frames in the survey. Those exposed to the additional encouragement and the friendlier wording in the survey instructions were only 0.38 percentage points more likely to provide answers that would lead to classifying them as LGBT, and this difference was not statistically significant. This lends some additional confidence about the validity of our LGBT indicator variable.

## 2.4 Main Variables

Our main goal is to test whether a higher share of LGBT students in the classroom is linked to the individual experience of violence. We construct the share of LGBT students for each individual relative to the rest of their peers in the classroom. Formally, for each student  $i$  in the sample, we define  $Q_{cs,-i}$  as the leave-one-out fraction of LGBT students in the classroom  $c$  of school  $s$ , excluding student  $i$  from this calculation.

To measure individual violence, we rely on survey questions aimed at measuring victimization in the school setting in terms of psychological, physical, and sexual aggression. Under psychological violence, we consider incidents related to verbal aggression, experience of exclusion or rejection, coercion to perform activities without consent, and the non-consensual dissemination of sexually-related rumors, videos, or photos. Physical violence includes experiences such as contact aggression (pushing, hitting, kicking, etc.) and threats of harm with weapons. Finally, sexual violence refers to events such as receiving lewd comments or gestures, non-consensual touching of intimate parts, and being forced to perform sexual acts without consent. We construct three indicator variables that are equal to one when the student self reports having been a victim of psychological, physical, or sexual violence, respectively. We also construct an indicator variable that captures victimization of any kind.

Panel B of Table 2 presents the descriptions of our primary outcome variables. Approximately 45% of our sample has experienced some form of violence. The youngest and female students seem to be more vulnerable. Most reported violence refers to psychological violence (41%), but 16% of our sample reports having experienced physical violence. Finally, the prevalence of sexual violence is 13% in our sample, with higher reported levels among females. Most of the reported events of sexual violence (62%) correspond to lewd comments or gestures as opposed to non-consensual touching of intimate parts or sexual acts.

## 3 Research Design

### 3.1 Identification Strategy

Estimating the causal link between exposure to a diverse out-group and the level of conflict is quite problematic due to reverse causation issues. In our setting, for example, students from lower socioeconomic status may be more likely to attend schools with a relatively higher share of students from a similar background. This self-selection process is quite evident whenever it is based on schools' or students' observable characteristics, but matches in values or beliefs can also drive it. For instance, parents and students with positive attitudes towards LGBT persons (or who identify as LGBT) may prefer schools that are more tolerant and inclusive. Therefore, it is very likely that certain schools will endogenously attract a larger share of LGBT students.

The allocation of students to schools in Uruguay is regulated via a centralized admission process based on stated parents'/students' preferences. These preferences can of course reflect students' matches with schools' ex ante propensity to attract LGBT students. While the variation across schools is clearly non-random, we argue that the variation in the share of LGBT students across *classrooms* and within schools is plausibly exogenous. First, groups within grades are formed by school administrators (i.e., principals, school authorities, etc.) with limited interaction or relation with students. Therefore, it is unlikely that these administrators are able to segregate LGBT students based on students' sexual orientation or gender identities. Second, students do not have the ability to self-select into particular classes based on which schoolmates are registered in them. In Uruguay (and most Latin American countries), middle and high school students in a given group spend the full school day in the same classroom and receive all subject lessons together. In contrast to the United States or other countries (where many students take different classes with different classmates), students in the Uruguayan educational system spend almost all of their school days with the same set of peers. Third, students normally remain surrounded by the same peers throughout a considerable period of time. The set of students in each classroom is relatively fixed throughout the year, and students usually remain in the same class until graduation from middle or high school. We thus argue that our identification strategy poses the advantage of measuring the impact of sustained exposure to LGBT students while overcoming reverse causation issues.

### **3.2 *Validity of Identification Strategy***

To verify the validity of our identification strategy, this subsection provides a balance check that confirms that the allocation of LGBT students to classes within the same school was close to random. In particular, we rule out that the share of LGBT students is correlated with observable individual characteristics in the classroom.

Table 4 reports the coefficients of OLS regressions of students' socio-demographic characteristics (in columns) on the share of LGBT students in the classroom. Because our identification strategy exploits variation in the share of LGBT pupils *within* schools and across classes, we include school fixed effects in these regressions. The results show that, in general, individual characteristics are more or less balanced along the distribution of the aggregate share of LGBT. We only find statistically significant correlations of the share of the minority group with the assets index and with being a migrant. In any case, all our specifications control for all the student characteristics included in Table 4.

### **3.3 *Variation in Explanatory Variables***

As shown in the previous subsection, it is unlikely that the allocation of students to classrooms within the school was driven by the LGBT identity of the students. This leads to plausibly ex-



**Table 4. Balance on Observable Characteristics**

	Age (1)	Any Disability (2)	Assets Index (3)	Montevideo (4)	Expected Education (5)	Migrant (6)	Afro Indigenous (7)
Share LGBT	-0.045 (0.215)	0.054 (0.046)	-0.370** (0.158)	0.001 (0.024)	-0.081 (0.061)	0.046* (0.024)	0.077 (0.067)
Observations	5995	5778	5977	5990	5523	5933	5967

Note: Each coefficient reported in the table corresponds to an OLS regression of the dependent variable in the column on the leave-one-out share of LGBT students (aggregate or by sex). Grade-level and school-level fixed effects are included. Clustered school-level standard error in parenthesis. Stars denote significance levels (\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ ).

ogenous variation in the share of LGBT students across classes within the same school. Table 5 shows the (leave-one-out) distribution of LGBT students. Column (1) shows that there seems to be considerable overall variation in the share of LGBT students across the sample of classrooms in our data. On average, 18.3% of the classroom (approximately three students considering an average classroom size of 16 students) self-report as LGBT. The standard deviation is 0.12. However, part of this variation may be driven by differences across schools. Therefore, column (2) provides estimates of the variability in the share of LGBT in our sample of classrooms after controlling for school fixed effects. Even after removing across-schools variation, the standard deviation of the share of LGBT students remains considerably large at 0.10.

