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FROM OVER 30
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A JOINT PUBLICATION
CORWIN Mathematics
NCTM NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

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Please enjoy this complimentary excerpt from *High School Mathematics Lessons to Explore, Understand, and Respond to Social Injustice*. This lesson introduces students to the GLSEN School Climate Report on how LGBTQ+ students are being mistreated, among other things.

LEARN MORE about this title, including Features, Table of Contents, and Reviews.

LESSON 5.3: LISTEN TO GLSEN

Bryan Meyer and John W. Staley

GENDER AND SEXUAL IDENTITY

In this lesson sequence, students are introduced to the GLSEN School Climate Report. The report details, among many other things, the ways that students who identify as LGBTQ+ are being mistreated in schools. Students organize data from this report into matrix form and use that to calculate the number of students in their own school who may be experiencing these forms of harassment and assault. They analyze their school's efforts to support students who identify as LGBTQ+ and identify ways they can take action to better support their classmates.

DEEP AND RICH MATHEMATICS

This lesson is designed to introduce students to the use of matrices to organize large or complicated quantities of data. Students sift through raw data to organize a matrix, and they learn that there is more than one correct way to construct a matrix from a data set. Students also reinvent a method for multiplying two (or more) matrices together.

ABOUT THE LESSON

The lesson is a launch–explore–summarize instructional model and is intended to take approximately 180 minutes to complete across three class periods.

Lesson 1: Students engage in sifting through lots of data in order to construct a matrix. They think about which data points suit themselves to a matrix organization and which data points do not. They also consider whether there are multiple ways to construct a matrix from a given data set.

Lesson 2: Students use two matrices in order to calculate the number of students in each grade level in their own school that are experiencing various forms of mistreatment. They work from their own intuition and common sense to calculate these values and then organize their results into a new matrix.

Lesson 3: Students learn about resources and actions they can take to better support students who identify as LGBTQ+.

Note: Taking Action is included as Lesson 3.

SOCIAL JUSTICE OUTCOMES

- I know that all my group identities and the intersection of those identities create unique aspects of who I am and that this is true for other people too. (Identity 3)
- I relate to and build connections with other people by showing them empathy, respect and understanding, regardless of our similarities or differences. (Diversity 9)
- I stand up to exclusion, prejudice and discrimination, even when it's not popular or easy or when no one else does. (Action 19)

MATHEMATICS ESSENTIAL CONCEPTS

- Number—Quantitative reasoning includes, and mathematical modeling requires, attention to units of measurement. (N.2)

MATHEMATICAL PRACTICES

- Reason abstractly and quantitatively.
- Look for and express regularity in repeated reasoning.

Resources and Materials

- Task Card 1, *Listen to GLSEN* (2 copies per group)
- Task Card 2, *Closer to Home* (2 copies per group)
- Student Homework Resource 1, *Excerpt From Think B4 You Speak* (1 copy per student)
- Student Resource 2, *Taking Action* (2 copies per group)
- GLSEN 2017 National School Climate Survey Executive Summary (2 copies per group), bit.ly/2m08snE

LESSON 1 FACILITATION

Listen to GLSEN

Launch (20 minutes)

- Begin by having students journal about the following questions (they can select one). Let students know that they won't be required to share their writing.
 - + *Think of a time that you were bullied or harassed. How did that make you feel?*
 - + *Why do you think some people engage in bullying or harassment?*

This is primarily an empathy-building exercise. Ask students if anyone is comfortable sharing something they wrote, but don't require it.

- Introduce the GLSEN 2017 National School Climate Survey Executive Summary. Let students know that GLSEN stands for the Gay, Lesbian, and Straight Education Network. It is an organization committed to improving the experience of students who identify as LGBTQ+ in K–12 schools. The report students will look at is a collection of data about the experiences of these students in schools across the nation.
- Give students access to pp. 4–6 of the GLSEN Executive Summary (“Hostile School Climate” and “Effects of Hostile School Climate”).
- Have students individually read and then discuss at their tables:
 - + *What statistics stand out to you?*
 - + *What questions does this bring up for you?*

Record some of their noticings and (especially) their wonderings for reference later on.

- If it doesn't come up, ask:
 - + *What terms were included in the report that you are unsure of the meanings of?*

Educators should be mindful that students may need space and time during the discussion, including the ability to leave class. Additional resources about best practices for supporting students who identify as LGBTQ+ are available in the resource guide from *Teaching Tolerance*: bit.ly/2kUBdSo.

