

Evaluating the Effect of a Health Humanities Course on Undergraduate
Perceptions of LGBT Health Disparities

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Abstract

Evaluating the Effect of a Health Humanities Course on
Undergraduate Perceptions of LGBT Health Disparities

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Purpose: To assess how undergraduates' perceptions of the health disparities affecting the LGBT community can change through exposure to a health humanities course dedicated to contextualizing the social health determinants within the LGBT community.

Study Design: This qualitative study used a pre- and post-test design to assess changes in participant perceptions of the health disparities affecting the LGBT community. The goal of the study was to obtain any key changes in student perceptions of LGBT health or the LGBT community after taking a health humanities course dedicated to contextualizing the social health determinants within the LGBT community using art, theatre, and music as a framework.

Methods: Undergraduates enrolled in HSC390: LGBT Communities & Health at California State University, East Bay, and consented to participate in the study, were asked to complete a 9-item questionnaire at two timepoints: before and after the course. Twenty participants responded to the questionnaire prior to the intervention and 18 completed the questionnaire post-intervention. The responses were analyzed using a thematic analysis to determine whether undergraduates' perceptions of the health disparities affecting the LGBT community changed due to exposure to the intervention.

Results: Overall, identified themes both before and after the course, indicated that undergraduate perceptions of the health disparities within the LGBT community remained consistent. However, changes within the themes, following HSC390, indicated the 17-week course helped the undergraduates better contextualize LGBT issues and gain a more in depth understanding of the health disparities within the LGBT community.

Conclusion: An undergraduate health humanities course dedicated to contextualizing the social health determinants via art, theatre, and music can impact student perceptions of the health disparities affecting the LGBT community.

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INTRODUCTION

Studies identifying health inequities based on race, gender, and socioeconomic status, have shown the negative impact these differences have on specific health outcomes in distinct populations. In addition, further studies have shown how understanding health disparities within such populations is crucial to ensuring health equity (Institute of Medicine, 2011; Braveman, 2014; Dahlhamer, 2016; Hatzenbuehler, 2013). Unlike other populations, there is a lack of information on Lesbian, Gay, Bisexual, and Transgender (LGBT) health disparities due to minimal research (Institute of Medicine, 2011). With the launch of HealthyPeople 2010, there has been a push to increase research on the LGBT community. One particular area lacking research is in the understanding of how perceptions of LGBT health are formed. Moreover, most health education courses teach undergraduates about the disproportions of health outcomes in specific at-risk populations without placing into context the complicated nature of individual and community situations and how stigma, prejudice, and environmental factors all coalesce to create health realities (Choksi, 2010).

Interestingly, it has been suggested that medical education can be enhanced when examples of the context by which social determinants directly impact health disparities is included as part of classroom instruction (Choksi, 2010). Moreover, Cene suggests that learners can more effectively place disparities in the proper context if the community in which the disparities exist is truly understood (2010). Indeed, studies evaluating the impact of popular books which contextualize the social determinants of health have shown that student perceptions of health disparities can be influenced by these narratives (Dimaano and Spigner, 2016; Uy and Dimaano, 2019). Art, music, and theatre are additional outlets that are well known influencers of an individual's perceptions, opinions, and analytical capabilities. The field of health humanities refers to the application of humanities disciplines such as the creative arts to inform the discourse of health concepts (Stewart

and Swain, 2016). Art, music, and theatre present opportunities to develop undergraduate perspectives, values, and critical thinking skills around topics in public health through contextualization of abstract topics (Weed, 1995).

Dimaano and Spigner conducted a qualitative analysis where they explored whether using the popular book, *The Immortal Life of Henrietta Lacks*, as an intervention in the classroom to assess any effect on graduate student beliefs about health care, medical ethics and social determinants of health (2016). The study demonstrated that the Lacks' narrative helped graduate students develop a better understanding of the impact of race and racism in health disparities (2016). In another study, conducted by Uy and Dimaano (2019), a similar design was used to determine whether *The Spirit Catches You and You Fall Down* (a book which also contextualizes the social determinants of health) could change perceptions of health disparities amongst undergraduates in a minority-serving university. The Uy and Dimaano study demonstrated that this narrative impacted student perceptions of the role culture plays in health disparities (2019). We believe that the use of art, music, and theatre can function similarly to such narratives described above in playing a role in the development of student perceptions around health concepts such as health disparities and the social determinants of health.