**Table 5. Variation in the Share of LGBT**

	(1) Raw Data	(2) Net of School Fixed Effects
Mean	0.183	0.000
Standard Deviation	0.124	0.101
Number of Observations	5995	5995
Number of Classes	365	365
Number of Schools	95	95
School Fixed Effects	No	Yes

### 3.4 Estimation Strategy

In order to measure the effect of exposure to LGBT students on school victimization, we propose the following baseline linear specification:

$$Y_{ics} = \alpha + \beta_1 Q_{cs,-i} + \Gamma X_{ics} + \theta_g + \theta_s + \varepsilon_{ics} \quad (1)$$

where  $Y_{ics}$  is the outcome variable for student  $i$  belonging to classroom  $c$  and school  $s$ .  $Q_{cs,-i}$  represents the first moment of the leave-one-out distribution of LGBT peers in classroom  $c$  and school  $s$ . Thus,  $\beta_1$  measures the marginal effect of the level of exposure to diverse students on the experience of violence. The vector  $X_{ics}$  includes individual controls such as age, biological sex, having self-identified as LGBT, socioeconomic status (as measured by an asset index), size of their friends' network, residence in Montevideo, aspirations to attend university, disability, and Afro-descent or native origin. We also include fixed effects at the grade level,  $\theta_g$ , and at the school level,  $\theta_s$ . Finally,  $\varepsilon_{ics}$  is the zero-mean error term clustered at the school level.

We expect that the effect of exposure will not be homogeneous for all students in the classroom. Thus, we interact the share of LGBT students in the classroom with  $Z_{ics}$ , representing either the biological sex of the student or their individual report of their LGBT identity:

$$Y_{ics} = \alpha + \beta_1 Q_{cs,-i} + \beta_2 (Z_{ics} \times Q_{cs,-i}) + \Gamma X_{ics} + \theta_g + \theta_s + \varepsilon_{ics} \quad (2)$$

Appendix A includes robustness checks for alternative definitions of the variable measuring exposure to the diverse students, including i) a dummy indicating a high share of LGBT students in the classroom relative to the share in the school (see Table A.1) and ii) the number of LGBT students in the classroom (see Table A.2).

## 4 Results

Table 6 presents the results from the baseline model in (1). In column (1), the dependent variable is an indicator variable for whether a student has experienced *any* type of violence. Columns (2), (3), and (4) focus on specific types of violence: psychological, physical, or sexual, respectively. We find that LGBT students in Uruguayan schools are 11 percentage points (pp) more likely to experience any type of violence. This suggests that LGBT students in our sample are 25% more likely to experience violence. They are especially vulnerable to psychological (10.9 pp) and sexual (10.6 pp) violence. This result is aligned with other studies. For example, Johns et al. (2020) find differences in the likelihood of school bullying by sexual orientation in the United States. While 17% of heterosexual high school students report having been bullied, 33% of gay, lesbian, and bisexual students report having suffered aggression at school.

We also find that girls are more likely to experience violence: they are 3.7 pp (8%) more likely to experience overall violence. Relative to boys, girls are less likely, on average, to endure physical violence (- 6.2 pp), but they are somewhat more prone to psychological and sexual violence. Despite their young age, adolescents clearly start to display gendered biases in the type of victimization that is exerted on boys and girls. Physical violence is more prevalent among boys, as they are influenced by masculine ideals of dominance, strength, aggressiveness, and repression of emotions and their expression Feder et al. (2010). In turn, violence among girls is more likely to manifest in the form of verbal and emotional abuse perpetrated by same-sex peers or by boys. Sexual harassment and abuse is more prevalent among girls, reflecting biased gender norms and stereotypes.

In terms of our main hypothesis, we find that students in classes with a larger share of LGBT students are more likely to experience any violence. Our estimate of  $\beta_1$  in Equation 1 is 0.074. This implies that a 10% increase in the share of LGBT students increases the probability of experiencing violence by 1.6% relative to the average proportion of students who experience any type of violence. This lends some support to the integrated threat theory, suggesting that interaction with an outgroup increases conflict within classrooms. Arguably this conflict can be created by clashes in beliefs and attitudes between the ingroup and LGBT students. However, our estimate is noisy and not statistically significant at conventional levels.

**Table 6. The Impact of Gender and Sexual Diversity on School Violence**

	(1) Any Violence	(2) Psychological Violence	(3) Physical Violence	(4) Sexual Violence
Share LGBT	0.074 (0.081)	0.049 (0.076)	-0.013 (0.052)	-0.013 (0.046)
Woman	0.037** (0.017)	0.048*** (0.016)	-0.062*** (0.011)	0.024** (0.011)
LGBT	0.111*** (0.017)	0.109*** (0.016)	0.025* (0.015)	0.106*** (0.014)
Observations	5774	5774	5757	5740
Mean Dep. Var	0.450	0.408	0.162	0.125
SD Dep. Var	0.498	0.492	0.369	0.330

Note: All specifications include controls for age, biological sex, LGBT, household asset index, more than one friend, lives in Montevideo, university as expected education, any disability, and afro or indigenous. Grade-level and school-level fixed effects are included. Clustered standard errors at the school level in parenthesis. Stars denote significance levels (\* p<0.1, \*\* p<0.05, \*\*\* p<0.01).

