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Female Brass Musicians Address Gender Parity, Gender Equity, and Sexual Harassment: A Preliminary Report on Data from the Brass Bodies Study

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Abstract: The Brass Bodies Study is an exploratory cross-sectional study designed to describe and understand the experience of female brass players. This report discusses selected data from close-ended and open-ended responses to questions regarding gender equity, parity, and sexual harassment within a web-based survey that launched the first phase of the study. The survey queried subjects' physical changes to their brass playing due to various catalysts: life-cycle events; injury, illness, harassment, mental health, racism, and homophobia. The survey instrument further queried whether subjects received support about these changes and the effectiveness of support. The following report discusses survey responses to questions about gender parity and changes to brass playing due to sexual harassment. Additional qualitative data were generated from open-ended questions in the survey and were qualitatively coded and thematically presented to supplement the descriptive statistics provided. The information presented explores and defines salient items and themes of a population that is under researched with the hopes of generating hypotheses for continued research.

Keywords: music workplace climate; female brass players; female musicians; Brass Bodies Study

1. Introduction

The primary aim of the Brass Bodies Study (BBS) is to describe and understand particular catalysts affecting the experiences of female brass players. Female-identifying musicians whose livelihood or significant component of their avocational identity (i.e., an unpaid musician or devoted amateur) playing a brass instrument comprise the cohort for the Brass Bodies Study. This population group is defined by labor population data, guild membership, and findings of both journalistic and academic research in the field of performing arts. Toward creating a profile of this group for further and continued study, this research project queries participants about their experiences as brass musicians, through the lens of gendered perspectives on female physicality as well as societal conditions that can affect physical functionality to play a brass instrument.

Because female brass players have not been studied as a group, the researchers approached the Brass Bodies Study design qualitatively, launched with the research question "What is the experience of female brass players?" To explore the distinctly female-embodied experiences of playing a brass instrument, the research question was framed through a series of questions administered by an online survey. Survey measures were used in order to determine what kinds of catalysts affected female brass players' ability to play, and whether they received any support for adapting to any changes to their brass playing.

As part of an inductive qualitative research project, the survey was designed to collect a broad spectrum of data on directly physical and indirectly physical causes of changes to participants' brass playing. Directly physical causes included female life-cycle events, injury, and illness; indirectly physical causes included mental health issues, experiences of sexual assault, perceptions and experiences of sexual harassment, racism, and homophobia. Participants whose brass playing changed from any of the catalysts were asked to rank the extent of the change, whether they received help or support, and the effectiveness of that help.

The following report describes unexpectedly robust survey data reporting changes to brass playing from sexual harassment, and also participant open-ended comments about gender parity among brass musicians. This information, along with descriptions of experiences of harassment or assault that participants provided in optional comment boxes, suggests a fruitful area for continued inquiry into the occupational well-being of female brass players.

1.1. Population of Female-Identifying Brass Musicians

The population of female musicians who play a brass instrument remains imprecise in number. The Bureau of Labor Statistics [1] counted over 202,000 people working as "musicians, singers, and related workers," with 35% reported as women. However, many musicians work part-time and accordingly may not be recorded in the BLS. The American Federation of Musicians (AFM) counts 67,540 members in the United States and Canada. However, the organization's clerical administrators admit that this number is reliable only to the extent that regional chapters report their membership numbers to the national office. Further, neither the regional nor national officers within the AFM rank numerically their membership profile by gender or instrument.

Determining the population of female brass players is elusive even in female-gendered groups. The International Women's Brass Conference (IWBC) counts over a thousand subscribing members, but male-identifying brass musicians are welcome to join and the organization does not purport to represent the entirety of females who play a brass instrument [2]. Social media groups created exclusively for female-identifying musicians may indicate a thriving population of practitioners, yet these cohorts cannot serve as reliable statistical indices toward ascertaining the number of any population group. Finally, many freelance musicians and dedicated amateurs do not join organizational guilds, which further prevents a definitive accounting of the number of musicians, female or otherwise, who identify as brass players.

Research on gender parity within the past ten years has increasingly recognized the presence and contributions of female brass players in western European concert traditions (i.e., orchestras, wind bands, jazz) [3,4]. These emerging studies describe consistently an unequal ratio of male to female brass musicians from college through career professions [5–7]. Although these studies do not define a discrete population size, they do confirm anecdotal assertions that female brass players are outnumbered by male brass players, and that gendered bias can play a prevalent role in the experiences of female brass players.

1.2. An Under-Researched Cohort

The Brass Bodies Study (BBS) aims to document catalysts that affect conditions most conducive to maintaining a music career or avocation as a female brass player. Admittedly, conditions of illness, injury, and mental health issues may apply to both male brass players and musicians in general. However, research focused on the discrete, female-embodied experiences of being a brass musician is warranted for several reasons related to the paucity of research on this subject. No research has explored how the distinctive physicality of female life-cycle events can affect the athleticism of playing a brass instrument. Further, distinctly female perspectives on gender, race, sexuality, and power structures within the music industry have not been examined toward understanding whether these have an impact on occupational functionality for female brass players (or for female musicians in general).