- Tell students that, as time permits, they can discuss these terms in their groups and look up any definitions they are unsure of. There will also be a short homework reading that centers on the terms.

Explore (20 minutes)

- Distribute two copies of Task Card 1, *Listen to GLSEN*, per group and have the group select a “facilitator” who will read each part of the task card and keep the group focused. Have student groups begin work together on the task.
- As students work, listen for conversations about and prompt with the following questions:
 1. *Which data from this report are suited to a matrix organization? Which data do not really seem suited to organization with a matrix?*
 2. *Our matrices look different. Can they both be correct? How would we know?*
 3. *What additional data would we need to calculate this? Why these data? What would we do with the data once we had them?*
- You could choose to have students make a poster of their work for Question 1 and/or Question 2.

If some groups seem finished, encourage them to discuss the definitions of unfamiliar terms and to look up ones that they don’t know or would like to verify.

Summarize (20 minutes)

- Begin by having some student groups share their matrices from Question 1. In particular, center the conversation on the following:
 - + *Which data were suited to matrices? Which data were more difficult to put into matrix form?*
- The intent of Question 2 is for students to see that there are multiple ways to construct a matrix from a given data set.
- Have one or two groups share two different versions of a matrix from Question 2, and ask students the following questions:
 - + *Are these both correct? How do you know?*
 - + *What does the 59.5 percent in this location mean? (You can do the same for the second matrix. Does the meaning change in this second matrix?)*
- After this discussion, let students know that even though there are multiple correct versions of a matrix for these data, they will use this one from here on out (you will use this in Day 2). Make a poster of this matrix and display it in your room somewhere for the remainder of the lesson sequence.

National Percentages Matrix

	<i>unsafe</i>	<i>verbal</i>	<i>physical</i>	<i>assault</i>
<i>sexual orient.</i>	59.5	70.1	28.9	12.4
<i>gender</i>	44.6	59.1	24.4	11.2

- Finally, have some discussion about Question 3. This question foreshadows the task for the next lesson and is just intended to get students thinking. It is *not* important that they fully resolve this question. Focus the discussion on the following questions:
 - + *What information would we need?*
 - + *Why that information?*
 - + *What would we do with that information if we had it?*
- For homework, ask students to read the excerpt from *Think B4 You Speak*.

LESSON 2 FACILITATION

Closer to Home

- Debrief reading from the homework by asking students to answer these questions with a partner:
 - + *What is one new thing/term that you learned from the reading?*
 - + *What is one question you still have?*

Launch (5 minutes)

- Re-engage students in the National Percentages Matrix from the previous day by asking these questions:
 - + *What do you remember about what the data in the matrix represent?*
 - + *What do these two numbers mean, specifically?* (Choose any two values from the same column in order to distinguish that one represents the percentage of students nationwide who are experiencing that based on sexual orientation, and the other is the percentage of students nationwide who are experiencing that based on gender expression.)
- Post on the board the total number of ninth, tenth, eleventh, and twelfth graders in your school (this needs to be visible for everyone for the task). Then, ask the following question:
 - + *How many students in our own school do you think are experiencing this type of mistreatment?*

Explore (20 minutes)

- Distribute Task Card 2, *Closer to Home*. Even though students will be working in groups of four, it may be a good idea to give each student a copy so that everyone has access to the images on the card.
- Have one person in each group read through the whole task card and then ask the group members to restate the task in their own words. You might choose to have some brief whole-class discussion prior to setting groups off to work.
- Begin by assigning a few minutes of “private reasoning time” for students. This should help each group member to begin thinking for themselves before they collaborate.
- In Question 1, the intent is that students will take the data from their own school (by grade level) and multiply by 8 percent (for sexual orientation) and 1 percent (for gender expression) to find approximate numbers of students at their own school who identify in these ways. For instance, if a school had 625 ninth graders, 750 tenth graders, 800 eleventh graders, and 500 twelfth graders, their calculations would look something like this:

My School Matrix

	sexual orient.	gender
Ninth grade	625(.08)	625(.01)
Tenth grade	750(.08)	750(.01)
Eleventh grade	800(.08)	800(.01)
Twelfth grade	500(.08)	500(.01)

Resulting in this "My School Matrix" →

My School Matrix

	sexual orient.	gender
Ninth grade	50	6.25
Tenth grade	60	7.5
Eleventh grade	64	8
Twelfth grade	40	5

- As groups work on the task, you may want to briefly pause the class at times to
 - + remind students that the numbers in the National Percentages Matrix are percentages, so they will need to convert to decimal to multiply (or do some other calculation that makes sense to them).
 - + have a group share their calculations for Question 2, Part a. Then, have groups continue working on the rest.