Our estimates may be noisy due to heterogeneity in the effect of increased contact with LGBT students. Along these lines, we explore two possibilities. First, we check whether the effects of increased interaction with LGBT students on violence are non-linear. If this is the case, then our estimates would fail to capture any significant *linear* relationship between both variables. Second, we explore heterogeneity in linear models, investigating whether there are particular subgroups in classrooms for whom violence changes when the share of LGBT students increases.

To account for a potential non-linear effect, we estimate a local polynomial regression where the dependent variable is an indicator for the student’s experience of any type of violence and the explanatory regressor is the share of LGBT students. To account for potential confounding factors, we follow the Frisch-Waugh-Lowell theorem and partial out all our control variables in equation 1 (including school fixed effects) from our regressor. We present this non-linear relationship in Figure 1<sup>8</sup>. Overall, we find that the share of LGBT students can *increase* violence in the classroom when the presence of this group in a classroom (relative to the share in its school) is relatively low. As this share increases, the relationship with violence appears to plateau and have no further effects. However, the confidence intervals in the tails of the distribution of this effect are wide. Some of this might be explained by a relatively smaller number of classrooms with an exceptionally low or high number of LGBT students relative to other classrooms in the same school. While we cannot rule out a statistically weak relationship with violence, this distribution’s shape suggests a positive relationship between the share of LGBT students and violence.

Next, we return to our linear specification to test whether any particular groups experience changes in violence when the share of LGBT students in a classroom increases. First, we analyze whether LGBT students experience “strength in numbers”: being surrounded by peers with similar sexual orientation/gender identity might protect them from being bullied. As classmates might expect stronger retaliation if they pick on LGBT classmates, this would reduce their incentives to create conflict. On the contrary, it could also be that a larger share of LGBT students can create belligerent factions and increase violence in the classroom. To test this, we introduce an interaction between the share of LGBT students in a classroom and an indicator variable for students who self-identify as LGBT themselves. Second, given that women are generally more prone to experience violence (especially psychological or sexual), we are interested in understanding whether a larger presence of a traditionally marginalized group — such as the LGBT community — can deflect violence away from girls. However, it is also possible that a larger number of LGBT students increases general levels of conflict that can subject girls to even more violence.

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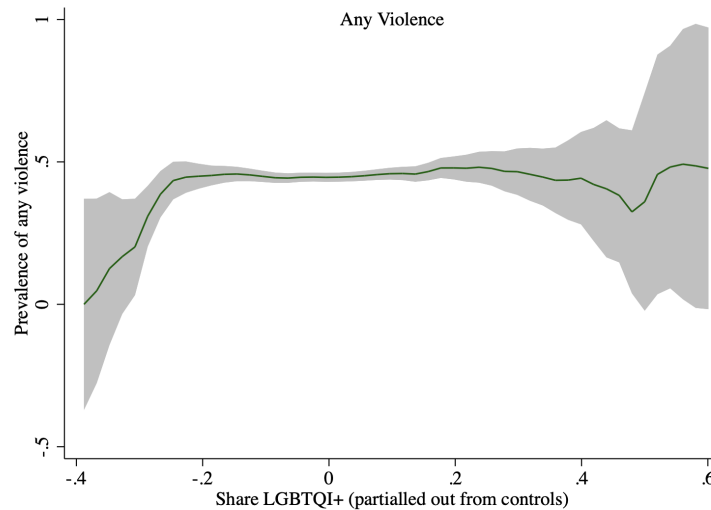
<sup>8</sup> We estimate a local polynomial regression in the neighborhood  $h$  around different data points  $x_0$ . Overall, the estimation objective is to minimize  $\sum_{i=1}^N \left[ Y_i - \sum_{j=0}^p \beta_j (X_i - x_0) \right]^2 K_h(X_i - x_0)$ , where  $p$  is the order of the polynomial and  $K_h$  is a kernel function.

**Table 7. Heterogeneous Impact of Gender and Sexual Diversity on School Violence**

	Any Violence		Psychological Violence		Physical Violence		Sexual Violence	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share LGBT	0.034 (0.093)	-0.015 (0.103)	0.037 (0.089)	-0.036 (0.096)	-0.013 (0.057)	-0.062 (0.070)	-0.005 (0.046)	0.013 (0.055)
Woman	0.037** (0.017)	0.004 (0.024)	0.048*** (0.016)	0.017 (0.023)	-0.062*** (0.011)	-0.080*** (0.017)	0.024** (0.011)	0.034** (0.016)
LGBT	0.077** (0.036)	0.109*** (0.017)	0.099*** (0.035)	0.107*** (0.016)	0.024 (0.027)	0.023 (0.015)	0.113*** (0.025)	0.106*** (0.014)
Share LGBT × LGBT	0.142 (0.121)		0.042 (0.129)		0.003 (0.089)		-0.029 (0.077)	
Share LGBT × Woman		0.176* (0.104)		0.171* (0.099)		0.099 (0.079)		-0.052 (0.071)
Observations	5774	5774	5774	5774	5757	5757	5740	5740
Mean Dep Var	0.450	0.450	0.408	0.408	0.162	0.162	0.125	0.125
SD Dep Var	0.498	0.498	0.492	0.492	0.369	0.369	0.330	0.330

Note: All specifications include controls for age, biological sex, LGBT, household asset index, more than one friend, lives in Montevideo, university as expected education, any disability, and afro or indigenous. Grade-level and school-level fixed effects are included. Clustered school-level standard error in parenthesis. Stars denote significance levels (\* p<0.1, \*\* p<0.05, \*\*\* p<0.01).