PURPOSE

Here, we designed a qualitative analysis based upon the assumption that exposure to a health humanities course dedicated to contextualizing the social health determinants within the LGBT community would influence participants' perceptions of the health disparities affecting the LGBT community in a deeper, more complex way than before taking the course. HSC390: LGBT Communities & Health is a Health Sciences course at the California State University, East Bay

focused on understanding health disparities and health inequity from the perspective of the LGBT community. This health humanities course aimed to educate undergraduates not only on the disproportionate outcomes impacting LGBT communities but also explored how cultural expression in the humanities through art, music, and theatre inform discussions of LGBT health concepts and have enabled innovation and progress relative to LGBT communities and health outcomes.

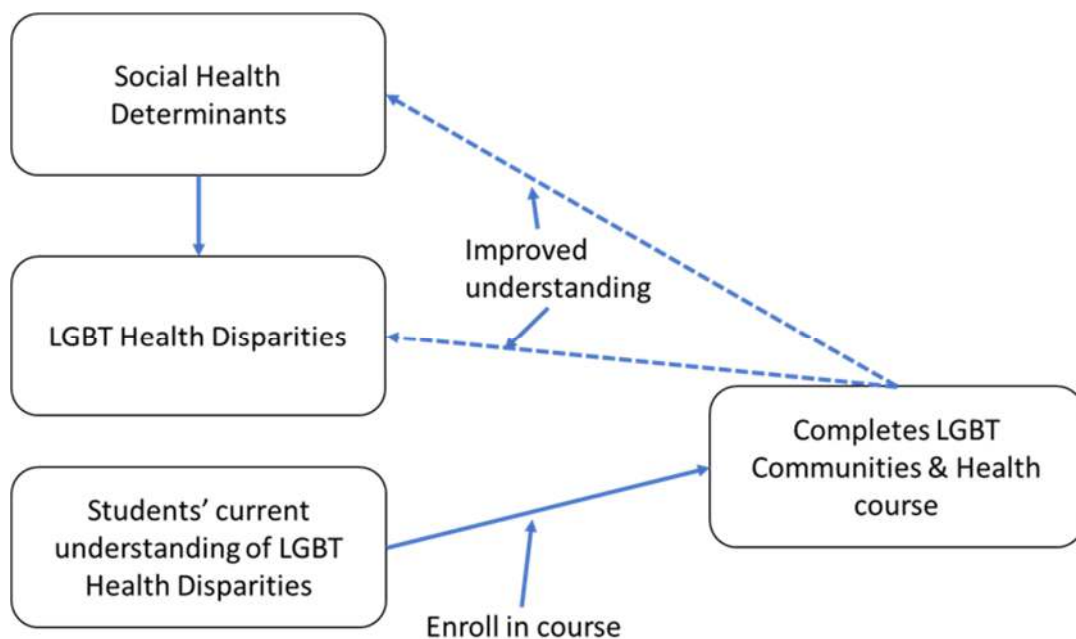
To our knowledge, no study to date has analyzed how a health humanities course specifically leveraging art, music, and theatre, may influence student perceptions of LGBT health disparities. As such, we conducted an in-depth study of undergraduate perspectives about LGBT health care and disparities using the HSC390 course as a framework for attributing situational contextualization through the humanities experience. The objective of this study was to determine how undergraduates' pre-conceived perceptions of the health disparities affecting the LGBT community changed through exposure to a health humanities course dedicated to contextualizing the social health determinants within the LGBT community. The course used both traditional public health teaching focused on disparities within at-risk LGBT sub-populations combined with discussions of how humanities-focused initiatives in art, music, and theatre have impacted LGBT health and enabled communities to reflect and respond to health crises and emerging issues (see Table 3).

METHODS

This study was designed under the assumption that the participants' pre- and post-intervention responses to the same questionnaire would change after exposure to the intervention, reflecting a deeper, more contextualized perception of the LGBT community's challenges (refer to [Figure 1](#)). Viewpoints collected from undergraduates were analyzed using a thematic analysis

to determine whether undergraduates' understanding of the health disparities affecting the LGBT community changed through exposure to the health humanities course, HSC390. This study was approved by the University of Washington Office of Human Subjects as exempted from the Institutional Review Board (IRB) review per US Code of Federal Regulations, 45 CFR 46.101 and 21 CFR 56.104. Written informed consent was obtained from each participant prior to completing the questionnaire.