Summarize (40 minutes)

- The intent in this section is to work from students' own intuition and natural sensemaking in order to build a definition for matrix multiplication. In a sense, students reinvent this procedure based on the repeated calculations that they do (especially in Question 2).
- To begin, you might have a student group present their calculations from Question 2a. *At this point, students should be using the My School Matrix based on data from your own school.* For the purposes of illustration, hypothetical numbers are presented here (yours will likely be different). If the My School Matrix were filled with the numbers below, that calculation would look something like this:

My School Matrix

	sexual orient.	gender
Ninth grade	50	6.25
Tenth grade	60	7.5
Eleventh grade	64	8
Twelfth grade	40	5

National Percentages Matrix

	unsafe	verbal	physical	assault
sexual orient.	59.5	70.1	28.9	12.4
gender	44.6	59.1	24.4	11.2

$$50 (.595) + 6.25 (.446) = 32.5375$$

- Ask the following questions:
 - + *Why did it make sense to multiply $50 \times .595$? And $6.25 \times .446$?*
 - + *What does our answer (32.5375) mean in this case?*
- Introduce the solution matrix if it hasn't already come up:

$$\begin{array}{l}
 \text{unsafe} \quad \text{verbal} \quad \text{physical} \quad \text{assault} \\
 \begin{array}{l}
 \text{Ninth grade} \\
 \text{Tenth grade} \\
 \text{Eleventh grade} \\
 \text{Twelfth grade}
 \end{array}
 \left[\begin{array}{cccc}
 & & & \\
 & & & \\
 & & & \\
 & & &
 \end{array} \right]
 \end{array}$$

- It will probably be useful for students to present their calculations for at least two of the parts (i–iv). This will allow the class to see the repeated reasoning and calculation. Ask the class:
 - + *What is the process you are doing over and over again?*
- Be sure to generalize here that *to get each entry of the product of two matrices, multiply a row in the first matrix times a column in the second matrix*. Tell students that this is the process of matrix multiplication. Select another entry of the solution matrix (eleventh graders who are experiencing assault, for instance) and ask students how they would get that entry.
- At this point, introduce the following alternative My School Matrix. The purpose for introducing this is to help students begin to generalize about when a matrix can and can't be multiplied together. Seeing this nonexample will help them with that.

$$\begin{array}{l}
 \text{sexual} \\
 \text{orient.} \quad \text{gender} \quad \text{questioning} \\
 \begin{array}{l}
 \text{Ninth grade} \\
 \text{Tenth grade} \\
 \text{Eleventh grade} \\
 \text{Twelfth grade}
 \end{array}
 \left[\begin{array}{ccc}
 50 & 8 & 1 \\
 60 & 10 & 0 \\
 75 & 12 & 3 \\
 40 & 6 & 8
 \end{array} \right]
 \end{array}
 \times
 \begin{array}{l}
 \text{unsafe} \quad \text{verbal} \quad \text{physical} \quad \text{assault} \\
 \begin{array}{l}
 \text{sexual} \\
 \text{orient.} \\
 \text{gender}
 \end{array}
 \left[\begin{array}{cccc}
 59.5 & 70.1 & 28.9 & 12.4 \\
 44.6 & 59.1 & 24.4 & 11.2
 \end{array} \right]
 \end{array}$$

- Ask the following questions:
 - + *Can we multiply these two matrices in the same way? Why or why not?*
 - + *What needs to be true in order to multiply two matrices?*

The key here is that the length of the rows in the first matrix needs to equal the height of the columns in the second matrix.