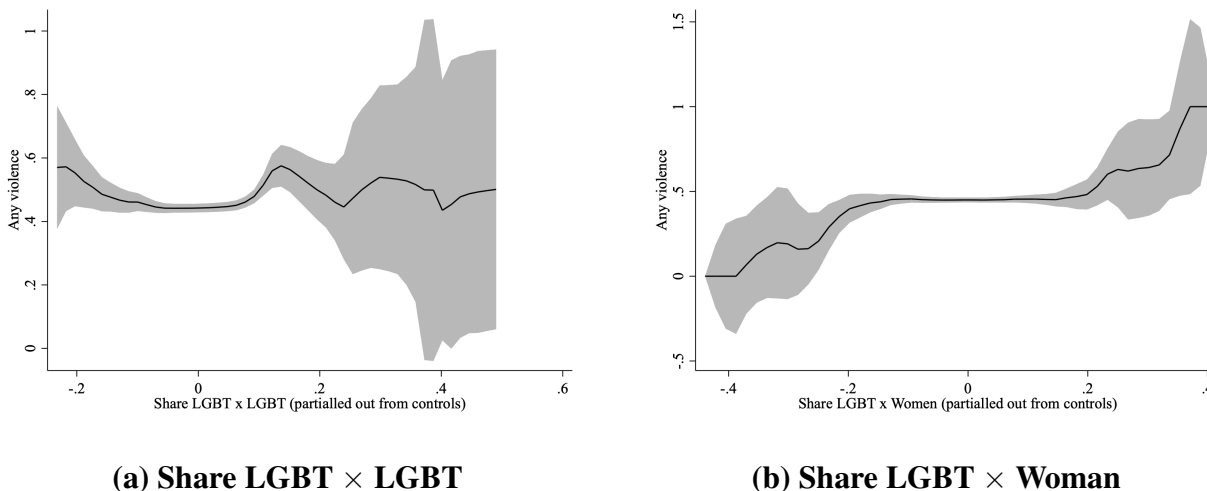
**Figure 1. Non-linear Effects of the Share of LGBT Students on Violence**



Local polynomial regression. The gray shaded areas represent the 95% confidence interval. We plot the non-linear relationship between an indicator variable for any type of violence (on the y-axis) and the share of LGBT students interacted with student's self-identification as LGBT partialled out from potential confounder variables on the x-axis. To construct the x-axis variable we capture the residuals of a regression of the share of LGBT students in a student's class on age, biological sex, self-identification as LGBT, socioeconomic status (i.e., asset index), size of friend network, aspirations to attend university, disability condition, race (Afro-descendent or native origin), grade fixed effects, and school fixed effects.

We present these results in Table 7. We follow the specification in equation (2) and include an interaction term of the share of LGBT students in a classroom with the student's self-identification as LGBT (in columns 1, 3, 5, and 7) or with the student's biological sex (in columns 2, 4, 6, and 8). These interactions test whether higher levels of vulnerability experienced by these groups is heightened by a higher presence of LGBT students in the classroom. Interestingly, the results show that the representation of LGBT students in the classroom might increase violence precisely against LGBT students themselves. Our results suggest that a 10% increase in the share of LGBT students in a classroom increases the overall probability of violence by 0.34 pp and that LGBT students experience an *additional* increase in this probability of 1.42 pp (column 1). While these coefficients are estimated noisily and are not statistically significant, they seem to lend some support for the integrated threat theory. On the other hand, we do find a large and statistically significant heterogeneous effect on girls: when the share of LGBT students increases by 10%, women experience an increase of 1.76 pp in the likelihood of experiencing some type of violence relative to men (column 2). Additionally, column 4 confirms that this overall effect is mostly driven by greater levels of psychological violence among female students (column 4). This pattern does not show up in the case of physical and sexual violence (columns 6 and 8).

**Figure 2. Non-linear Effects of the Share of LGBT Students by Gender and Sexual Identity**



Local polynomial regression. The gray shaded areas represent the 95% confidence intervals. We plot the non-linear relationship between an indicator variable for any type of violence (on the y-axis) and the share of LGBT students interacted with self-identification as LGBT (Figure 2a) and with biological sex (Figure 2b), partialled out from potential confounder variables on the x-axis. To construct the x-axis variables we capture the residuals of a regression of these interactions on age, biological sex, self-identification as LGBT, socio-economic status (i.e., asset index), size of friend network, aspirations to attend university, disability condition, race (Afro-descendent or native origin), the share of LGBT students, grade fixed effects, and school fixed effects.

Once more, we estimate local polynomial regressions to check if the relationship between overall violence<sup>9</sup> and the interactions of the share of LGBT students with individual characteristics is non-linear. Panel (a) in Figure 2 presents the results for the interaction with the indicator variable that captures if a student self-identifies as LGBT, while panel (b) presents the non-linear effects on violence by the student’s biological sex. The interaction term “Share of LGBT × LGBT” appears to have a rather flat relationship with the overall classroom violence level. In contrast, the results for the interaction of the share of LGBT students and an indicator variable for girls show a non-linear effect on violence: the effect of the interaction is rather flat in the middle, but the relationship is quite steep in the tails of the distribution. This is consistent with the results in Table 7, and suggests that the detrimental effect on violence towards girls takes place when the share of LGBT students is at relatively low or high levels.