Figure 1 Conceptual Diagram



Participants

The participants of the study were undergraduates from California State University, East Bay (Cal State East Bay), enrolled in the 2018 Fall Semester's health science course HSC390, LGBT Communities and Health. Twenty participants completed and returned the questionnaire before the start of the course, and 18 completed and returned the questionnaire following completion of the course. Ages of students ranged from 19 to 37 years old. Seventy five percent of the participants at pre-intervention self-identified as female and 80% self-identified as female

at post-intervention. Roughly 50% of the participants identified as either full or mixed Asian or Filipino descent. About 35% identified as Hispanic/Latinx and around 15% identified as Caucasian. In terms of sexual orientation, approximately 30% of the participants identified as either homosexual or bisexual/pansexual, with one participant who identified as trans-attraction (refer to Table 1). The participant population represents a sample of the undergraduate body at Cal State in terms of gender and ethnic background. According to the Cal State East Bay’s 2018-2019 Facts Brochure, the undergraduate population is composed of 10.1% African-American/Black, 0.2% American Indian/Alaskan Native, 22.5% Asian, 1% Hawaiian/Other Pacific Islander, 35.8% Hispanic/Latino, 14.3% White, 5.2% Multiple Ethnicity, and 5% Race/Ethnicity Unknown. Females represented 61% of the total undergraduate population (2018-2019 Facts Brochure). Twenty students consented to take the pre-course questionnaire, while only 18 students consented to take the post-course questionnaire. Loss of the 2 students participating in the post-course questionnaire was likely due to normal attrition since participation was not compulsory.

Table 1 Participant Demographics

	Pre-course	Post-course
Number of participants	20	18
Age		
Median	22	22.5
Range	19-28	20-37
Gender		
Female	15	16
Male	5	2
Ethnicity (%)		
Asian, Chinese	3 (15)	2 (11)
Asian mix	2 (10)	0
Black	1 (5)	1 (6)
Caucasian	2 (10)	3 (17)
Filipino mix	1 (5)	3 (17)
Filipino	4 (20)	3 (17)
Hispanic	2 (10)	3 (17)

Latin	1 (5)	2 (11)
Latin mix	1 (5)	0
Mexican	3 (15)	1 (6)
Sexual Orientation		
Heterosexual	14	11
Homosexual	2	3
Bisexual	2	4
Pansexual	1	0
Trans-attraction	1	0

9-item Questionnaire

This study used a self-administered 9-item questionnaire that was modelled after the questionnaires used in the studies conducted by Dimaano and Spigner (2016) and Uy and Dimaano (2019). Questions 3 and 4 from this study’s questionnaire came directly from the aforementioned studies. Participants were asked to answer the questions via the *Google Forms* website. The questionnaire asked a series of open-ended questions focused on the participants’ perceptions of health care, health disparities, and LGBT communities. The questions were written open-ended as to allow robust responses and designed to be completed within 15 to 20 minutes (refer to Table 2).

Table 2 Questions on the 9-Items Questionnaire

1. How do you identify yourself in terms of: a. Racial background b. Sexual orientation c. Gender identity
2. What is your age at the time you are answering this questionnaire?
3. How do you define health disparities?
4. Give an example of a health disparity.
5. Give an example of a health disparity that affects the LGBT community.
6. List 2 social health determinants contributing to LGBT health disparities.
7. How might age put a LGBT person at-risk for health disparities?
8. Do you believe that sexual orientation and gender identity can impact the health received at a healthcare provider? If so, how?
9. Do you believe the AIDS crisis changed the trajectory for HIV health disparities within the LGBT community? If so, how?

Intervention

HSC390, LGBT Communities and Health, was a 17-week, 4-credit undergraduate course offered at the California State University, East Bay. The course focused on health disparities and health inequity from the LGBT community perspective with the following objectives (refer to Appendix A):

- To demonstrate familiarity with the disparities in incidence and mortality, risk factor prevalence, preventative behaviors, and treatment among LGBT communities for various health conditions and diseases
- To describe varying definitions of health produced by LGBT communities in the context of the health humanities
- To show how LGBT communities have used the arts to reflect on health and LGBT identities
- To relate the ways in which arts and cultural production have been used by LGBT communities to respond to health crises and issues
- To demonstrate empathy
- To produce two reflection papers and a final project that integrate course concepts, analyzing the relationships among LGBT identity and culture and issues related to health

The course was taught entirely online with two assigned reflection papers and a group project focused on interpreting a piece of art, theatre, music, or photography and its impact on LGBT health and/or communities. Each week focused on different topics with assigned readings and/or Youtube videos for discussion in addition to online participation. The last two weeks of class was dedicated to the final group project, see Table 2.