- Finally, if students haven't already done so, have them finish finding the values for all entries of the solution matrix. While this may take some time, the numbers represent the approximate number of students at their school who are being mistreated. So, it is important to finish this task. You could divide the work among the class to save time. Ask students this question:
 - + *What are your reactions to seeing these numbers about our school?*
- Related, the numbers students get as a result of the matrix multiplication are just approximations and aren't likely to exactly match the actual numbers from your school. Ask students to consider this question:
 - + *What are some reasons that these numbers may not be exact?*

Some reasonable answers could include the following:

- The national percentages of students who identify with nondominant sexual orientations (8 percent) and/or gender expressions (1 percent) are approximations themselves.
 - Some students who identify as LGBTQ+ may be scared to report harassment, in which case our actual numbers would be higher.
 - We may have double-counted.
 - Some students may identify with both nondominant sexual orientations *and* gender expressions, and thus reported harassment for both reasons.
- You do not need to spend time discussing the challenge question with the whole class. Should you have students who are interested, below is one possible way of setting up that multiplication:

My School Matrix

	<i>sexual orient.</i>	<i>gender</i>
<i>Ninth grade</i>	—	—
<i>Tenth grade</i>	—	—
<i>Eleventh grade</i>	—	—
<i>Twelfth grade</i>	—	—

<i>sexual orient.</i>	<i>gender</i>
8%	1%

National Percentages Matrix

	<i>unsafe</i>	<i>verbal</i>	<i>physical</i>	<i>assault</i>
<i>sexual orient.</i>	59.5	70.1	28.9	12.4
<i>gender</i>	44.6	59.1	24.4	11.2

You might recognize that the multiplication of the first two matrices is another way of setting up the calculations that students already did in Question 1.

LESSON 3 FACILITATION

TAKING ACTION (CONSIDERED AS A THIRD FULL LESSON PERIOD)

Launch (10 minutes)

- Begin by having students journal answers to the following questions:
 - + *What is our school doing to help prevent this type of mistreatment?*
 - + *What is our school doing that might be contributing to this type of mistreatment?*
- Have students discuss their ideas in small groups, and then take (and record) some responses for the whole class to hear.

Explore (20 minutes)

- Project the two graphs from Student Resource 2, *Taking Action*. (The graphs show longitudinal trends in both victimization and school supports.) Ask students these questions:
 - + *What do you notice? What do you wonder?*
- They will likely comment that incidents of victimization seem to be decreasing over time. Also, school support services seem to be increasing over time. They may also comment about the connection between these two (for instance, that incidents may be decreasing *because of* the increase in services).
- These services (school policies, practices, and procedures that can help reduce these incidents on campuses) are outlined in greater detail in the GLSEN School Climate Report, in “LGBTQ-Related School Resources and Supports” on pp. 7–10. The services fall under four domains:
 - + GSAs (Gay-Straight Alliances)
 - + Inclusive curricular resources
 - + Supportive educators
 - + Inclusive and supportive school policies
- Organize a jigsaw for students to learn about these. Assign each group to read and become “experts” on one of the sections. Then, form mixed groups and have the students teach each other about the ones they didn’t read.

Summarize (30 minutes)

- Use the following questions to facilitate a class discussion:
 - + *What steps do we need to take at our school to better support our students who identify as LGBTQ+?* (List these on the board.)
 - + *Which of these actions do we feel most compelled to take?*

- + *How can we organize ourselves to follow through on these actions?*
 - *Should we form small groups?*
 - *Who would take the lead?*
 - *What would a timeline for this look like?*
- + *Who else on campus would need to be involved?*

Excerpt from *Think B4 You Speak*

This section adapted from the *Think B4 You Speak Educator's Guide* (p. 4) and GLSEN Gender Terminology, www.glsen.org

Lesbian, gay, bisexual and transgender (LGBT) teens in the U.S. experience homophobic remarks and harassment throughout the school day, creating an atmosphere where they feel disrespected, unwanted and unsafe. GLSEN's

2007 *National School Climate Survey* found that nearly three-quarters (73.6%) of LGBT students hear homophobic language, such as “faggot” or “dyke,” and more than nine in ten (90.2%) hear the word “gay” used in a negative way frequently or often at school. Though many play down the impact of expressions like “that’s so gay” because they have become such a common part of teens’ vernacular and are often not intended to inflict harm, 83.1% of LGBT students say that hearing “gay” or “queer” used in a negative manner causes them to feel bothered or distressed.

DID YOU KNOW?

9 out of 10 LGBT students hear the word “gay” used in a negative way often or frequently in school and nearly 3 out of 4 LGBT students report hearing their peers make homophobic remarks, such as “dyke” or “faggot,” often or frequently in school.

Studies indicate that youth who regularly experience verbal or physical harassment suffer from emotional turmoil, low self-esteem, loneliness, depression, poor academic achievement and high rates of absenteeism.¹ Research also shows that many of the bystanders to acts of harassment experience feelings of helplessness and powerlessness, and develop poor coping and problem-solving skills.² Clearly, homophobic and all types of harassment—and the toxic effects they produce—are whole school problems that all educators must confront.