One potential interpretation of this result is that a larger proportion of LGBT students raises violence towards girls in general. As girls are perceived as weaker, they are often the target of more violence. However, another possibility is that this effect is driven by more frequent attacks specifically towards LGBT girls. To test for these alternative mechanisms, we estimate a variation

<sup>9</sup> For brevity, we present the results for “any violence” as the dependent variable. The effect of the interactions on separate types of violence (i.e., physical, psychological, or sexual) are available upon request.

**Table 8. Joint Impact of Gender and Sexual Diversity on Violence**

	(1)	(2)	(3)	(4)
	Any Violence	Psychological Violence	Physical Violence	Sexual Violence
Share LGBT	-0.009 (0.114)	-0.020 (0.108)	-0.071 (0.078)	-0.009 (0.055)
Woman	0.020 (0.027)	0.027 (0.026)	-0.083*** (0.019)	0.024 (0.018)
LGBT	0.139** (0.056)	0.152*** (0.053)	0.023 (0.045)	0.082** (0.038)
Share LGBT × Woman	0.097 (0.132)	0.128 (0.127)	0.126 (0.096)	0.007 (0.089)
Share LGBT × LGBT	-0.071 (0.207)	-0.126 (0.186)	0.022 (0.145)	0.100 (0.127)
LGBT × Woman	-0.091 (0.077)	-0.075 (0.075)	0.008 (0.054)	0.048 (0.056)
Share LGBT × LGBT × Woman	0.307 (0.271)	0.227 (0.251)	-0.065 (0.164)	-0.205 (0.196)
Observations	5,774	5,774	5,757	5,740
Mean Dep Var	0.450	0.408	0.162	0.125
SD Dep Var	0.498	0.492	0.369	0.330
Effect of Share LGBT on				
... LGBT women	0.324*** (0.123)	0.208 (0.132)	0.011 (0.088)	-0.108 (0.103)
... Non LGBT women	0.088 (0.114)	0.108 (0.110)	0.055 (0.069)	-0.002 (0.073)

Note: All specifications include controls for age, biological sex, LGBT, household asset index, more than one friend, lives in Montevideo, university as expected education, any disability, and afro or indigenous. Grade-level and school-level fixed effects are included. Clustered school-level standard error in parenthesis. Stars denote significance levels (\* p<0.1; \*\* p<0.05; p<0.01). The “Effect for LGBT Woman” is the sum of [Share LGBT + (Share LGBT × Woman) + (Share LGBT × LGBT)+(Share LGBT × LGBT × Woman)], while the “Effect for Woman” equals [Share LGBT + (Share LGBT × Woman)].



of equation 2, where we include the triple interaction of the share of LGBT in the classroom with both sex and individual LGBT self-report<sup>10</sup>. We present this estimation’s results in Table 8 and the overall effects on LGBT and non-LGBT girls in the last two rows. We find that a larger LGBT representation in a class leads to violence that particularly affects LGBT girls. Our estimates suggest that a 10% increase in the share of LGBT students makes LGBT girls 3.2 pp more likely to experience any type of aggression (especially psychological violence). While it is true that non-LGBT girls also experience more violence, this effect is much smaller: a 10% increase in LGBT representation leads to a modest impact of 0.9 pp in their likelihood of experiencing any violence. Taken together, these findings suggest that as more LGBT students join a classroom, LGBT girls experience a “double whammy,” as they are in the intersection of two especially vulnerable groups. Following the intergroup threat theory, a larger LGBT representation leads to heightened animosity, and girls might be perceived as the “easiest” targets for their classmates<sup>11</sup>.

All in all, our results do not support the contact hypothesis. On average, there is a weak but positive link between the share of LGBT students in the classroom and the prevalence of violence. Indeed, we find a positive relationship between the size of the LGBT population in a classroom and violence when the share of LGBT students is relatively small. However, this relationship levels off as this share increases.

We also find gendered effects of greater diversity: a larger share of LGBT students is associated with more violence against LGBT girls. This result is aligned with the nature of bullying in schools, which tends to be sexual or gender-based. The marked selection of female LGBT victims whenever gender and sexual diversity increases highlights the heightened vulnerability of the intersection of these two groups.

## 5 Conclusion

This paper studies whether greater levels of contact with LGBT students lead to lower levels of violence in schools. We exploit plausibly exogenous within-school and across-classrooms variation in the share of LGBT students to estimate its effect on the prevalence of physical, psychological, and sexual violence experienced in secondary school.

Our findings do not support the contact hypothesis. We find that increased representation of LGBT students in the classroom does not have a statistically significant impact on individual

<sup>10</sup> The full specification for this regression is:  $Y_{ics} = \alpha + \beta_1 Q_{cs,-i} + \beta_2 LGBT_{ics} + \beta_3 Sex_{ics} + \beta_4 (Sex_{ics} \times Q_{cs,-i}) + \beta_5 (LGBT_{ics} \times Q_{cs,-i}) + \beta_6 (LGBT_{ics} \times Sex_{ics}) + \beta_7 (Sex_{ics} \times LGBT_{ics} \times Q_{cs,-i}) + \Gamma X_{ics} + \theta_g + \theta_s + \varepsilon_{ics}$ ; where each of these variables is defined as in 2.