Table 3 Course Syllabus

20Aug2019	Week 1	Housekeeping
27Aug2019	Week 2	History of LGBT Communities
3Sep2019	Week 3	Fundamentals of LGBT Health Disparities

10Sep2019	Week 4	Age and Race
17Sep2019	Week 5	Trans 101
27Sep2019	Week 6	Risk Factors in the LGBT Community
10Oct2019	Week 7	HIV/AIDS
80Oct2019	Week 8	Reflection Paper #1 Due
15Oct2019	Week 9	Introduction to Health Humanities
22Oct2019	Week 10	Art of AIDS Crisis
29Oct2019	Week 11	LGBT Photography
5Nov2019	Week 12	LGBT Theatre
11Nov2019	Week 13	Reflection Paper #2 Due
19Nov2019	Week 14	Holiday
26Nov2019	Week 15	LGBT Movements
3Dec2019	Week 16	Group meetings to finalize Group Project
10Dec2019	Week 17	Group Project Due

Analysis

Twenty participants provided written responses to the pre-intervention questionnaire and 18 participants provided response to the post-intervention questionnaire. Questionnaire responses were collected through the *Google Forms* website and were analyzed thematically. All analyses were conducted manually. An iterative coding process was performed by reading and re-reading each response and by highlighting words and phrases deemed representative of the participants' perceptions. A code dictionary was then built as a result of this iterative process. Codes in significant representation were used to generate themes. The questions were also categorized based upon the topic of the questions. Three categories were identified 1.) health disparity, 2.) health access, and 3.) influence of art (Table 4).

Table 4 Categories of the Questions

Category	Questions
Health Disparity	<ol style="list-style-type: none"> 1. How do you define health disparities? 2. Give an example of a health disparity. 3. Give an example of a health disparity that affects the LGBT community. 4. List 2 social health determinants contributing to LGBT health disparities. 5. How might age put a LGBT person at-risk for health disparities?
Health Access	<ol style="list-style-type: none"> 1. Do you believe that sexual orientation and gender identity can impact the health received at a healthcare provider? If so, how? 2. Do you believe the AIDS crisis changed how people viewed the right to health care and medical treatment within the LGBT community? If so, how?
Influence of Art	<ol style="list-style-type: none"> 1. Can you give examples of how art, music, or theatre have helped to change the course of LGBT health?

RESULTS

From the responses to the pre-intervention 9-items questionnaire, three themes emerged, 1.) HIV/AIDS is a health disparity affecting the LGBT community 2.) discrimination, bias, and lack of understanding of the LGBT community from health care providers contribute to health access issues within the LGBT community, and 3.) art, music, and theatre have contributed to improving health access in the LGBT community. Interestingly, no changes in these themes from pre- and post- intervention were seen, however the concepts within the themes changed, showing more depth of understanding, and contextualized examples. Table 5 provides some examples highlighting these concepts.

Table 5 Pre-intervention Identified Themes and New Emergent Concepts Post-intervention

Core Themes Pre-intervention	New Emergent Concepts Post-intervention
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<p>HIV/AIDS is a health disparity affecting the LGBT community</p>	<p>HIV/AIDS is a primary health disparity in the LGBT community</p> <ul style="list-style-type: none"> • “HIV AIDS” • “AIDS in homosexual males.” • “HIV and lack of resources for care.”
<p>Discrimination, bias, and lack of understanding of the LGBT community from health care providers contribute to health access issues within the LGBT community</p>	<p>HCP personal bias regarding sexual orientation impacts health access within the LGBT community</p> <ul style="list-style-type: none"> • “some healthcare providers may not accept the sexual orientation of an individual and let it interfere with their ability to provide fair and equal healthcare. Sometimes they may explicitly make negative remarks or even dismiss the patient due to sexual orientation.” • “...if the healthcare provider is not competent in helping people of the LGBT community, such as those who are transgender, then they will not be able to provide them with the quality care they deserve.”
<p>Art, music, and theatre have contributed to improving health access in the LGBT community</p>	<p>Artists of all medium increased awareness of the LGBT community’s health disparities through their artforms</p> <ul style="list-style-type: none"> • “... One move [sic], “And the Band Played On”, narrated the HIV/AIDS crisis from multiple perspectives. ... this movie helped change individual perceptions on the necessity of equal and fair treatment. ...”. • “... Keith Haring was used in the 80s to promote AIDS campaigns in New York and ensured that those in the LGBT community were not omitted.”