To address this disconcerting reality, the Gay, Lesbian and Straight Education Network (GLSEN) together with The Advertising Council has created the first national multimedia public service advertising (PSA) campaign designed to address the use of anti-LGBT language among teens. The campaign aims to raise awareness among straight teens about the prevalence and consequences of anti-LGBT bias and behavior in America’s schools. Ultimately, the goal is to reduce and prevent the use of homophobic language in an effort to create a more positive environment for LGBT teens. The campaign also aims to reach adults, including school personnel and parents, because their support of this message is crucial to the success of efforts to change teens’ behavior.

A Note About Language

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There are many terms that are used to describe what is commonly known as the “gay community.” Since the word “gay” most often refers to homosexual men, we have chosen to use the more inclusive “LGBT,” which means lesbian, gay, bisexual and transgender. Though this term may sound unfamiliar at first, we encourage you to use it consistently with [others] and to avoid reflexively using “gay” to describe the broad spectrum of sexual and gender identities. There are many people

▲ Student
Homework Resource 1

Listen to GLSEN

Find some information in the provided section of the GLSEN 2017 National School Climate Survey Executive Summary (pp. 4–6) that could be organized into a matrix. Create a matrix for that information. Be sure to label your rows and columns.

1. Below is a slightly simplified version of one section of the GLSEN report. Have every member of your group organize this information into a single matrix (be sure to have everyone label their rows and columns). Then, compare your matrices and decide on one matrix for your group.

59.5 % of LGBTQ students felt unsafe at school because of their sexual orientation and 44.6% because of their gender expression.

70.1% of LGBTQ students experienced verbal harassment (e.g., called names or threatened) at school based on sexual orientation and 59.1% based on gender expression.

28.9% of LGBTQ students were physically harassed (e.g., pushed or shoved) in the past year based on sexual orientation and 24.4% based on gender expression.

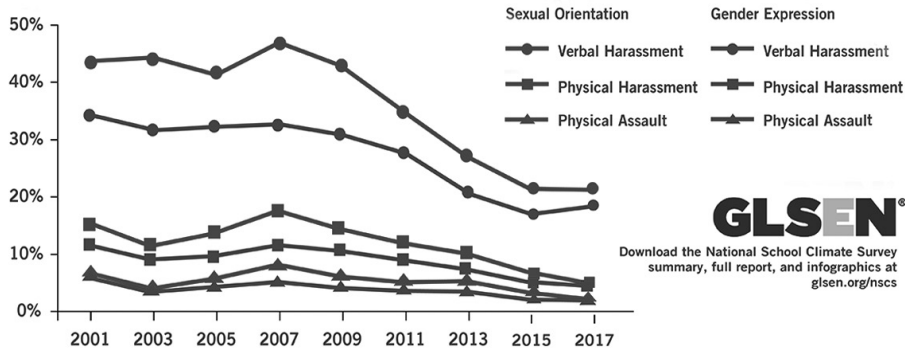
12.4% of LGBTQ students were physically assaulted (e.g., punched, kicked, injured with a weapon) in the past year based on sexual orientation and 11.2% based on gender expression.

2. How could you use the statistics in Question 2 to find out how many students at your own school are being affected in these ways? What additional information would you need?

 Task Card 1

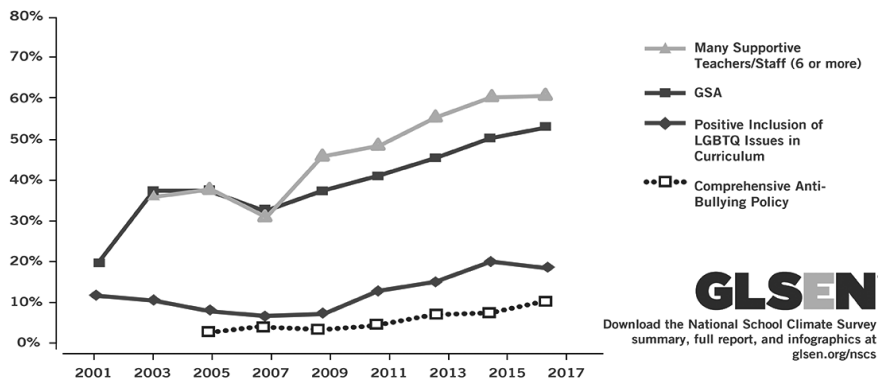
Taking Action

Frequency of School Victimization Based on Sexual Orientation and Gender Expression Over Time
(Percentage of LGBTQ Students Reporting Event Often or Frequently, Based on Estimated Marginal Means)