<sup>11</sup> An alternative explanation is that LGBT girls *report* violence differently. For example, lesbians might become increasingly “woke” (and more sensitive to aggression, especially psychological) as the share of LGBT students in their class increases. However, such interpretation would require assuming that this is not the case for male LGBT: our results would imply that when the share of LGBT students increase gay boys do not become more “woke.” To the best of our knowledge, there is no evidence supporting this differential pattern between boys and girls.

experience of psychological, physical, or sexual violence in the school. However, we provide evidence on the gendered impacts of increased diversity on school violence: a larger share of LGBT students leads to a greater prevalence of violence among LGBT girls. We argue that, as this group is particularly perceived as “weak” under traditional social norms, it is particularly vulnerable to violence.

Our results suggest that school systems need to invest greater resources to provide school staff and students with tools that allow them to deal with increasing diversity in the school setting. Gender and sexual diversity seems to be increasing among younger generations, and it is thus urgent that traditional formal institutions adapt, become more tolerant and inclusive, and guarantee equal rights to all.

## References

- Alan, S., Baysan, C., Gumren, M. and Kubilay, E. (2021), 'Building Social Cohesion in Ethnically Mixed Schools: An Intervention on Perspective Taking', *The Quarterly Journal of Economics* **136**(4), 2147–2194.
- Alesina, A. and La Ferrara, E. (2005), 'Ethnic Diversity and Economic Performance', *Journal of Economic Literature* **43**(3), 762–800.
- Allport, G. (1954), *The Nature of Prejudice*, Addison-Wesley, Reading, MA.
- Anderssen, N. (2002), 'Does Contact with Lesbians and Gays lead to Friendlier Attitudes? A two-year Longitudinal Study.', *Journal of Community and Applied Social Psychology* **12**(2), 124 – 136.
- Arbatl, C. E., Ashraf, Q. H., Galor, O. and Klemp, M. (2020), 'Diversity and Conflict', *Econometrica* **88**(2), 727–797.
- Badgett, M. L., Goldberg, N., Conron, K. J. and Gates, G. J. (2009), Best Practices for Asking Questions about Sexual Orientation on Surveys, Technical report, The Williams Institute.
- Badgett, M. V. L., Carpenter, C. S. and Sansone, D. (2021), 'LGBTQ Economics', *Journal of Economic Perspectives* **35**(2), 141–70.
- Bail, C. A., Argyle, L. P., Brown, T. W., Bumpus, J. P., Chen, H., Hunzaker, M. B. F., Lee, J., Mann, M., Merhout, F. and Volfovsky, A. (2018), 'Exposure to Opposing Views on Social Media can Increase Political Polarization', *Proceedings of the National Academy of Sciences* **115**(37), 9216–9221.
- Blalock, H. M. (1956), 'Economic Discrimination and Negro Increase', *American Sociological Review* **21**(5), 584–588.
- Brimblecombe, N., Evans-Lacko, S., Knapp, M., King, D., Takizawa, R., Maughan, B. and Arseneault, L. (2018), 'Long Term Economic Impact Associated with Childhood Bullying Victimization', *Social Science and Medicine* **208**, 134–141.
- Broockman, D. and Kalla, J. (2016), 'Durably Reducing Transphobia: A Field Experiment on Door-to-Door Canvassing', *Science* **352**(6282), 220–224.
- Brown, R., Eller, A., Leeds, S. and Stace, K. (2007), 'Intergroup Contact and Intergroup Attitudes : A Longitudinal Study.', *European Journal of Social Psychology* **37**(4), 692–703.
- Brown, S. and Taylor, K. (2008), 'Bullying, Education and Earnings: Evidence from the National Child Development Study', *Economics of Education Review* **27**(4), 387–401.
- Çirakoğlu, O. C. (2006), 'Perception of Homosexuality Among Turkish University Students: The Roles of Labels, Gender, and Prior Contact.', *Journal of Social Psychology* **146**(3), 293–305.
- Costa, P. A., Pereira, H. and Leal, I. (2015), 'The Contact Hypothesis and Attitudes Toward Same-Sex Parenting', *Sexuality Research and Social Policy* **12**(2), 125–136.
- Feder, J., Levant, R. and Dean, J. (2010), 'Boys and Violence: A Gender-Informed Analysis', *Psychology of Violence* **1**(S), 3–12.
- Fernández, R., Parsa, S. and Viarengo, M. (2019), Coming out in America: Aids, Politics, and Cultural Change, Technical report, National Bureau of Economic Research.
- Finseraas, H. and Kotsadam, A. (2017), 'Does Personal Contact with Ethnic Minorities affect Anti-Immigrant Sentiments? Evidence from a Field Experiment', *European Journal of Political Research* **56**, 703–722.