HIV/AIDS is a health disparity affecting the LGBT community

The responses for general health disparity related questions indicated a portion of the participants had an understanding of the definition of a health disparity and social health

determinants prior to the intervention. For example, a representative response on the pre-intervention questionnaire to the question asking for a definition of a health disparity was “The chances of a specific group of people obtaining or contracting diseases based on their race, sex, sexual orientation and socioeconomic status.” On the follow up questions asking for examples of a health disparity and a health disparity that affect the LGBT community, responses ranged from HIV/AIDS, mental health issues including suicide, discrimination, bullying, and social economic factors. On the LGBT specific question, responses ranged from “Lack of accessible and affordable STI services such as general screening, prevention, and treatment.” to “HIV/AIDS being contracted due to not wanting anyone to know about their sexuality”. The question asking for an example of a health disparity generated responses ranging from such as “difficulty for homeless individuals to receive treatment for drug addiction” to “smoking”. Responses to the question asking for two examples of a social health determinant contributing to the health disparity within the LGBT community also varied widely, with responses such as “low SES and lack of comprehensive LGBT education in many schools” to “psychological and intellectual”. Interestingly though, the theme, HIV/AIDS stood out as a student identified health concern within the LGBT community. In the LGBT community specific health disparity question, AIDS/HIV appeared in most of the responses. Even in the question asking for an example of a health disparity, mention of the LGBT community association with AIDS/HIV was prevalent.

In the post-intervention responses, HIV/AIDS as a health concern affecting the LGBT community was also a prominent theme. HIV/AIDS was a written response found in almost all undergraduate viewpoints for any questions that pertained to health disparities within the LGBT community or if there is mention of the LGBT community. The responses were not as varied compared to those found in the pre- intervention responses. Of note, the responses in the post

intervention questionnaire demonstrated all the undergraduates had an understanding of the difference between health disparities and health determinants. For example, for the question asking for an example of a health disparity affecting the LGBT community, the responses focused in on HIV/AIDS and unequal/lack of health care access. The question asking for an example of a health disparity produced responses ranging from “LGBT community and HIV/AIDS” to “low health insurance enrollments for people of color due to low SES.”.

Although both pre- and post- intervention responses identified HIV/AIDS as a prominent perception, there were slight differences in the pre- intervention responses compared to the post. The pre- intervention responses were more broad ranging compared to the post intervention responses. For example, in the post intervention responses there were many responses of simply “HIV/AIDS” or “AIDS” to the health disparity questions compared to the pre- intervention responses. As discussed above in the question “Give an example of a health disparity that affects the LGBT community?”, the pre- intervention responses were more varied, whereas the post intervention responses were more focused on HIV/AIDS.

Discrimination, bias, and lack of understanding of the LGBT community from health care providers contribute to health access issues within the LGBT community

Within the theme of health access within the LGBT community, the role of the healthcare provider (HCP) in impacting LGBT health disparities emerged as a common theme. In particular, themes around the HCP’s discrimination/bias and/or lack of understanding of the LGBT community were prominent. Some examples from the pre-intervention responses to the question “Do you believe that sexual orientation and gender identity can impact the health received at a healthcare provider? If so, how?” were “someone that identifies as LGBT may be treated differently...” and “Personal preconceptions held by healthcare providers may prevent LGBT

people from receiving the complete healthcare they need. It may not be explicit, but in general care physicians can definitely get away with doing the bare minimum...”.

The same perception was identified in the post responses, but the responses were more detailed, for instance, to the same question of “Do you believe that sexual orientation and gender identity can impact the health received at a healthcare provider? If so, how?” there were direct references to sexual orientation and how it would affect access to care. Some representative responses include, “some healthcare providers may not accept the sexual orientation of an individual and let it interfere with their ability to provide fair and equal healthcare. Sometimes they may explicitly make negative remarks or even dismiss the patient due to sexual orientation.” and “...if the healthcare provider is not competent in helping people of the LGBT community, such as those who are transgender, then they will not be able to provide them with the quality care they deserve.”