GLSEN
Download the National School Climate Survey summary, full report, and infographics at [glsen.org/nscs](https://www.glsen.org/nscs)

Availability of LGBTQ-Related School Resources Over Time
(Percentage of LGBTQ Students Reporting Resource in School, Accounting for Covariates)



GLSEN
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Source: Visit [glsen.org/research](https://www.glsen.org/research) for further information. Used with permission.

Student Resource 2

Closer to Home



Source: filo/iStock.com

After spending some time with the GLSEN School Climate Report, you constructed the “National Percentages Matrix” to organize some important information about the mistreatment of LGBTQ students in schools across the nation. You can use this matrix to get an (approximate) calculation for the number of students in your own school who are experiencing this type of mistreatment. It is difficult to realize that your friends, neighbors, and classmates are being treated in these ways. But one good thing about bringing this issue closer to home is that it may feel like you can actually do something to change the situation.

1. According to national statistics¹, approximately 8 percent of high school-aged students identify as lesbian, gay, or bisexual, and approximately 1 percent identify as transgender. Use this information, along with the total number of ninth, tenth, eleventh, and twelfth graders at your own school, to calculate the approximate number of students in each grade level at your school who identify as lesbian, gay, bisexual, or transgender. Organize your data in the following matrix.

My School Matrix

	<i>sexual orient.</i>	<i>gender</i>
<i>Ninth grade</i>	—	—
<i>Tenth grade</i>	—	—
<i>Eleventh grade</i>	—	—
<i>Twelfth grade</i>	—	—

¹ <https://williamsinstitute.law.ucla.edu/press/lgbt-youth-bullying-press-release/>

▲ Task Card 2

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within the LGBT communities who use a variety of other terms to describe themselves, including queer, questioning, and same-gender loving. Though we have chosen to use LGBT consistently here, we encourage you to respect the terms that individuals in your community have chosen to describe themselves.

Much of this guide is aimed at increasing young people's awareness about the damaging effects of expressions like "that's so gay" and other terms that are (intentionally or unintentionally) derogatory. While it is critical to discourage the negative use of words like "gay" and "queer," it is also important to reinforce that these are not "bad" words in and of themselves and are perfectly acceptable when used in appropriate contexts.

Definitions

bisexual: A term given to people who are attracted sexually/erotically and emotionally to both males and females.

gay: A term given to males who are attracted sexually/erotically and emotionally to some other males.

gender attribution: How your gender is perceived by others.

gender expression: How you want to display your gender.

gender identity: How you identify (see yourself).

lesbian: A term given to females who are attracted sexually/erotically and emotionally to some other females.

queer: An umbrella term used by many for anyone whose sexual orientation, gender identity or gender expression is not considered "standard."

questioning: A term that refers to people who are uncertain as to their sexual orientation and/or gender identity.

sex assigned at birth: What the medical community labels you.

transgender: A broad "umbrella" term that can be used to describe people whose gender expression is nonconforming and/or whose gender identity is different from their gender assigned at birth.

DID YOU KNOW?

Almost 90% of LGBT students are verbally harassed, 44% are physically harassed and nearly 1/4 are physically assaulted at school because of their sexual orientation. And 2/3 of LGBT students are verbally harassed, 30% are physically harassed and 14% are physically assaulted at school because of their gender expression.

¹ See, for example, Widmeyer Communications for the Health, Resources and Services Administration of the U.S. Department of Health and Human Services, *National Bullying Prevention Campaign Formative Research Report* (2003); Doris Rhea Coy, *Bullying*, ERIC Digest (2001); and Tonja R. Nansel, Mary Overpeck, Ramani S. Pilla, W. June Ruan, Bruce Simons-Morton, Peter Scheidt, *Bullying Behaviors Among US Youth: Prevalence and Association With Psychosocial Adjustment*, JAMA, 285:2094-2100 (2001).

² Tonja R. Nansel, Mary Overpeck, Ramani S. Pilla, W. June Ruan, Bruce Simons-Morton, Peter Scheidt, *Bullying Behaviors Among US Youth: Prevalence and Association With Psychosocial Adjustment*, JAMA, 285:2094-2100 (2001).