- Flores, A. R. (2021), 'Social acceptance of LGBTI people in 175 countries and locations: 1981 to 2020', *UCLA School of Law, Williams Institute*. Retrieved February 4, 2022.
- Forman, T. (2001), *Social Change, Social Context and White Youths' Racial Attitudes*, PhD thesis, Ann Arbor, MI.
- Herek, G. M. and Capitanio, J. P. (1996), "'Some of My Best Friends" Intergroup Contact, Concealable Stigma, and Heterosexuals' Attitudes Toward Gay Men and Lesbians', *Personality and Social Psychology Bulletin* **22**(4), 412–424.
- Herek, G. M. and Glunt, E. K. (1993), 'Interpersonal Contact and Heterosexuals' Attitudes toward Gay Men: Results from a National Survey', *The Journal of Sex Research* **30**(3), 239–244.
- Hewstone, M. (2009), 'Living Apart, Living Together? The Role of Intergroup Contact in Social Integration', *Proceedings of the British Academy* **162**, 243–300.
- IPSOS (2021), 'LGBT+ Pride 2021 Global Survey', Report. URL: <https://bit.ly/3OKyBjq>. Accessed June 2022.
- Johns, M. M., Lowry, R., Haderxhanaj, L. T., Rasberry, C. N., Scales, L. R. L., Stone, D. and Suarez, N. A. (2020), Trends in Violence Victimization and Suicide Risk by Sexual Identity Among High School Students — Youth Risk Behavior Survey, United States, 2015–2019, Morbidity and Mortality Weekly Report. Supplements Vol 69, No. 1, Center for Disease Control and Prevention.
- Kanas, A., Scheepers, P. and Sterkens, C. (2015), 'Interreligious Contact, Perceived Group Threat, and Perceived Discrimination: Predicting Negative Attitudes among Religious Minorities and Majorities in Indonesia', *Social Psychology Quarterly* **78**(2), 102–126.
- Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Queen, B., Lowry, R., Chyen, D., Whittle, L., Thornton, J., Lim, C., Bradford, D., Yamakawa, Y., Leon, M., Brener, N. and Ethier, K. A. (2018), Youth Risk Behavior Surveillance - United States 1997, Morbidity and Mortality Weekly Report. Surveillance Summaries Vol 67, No. 8, Center for Disease Control and Prevention.
- King, M. E., Winter, S. and Webster, B. (2009), 'Contact Reduces Transprejudice: A Study on Attitudes towards Transgenderism and Transgender Civil Rights in Hong Kong', *International Journal of Sexual Health* **21**(1), 17–34.
- Mohipp, C. and Morry, M. M. (2004), 'The Relationship of Symbolic Beliefs and Prior Contact to Heterosexuals Attitudes Toward Gay Men and Lesbian Women', *Canadian Journal of Behavioural Science* **36**(1), 36 – 44.
- Ness, D. and Lin, C.-L. (2015), *International Education: An Encyclopedia of Contemporary Issues and Systems*, Routledge.
- Paolini, S., Hewstone, M., Cairns, E. and Voci, A. (2004), 'Effects of Direct and Indirect Cross-Group Friendships on Judgments of Catholics and Protestants in Northern Ireland: the Mediating Role of an Anxiety-Reduction Mechanism', *Personality and Social Psychology Bulletin* **30**(6), 773–785.
- Patterson, J. G., Jabson, J. M. and Bowen, D. J. (2017), 'Measuring Sexual and Gender Minority Populations in Health Surveillance', *LGBT health* **4**(2), 82–105.
- Pettigrew, T. F. and Tropp, L. R. (2006), 'A Meta-Analytic Test of Intergroup Contact Theory', *Journal of Personality and Social Psychology* **90**(5), 751–783.
- Renfro, C., Duran, A., Stephan, W. and Clason, D. (2006), 'The Role of Threat in Attitudes Toward Affirmative Action and its Beneficiaries', *Journal of Applied Social Psychology* **36**, 41–74.

- Rocha, C., Urban, A.-M., Ortiz, D., Frisancho, V. and Pandolfi, J. (2022), Acoso y discriminación de estudiantes diversos: experiencias en la educación media en Uruguay, Technical report, Inter-American Development Bank - IDB-TN-02584.
- Rust, P. C. (1993), “‘Coming Out’ in the Age of Social Constructionism: Sexual Identity Formation among Lesbian and Bisexual Women’, *Gender & Society* **7**(1), 50–77.
- Scacco, A. and Warren, S. S. (2018), ‘Can Social Contact Reduce Prejudice and Discrimination? Evidence from a Field Experiment in Nigeria’, *American Political Science Review* **112**(3), 654–677.
- Stephan, W. G., Ybarra, O., Martínez, C., Schwarzwald, J. and Tur-Kaspa, M. (1998), ‘Prejudice toward Immigrants to Spain and Israel: An Integrated Threat Theory Analysis’, *Journal of Cross-Cultural Psychology* **29**(4), 559–576.
- Stephan, W. S. and Stephan, C. W. (2000), *Prejudice and Discrimination*, Lawrence Erlbaum Associates Inc. Publishers, chapter 2, pp. 23–45.
- Stephan, W., Ybarra, O. and Bachman, G. (1999), ‘Prejudice Toward Immigrants’, *Journal of Applied Social Psychology* **29**, 2221–2237.
- Stephan, W., Ybarra, O. and Rios, K. (2009), ‘Intergroup Threat Theory’, *Handbook of prejudice, stereotyping, and discrimination* pp. 43–59.
- Takizawa, R., Maughan, B. and Arseneault, L. (2014), ‘Adult Health Outcomes of Childhood Bullying Victimization: Evidence From a Five-Decade Longitudinal British Birth Cohort’, *American Journal of Psychiatry* **171**(7), 777–784.
- Tausch, N., Hewstone, M. and Roy, R. (2009), ‘The Relationships between Contact, Status and Prejudice: an Integrated Threat Theory Analysis of Hindu-Muslim Relations in India.’, *Journal of Community and Applied Social Psychology* **19**(2), 83–94.
- Taylor, M. C. (1998), ‘How White Attitudes Vary with the Racial Composition of Local Populations: Numbers Count’, *American Sociological Review* **63**(4), 512–535.
- Tourangeau, R. and Yan, T. (2007), ‘Sensitive Questions in Surveys’, *Psychological Bulletin* **133**(5), 859–883.
- UNESCO (2012), Review of Homophobic Bullying in Educational Institutions, United Nations Educational, Scientific, and Cultural Organization (UNESCO), Paris, France.  
Prepared for the International Consultation on Homophobic Bullying in Educational Institutions Rio de Janeiro, Brazil, 6-9 December 2011.
- Wagner, U., Christ, O., Pettigrew, T. F., Stellmacher, J. and Wolf, C. (2006), ‘Prejudice and Minority Proportion: Contact Instead Of Threat Effects’, *Social Psychology Quarterly* **69**(4), 380–390.
- Wolke, D. and Lereya, S. T. (2015), ‘Long-term Effects of Bullying’, *Archives of disease in childhood* **100**(9), 879–885.