Interestingly, to this previous above point, within this theme, a sub-theme emerged describing health access issues within transgender populations. In the pre-intervention responses, there were some mention of gender identity playing a role in the health access disparity with only one participant who actually used the term “transgender” and one participant used no identifying term, but just described as “...physically male but identify as female and vice versa [sic]...”. Like in the pre-intervention responses, in the post-intervention responses, again, only one participant used the term “transgender” and other references to transgender was referred to as “gender identity”. This trend was noted in responses to both questions within this theme. The post responses indicated more transgender inclusion as represented by responses such as “...because lgbt [sic] don’t get any healthcare due to their gender identities...” and “...awareness of a patient’s

sexual orientation & gender identity allows healthcare providers to be more wary of health issues...”

Art, music, and theatre have contributed to improving health access in the LGBT community

The question on the impact of art, music and theatre on the health access of the LGBT community elicited the perception that these artforms have improved health access for the LGBT community by increasing awareness. For instance, in the pre-intervention responses, there were many phrases that indicated the artforms increased awareness such as “... more exposure to this LGBT community” and “... allowed LGBT expression to reach large audiences... can change minds of non LGBT people who may have negative views about LGBT...”. Four participants provided examples of an artist and how their medium contributed to increasing awareness of the health disparity in the LGBT community. For example, one undergraduate wrote “... Felix Gonzalez-Torres, who displayed a pile of candy it represented the declining weight of his partner until he eventually died from AIDS.”

Like the pre-intervention responses, the post-intervention responses also demonstrated the perception that artforms increase awareness which in turn improves health access for the LGBT community but there was a nuanced difference between the pre- and post- intervention responses. Post responses showed similar levels of thought and understanding as in pre-evaluation responses, but there were more responses (approximately 44%) with examples to illustrate how a particular artform of an artist contributed to improving health access in the LGBT community, for example, one participant stated “... One move [sic], “And the Band Played On”, narrated the HIV/AIDS crisis from multiple perspectives. ...I think this movie helped change individual perceptions on the necessity of equal and fair treatment. ...”. Another participant wrote “... Keith Haring was

used in the 80s to promote AIDS campaigns in New York and ensured that those in the LGBT community were not omitted.”

DISCUSSION

This study was designed to evaluate whether undergraduates’ perceptions of the health disparities affecting the LGBT community could change through exposure to a health humanities course dedicated to contextualizing the social health determinants within the LGBT community using art, theatre, and music as a framework. The course was a 17-week course with the first half focusing on health issues related to the LGBT community, such as the topic of “Fundamentals of LGBT Health Disparities” and “Trans 101”. The second half of the course focused on LGBT artists and their impact on society through their artforms, such as the topic of “Art of the AIDS Crisis” and “LGBT Photography”. Refer to [Appendix B](#) for a copy of the course syllabus.

The theme that identified HIV/AIDS as a health disparity affecting the LGBT community illustrated the undergraduates already had knowledge in this area but the sessions in the course appeared to have provided more information based upon the responses in the post questionnaire. The course dedicated one week to discuss health disparities in the LGBT community, with more granular information through one week dedicated to HIV and AIDs, and another week dedicated to the arts and the AIDs crisis. In short, the undergraduates were exposed to heavy doses of the history and impact of HIV and AIDS in the LGBT community. Not surprisingly, the post intervention responses focused in on HIV/AIDS as a key disparity within the LGBT community, whereas the pre-intervention responses were more varied and could also broadly be applicable to other ethnic and socioeconomically impacted communities (in addition to the LGBT community). One item of note, prior to the intervention, some responses to the questions of social health determinants and health disparities were similar, indicating some of the undergraduates did not

understand the difference between the two. Whereas, the post intervention responses demonstrated the intervention helped the undergraduates understand the difference.

The second theme identified from the data described that discrimination, bias, and the lack of understanding of LGBT issues from health care providers contribute to health access issues within the LGBT community. Like the previous theme, responses within this thematic category also indicated the intervention influenced the undergraduates' understanding. Post responses under this theme were more robust, with more undergraduates being able to connect why health access is an issue within the LGBT community. In the pre-intervention responses, there were three undergraduates who did not believe there were health access issues within the LGBT community, whereas in the post responses, all undergraduates stated there was an issue in health access for the community. These undergraduates may have been part of the attrition, but without identifiers, there is no way to confirm. Most interesting from this theme was the emergence of transgender population issues and how they are affected in particular. This may be the effect of having been exposed to one week dedicated to discussing specific transgender issues as well as highlight how the transgender community has separate, different needs distinct from the bigger LGBT community.