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Find some information in the provided section of the GLSEN 2017 National School Climate Survey Executive Summary (pp. 4–6) that could be organized into a matrix. Create a matrix for that information. Be sure to label your rows and columns.

1. Below is a slightly simplified version of one section of the GLSEN report. Have every member of your group organize this information into a single matrix (be sure to have everyone label their rows and columns). Then, compare your matrices and decide on one matrix for your group.

59.5 % of LGBTQ students felt unsafe at school because of their sexual orientation and 44.6% because of their gender expression.

70.1% of LGBTQ students experienced verbal harassment (e.g., called names or threatened) at school based on sexual orientation and 59.1% based on gender expression.

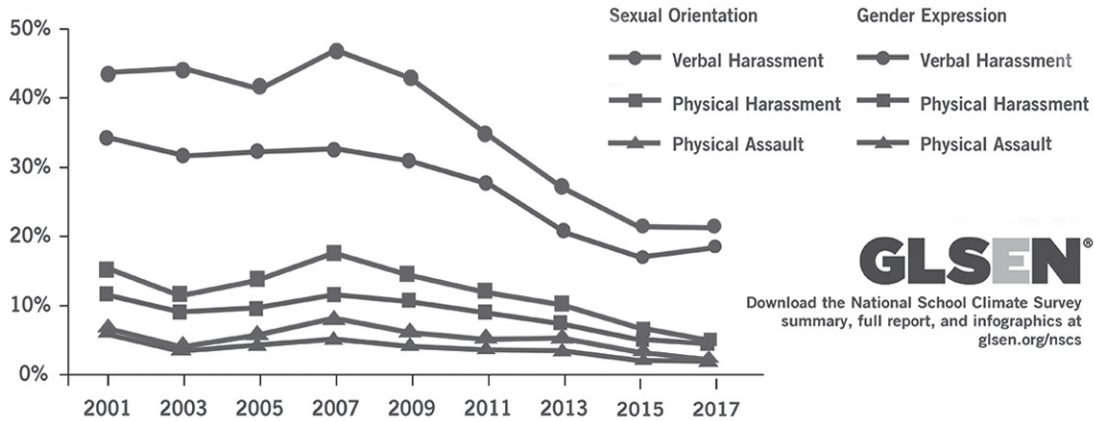
28.9% of LGBTQ students were physically harassed (e.g., pushed or shoved) in the past year based on sexual orientation and 24.4% based on gender expression.

12.4% of LGBTQ students were physically assaulted (e.g., punched, kicked, injured with a weapon) in the past year based on sexual orientation and 11.2% based on gender expression.

2. How could you use the statistics in Question 2 to find out how many students at your own school are being affected in these ways? What additional information would you need?

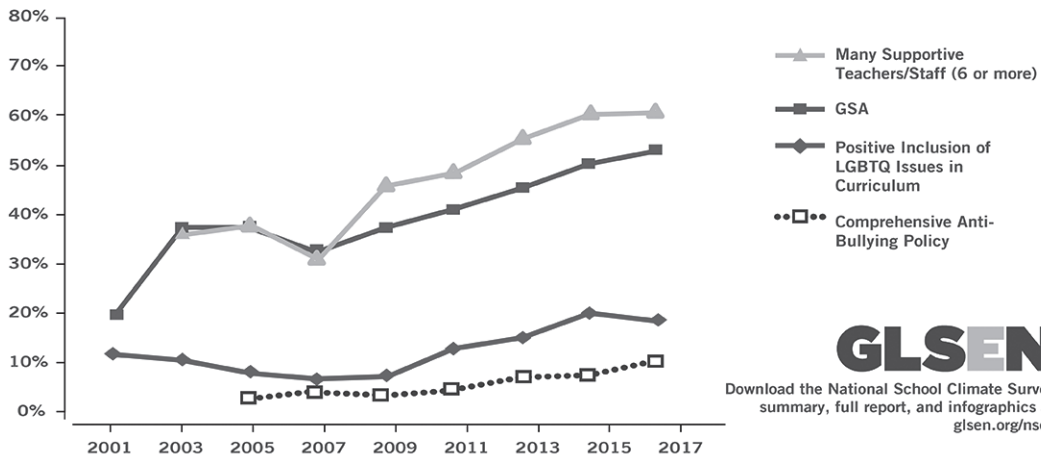
Taking Action

Frequency of School Victimization Based on Sexual Orientation and Gender Expression Over Time
(Percentage of LGBTQ Students Reporting Event Often or Frequently, Based on Estimated Marginal Means)



Download the National School Climate Survey summary, full report, and infographics at glsen.org/nscs

Availability of LGBTQ-Related School Resources Over Time
(Percentage of LGBTQ Students Reporting Resource in School, Accounting for Covariates)



Download the National School Climate Survey summary, full report, and infographics at glsen.org/nscs

Source: Visit glsen.org/research for further information. Used with permission.