## **A Robustness Checks**

**Table A.1. Impact of Gender and Sexual Diversity on Violence (Share of LGBT Higher than Median)**

	Any Violence			Psychological Violence			Physical Violence			Sexual Violence		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
High LGBT	0.024 (0.017)	0.016 (0.024)	0.012 (0.019)	0.020 (0.016)	0.006 (0.022)	0.012 (0.017)	0.001 (0.013)	-0.001 (0.019)	-0.005 (0.013)	-0.001 (0.011)	0.009 (0.013)	-0.005 (0.010)
Woman	0.037** (0.017)	0.030 (0.018)	0.037** (0.017)	0.049*** (0.016)	0.037** (0.018)	0.049*** (0.016)	-0.062*** (0.011)	-0.063*** (0.014)	-0.062*** (0.011)	0.024** (0.011)	0.033** (0.013)	0.024** (0.011)
High LGBT × Woman		0.015 (0.027)			0.026 (0.028)			0.002 (0.021)			-0.020 (0.018)	
LGBT	0.110*** (0.017)	0.110*** (0.017)	0.068** (0.028)	0.107*** (0.016)	0.107*** (0.016)	0.079*** (0.026)	0.024 (0.014)	0.023 (0.015)	0.004 (0.022)	0.105*** (0.013)	0.106*** (0.013)	0.094*** (0.021)
High LGBT × LGBT			0.068* (0.035)			0.047 (0.035)			0.032 (0.025)			0.018 (0.024)
Observations	5774	5774	5774	5774	5774	5774	5757	5757	5757	5740	5740	5740
Mean dependent variable	0.450	0.450	0.450	0.408	0.408	0.408	0.162	0.162	0.162	0.125	0.125	0.125
S.D. dependent variable	0.498	0.498	0.498	0.492	0.492	0.492	0.369	0.369	0.369	0.330	0.330	0.330

Note: All specifications include controls for age, biological sex, LGBT, household asset index, more than one friend, lives in Montevideo, university as expected education, any disability, and afro or indigenous. Grade-level and school-level fixed effects are included. Clustered school-level standard error in parenthesis. Stars denote significance levels (\* p<0.1, \*\* p<0.05, \*\*\* p<0.01).

**Table A.2. Impact of Gender and Sexual Diversity on Violence (Number of LGBT Students)**

	Any Violence			Psychological Violence			Physical Violence			Sexual Violence		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Total of LGBT students	0.009** (0.004)	0.004 (0.005)	0.007 (0.004)	0.008** (0.004)	0.003 (0.005)	0.007* (0.004)	0.002 (0.003)	-0.002 (0.004)	0.000 (0.003)	-0.000 (0.003)	-0.001 (0.003)	-0.000 (0.003)
Woman	0.037** (0.017)	0.001 (0.025)	0.037** (0.017)	0.049*** (0.016)	0.013 (0.025)	0.049*** (0.016)	-0.062*** (0.011)	-0.085*** (0.018)	-0.062*** (0.011)	0.024** (0.011)	0.017 (0.017)	0.024** (0.011)
Total of LGBT × Woman		0.010* (0.006)			0.010 (0.006)			0.007 (0.005)			0.002 (0.004)	
LGBT	0.107*** (0.017)	0.106*** (0.017)	0.058 (0.039)	0.104*** (0.016)	0.102*** (0.016)	0.084** (0.038)	0.022 (0.015)	0.021 (0.015)	-0.012 (0.028)	0.105*** (0.013)	0.105*** (0.013)	0.103*** (0.028)
Total of LGBT × LGBT			0.011 (0.007)			0.004 (0.007)			0.008 (0.005)			0.001 (0.005)
Observations	5774	5774	5774	5774	5774	5774	5757	5757	5757	5740	5740	5740
Mean dependent variable	0.450	0.450	0.450	0.408	0.408	0.408	0.162	0.162	0.162	0.125	0.125	0.125
S.D. dependent variable	0.498	0.498	0.498	0.492	0.492	0.492	0.369	0.369	0.369	0.330	0.330	0.330

Note: All specifications include controls for age, biological sex, LGBT, household asset index, more than one friend, lives in Montevideo, university as expected education, any disability, and afro or indigenous. Grade-level and school-level fixed effects are included. Clustered school-level standard error in parenthesis. Stars denote significance levels (\* p<0.1, \*\* p<0.05, \*\*\* p<0.01).