The last theme identified was how art, music, and theatre have contributed to improving health access in the LGBT community through awareness. The post responses indicated that the intervention was successful in expanding the participants' knowledge on the impact of LGBT artists' artforms on increasing awareness of the healthy issues within the LGBT community. The post responses had more concrete examples that illustrated the impact of the artform. This is likely due to the extensive course coverage of multiple artists and art forms, covered in the second half of the semester. But most impactful was most likely the discussions on how the artforms were

used to increase public awareness of the LGBT community, demonstrating the connection between the artists and artforms, and their role in increasing public awareness of LGBT issues.

Interestingly, some identifiers in the participant demographic data also changed from pre- to post-intervention. For example, descriptors of self-identity changed in percentage from heterosexual to homosexual or pansexual. It is possible that in addition to impacting student perceptions of health and the LGBT community, the course content and contextualization of health disparities by art, theatre, and music, also enabled a confidence in some students to change how they self-identify. Although this is an intriguing observation, the goal of our study was not to assess how the course may impact students' identity and therefore the questions in our questionnaire were not designed to interrogate this possibility. However, still, this observation may be an important topic for future follow-up studies.

Limitations

This study has the same limitations that are found in other qualitative studies. The target population was a self-selecting convenience sample, in that the participants were undergraduates who voluntarily enrolled in intervention course, HSC390, which would indicate an interest in the topic and potentially an existing robust understanding of LGBT health disparities. Moreover, there was no identifier to match pre-intervention responses to post-intervention responses to each participant. Being unable to match pre- and post- responses to each participant removed the ability to ascertain change at an individual level.

The 9-item questionnaire used in this study was not validated as this study was meant to be a hypothesis-generating pilot project. Instead, the two primary researchers discussed the questions and tested between each other in order to ensure the questions were in fact asking what was intended. Moreover, some overlap in the use of a few questions came from previous studies

(Dimaano and Spigner, 2016; Uy and Dimaano, 2019). In these studies, the questionnaire questions were generated and validated using a similar approach. There is also the possibility the post-intervention responses were influenced by the pre-intervention responses.

Lastly, a baseline of undergraduate student perceptions on LGBT health to compare to both our pre- and post- intervention data was not included in this study. As previously stated, given that Dimaano and Spigner (2016) showed that baseline perceptions did not differ from pre- intervention data in their study, a control group was purposefully not included here. However, inclusion of such a comparator here would have indeed confirmed this finding.

CONCLUSION

This study demonstrated that exposure to a health humanities course dedicated to contextualizing the social health determinants within the LGBT community, through art, theatre, and music, can impact undergraduates' perceptions of the health disparities affecting the LGBT community to a certain extent. Like in Uy and Dimaano (2019), there was no change in the core themes, but rather, the thematic examples conceptually changed. Moreover, our study indicates that the use of art, theatre, and music, much like the use of a book such as *The Immortal Life of Henrietta Lacks* or *The Spirit Catches You and You Fall Down*, may serve as important teaching tools for contextualizing the social determinants of health. However, as with all qualitative studies, the results shown here are hypothesis-generating in nature. Given how emergent new concepts within the core themes arose within undergraduate perceptions, we suggest an additional study needs to be conducted to validate the results observed here. Moreover, understanding how the course leverages art, music, and theatre to evoke empathy in students towards cultures different from their own, would be a key question to focus on.

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APPENDICES

Appendix A

9-items Questionnaire

Do you consent to participate in this research study, to determine student perceptions of LGBT health disparities?

1. How do you identify yourself in terms of:
 - a. Racial background
 - b. Sexual orientation
 - c. Gender identity
2. What is your age at the time you are answering this questionnaire?
3. How do you define health disparities?
4. Give an example of a health disparity.
5. Give an example of a health disparity that affects the LGBT community.
6. List 2 social health determinants contributing to LGBT health disparities.
7. How might age put a LGBT person at-risk for health disparities?
8. Do you believe that sexual orientation and gender identity can impact the health received at a healthcare provider? If so, how?
9. Do you believe the AIDS crisis changed the trajectory for HIV health disparities within the LGBT community? If so, how?

Appendix B

HSC390: LGBT Communities & Health Syllabus

Appendix C

HSC390 Week by Week Reading/Lecture List