Closer to Home



Source: filo/iStock.com

After spending some time with the GLSEN School Climate Report, you constructed the “National Percentages Matrix” to organize some important information about the mistreatment of LGBTQ students in schools across the nation. You can use this matrix to get an (approximate) calculation for the number of students in your own school who are experiencing this type of mistreatment. It is difficult to realize that your friends, neighbors, and classmates are being treated in these ways. But one good thing about bringing this issue closer to home is that it may feel like you can actually do something to change the situation.

1. According to national statistics¹, approximately 8 percent of high school-aged students identify as lesbian, gay, or bisexual, and approximately 1 percent identify as transgender. Use this information, along with the total number of ninth, tenth, eleventh, and twelfth graders at your own school, to calculate the approximate number of students in each grade level at your school who identify as lesbian, gay, bisexual, or transgender. Organize your data in the following matrix.

My School Matrix

	<i>sexual orient.</i>	<i>gender</i>
<i>Ninth grade</i>	—	—
<i>Tenth grade</i>	—	—
<i>Eleventh grade</i>	—	—
<i>Twelfth grade</i>	—	—

¹ <https://williamsinstitute.law.ucla.edu/press/lgbt-youth-bullying-press-release/>

2. You can use your “My School Matrix” from Question 1 and the “National Percentages Matrix” in order to calculate approximate numbers of students in your own school who are feeling unsafe or are being mistreated.

<u>My School Matrix</u>	<u>National Percentages Matrix</u>																						
<i>sexual orient. gender</i>	<i>unsafe verbal physical assault</i>																						
<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 10px;"><i>Ninth grade</i></td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">_____</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">_____</td> </tr> <tr> <td style="padding-right: 10px;"><i>Tenth grade</i></td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">_____</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">_____</td> </tr> <tr> <td style="padding-right: 10px;"><i>Eleventh grade</i></td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">_____</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">_____</td> </tr> <tr> <td style="padding-right: 10px;"><i>Twelfth grade</i></td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">_____</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">_____</td> </tr> </table>	<i>Ninth grade</i>	_____	_____	<i>Tenth grade</i>	_____	_____	<i>Eleventh grade</i>	_____	_____	<i>Twelfth grade</i>	_____	_____	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 10px;"><i>sexual orient.</i></td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">59.5</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">70.1</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">28.9</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">12.4</td> </tr> <tr> <td style="padding-right: 10px;"><i>gender</i></td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">44.6</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">59.1</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">24.4</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 10px;">11.2</td> </tr> </table>	<i>sexual orient.</i>	59.5	70.1	28.9	12.4	<i>gender</i>	44.6	59.1	24.4	11.2
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<i>Tenth grade</i>	_____	_____																					
<i>Eleventh grade</i>	_____	_____																					
<i>Twelfth grade</i>	_____	_____																					
<i>sexual orient.</i>	59.5	70.1	28.9	12.4																			
<i>gender</i>	44.6	59.1	24.4	11.2																			

- a. Use the matrices above to calculate the total number of ninth graders who identify as LGBTQ+ who
 - i. feel unsafe at school
 - ii. have experienced verbal harassment
 - iii. have experienced physical harassment
 - iv. have experienced assault.
 - b. Repeat part a, but calculate for tenth graders.
 - c. Repeat part a, but calculate for eleventh graders.
 - d. Repeat part a, but calculate for twelfth graders.
3. Organize all of your calculations from Question 2 into a matrix. Be sure to label the rows and columns of your matrix.

CHALLENGE! Set up a matrix multiplication chain so that any school can simply input the number of students at each grade level and the resulting matrix multiplication will reveal the number of students at each grade level who are experiencing each of the identified forms of mistreatment (unsafe, verbal harassment, physical harassment, physical assault).

Hint: It will take more than two matrices.