Finally, journalistic reporting on the experiences of female musicians offers only suggestive, generalized perspectives that do not query the specific occupational concerns of any instrumental group.

Gender parity in performing ensembles has been the subject of both scholarly and journalistic research, with some specific mention of female brass players [6,7]. A recent article in the *Washington Post* includes empirical data suggesting a longstanding lack of gender parity within American orchestras overall, both in the number of men to women musicians and also the lower salaries of women [8]. A chart in this article showing numerical counts of male/female musicians bears a similarity to numbers reported in a more focused journalistic piece entitled “Here’s What the Stark Gender Disparity Among Top Orchestra Musicians Looks Like” [9]. In this article, the caption beneath a photograph of the New York Philharmonic Orchestra from 2013 comments that the ensemble would appear more gender-balanced had the brass section been cropped from the picture. Quoted comments in this article of the president of the League of American Orchestras anecdotally confirm an historical systemic bias against female brass musicians, but also a current interest in advocating for greater equity.

Historical studies of professional brass careers have documented female musicians as active, proficient performing artists [10]. The aptitude for playing brass instruments proficiently has been noted extensively throughout a monograph describing the proliferation of all-female performing ensembles during World War II, specifically military wind and jazz bands that featured sizeable brass sections [11]. Yet, the integration of male and female enlisted members of armed forces since then has shown to be fraught with incidences of discrimination, harassment, and assault [12–14].

Popular presses have reported women musicians confronting sexual harassment [15,16] as well as racism and homophobia. The intersection of these issues is of particular interest when considering the occupational concerns of female musicians who play brass instruments, an instrument family that has historically been dominated by white males.

The focus of this report describes survey data from questions about participants’ perceptions of gender parity, equity, and sexual harassment. These questions did not aim to establish statistical occurrence but rather to discover whether these caused changes to participants’ brass playing. The extent to which emotional distress from these experiences can disrupt a musician’s physical functionality to play a brass instrument has not been studied before.

1.3. Literature Review

Experiences of sexual harassment and gender disparity are important to consider in understanding the work environments of female brass players. Sociological literature on workplace climate, though not specific to musical organizations, confirms a correlation between individual perceptions of discrimination and job satisfaction [17,18]. Women who work in contexts perceived to be unsupportive, discriminatory and/or hostile tend to be less satisfied [19–21]. Some researchers have attributed this to sex-ratio composition, in particular contending that workplaces with a male dominated composition predispose the presence of negative climate effects like sexual harassment for female employees [22–24]. But others have found that women experience sex discrimination in work environments even when they are approaching numerical parity with male workers [25]. Thus, workplace climate cannot be explained solely on the basis of numerical ratios.

Studies on male-dominated occupational environments have identified how power, diversity, and co-worker competition can all contribute to a negative workplace climate. Gendered positions of power in the workplace have been shown as an especially significant factor in an individual’s perception of their work environment as negative or unsupportive [26,27]. For example, women who achieve positions of power do not necessarily report an increased sense of job satisfaction and positive work environment. Some have experienced sexual harassment from men seeking to re-assert control in response to a perceived threat of women usurping male domination [26–28].

Research on threat and sexual harassment have noted these perceptions as control mechanisms undermining change to power structures [29–32]. The effect of women working under female supervision has been explored for potentially reducing discrimination based on sex [25,26]. These

findings are not conclusive, however, and are compounded by research noting that women in male-dominated professions do not always perceive or define workplace actions as sexual harassment [33,34]

A final theme within the literature on workplace climate addresses co-worker competition [35,36] In some workplaces like music and other creative industries, competition for work is routine because of the itinerant nature of employment, which puts power in the hands of those with authority to hire workers. Hennekam and Bennett [37] found that sexual harassment is not only tolerated, but that competition for work re-inscribed the normalization of sexual harassment in job interviews and auditions. This prevailing sense of competition creates further stressors on individuals, since they must generate networking outside of work; and their chances of further being victimized can increase [38,39]. In this competitive environment, power threat can be applied and maintained through negative climate effects like sexual harassment. Additionally, increased competition for work makes it harder for co-workers to support one another and fight for change.

The physical manifestation of stress has been well-documented in research across many disciplines. Job-related distress from harassment can present a spectrum of symptoms [40]. Within the field of performing arts medicine, researchers have also noted various physical symptoms of distress associated with widespread performance anxiety among musicians [41]. Depending on their severity, symptoms such as dry mouth, shaking, shallow breathing, nausea, and more can slightly alter or completely impede a musician's ability to perform. Indices of music performance anxiety's causes and symptoms have been used to test treatments, some of which correlate to more general trait anxiety and post-traumatic stress [42].

Just as music performance anxiety can present a myriad of physical symptoms, so can experiences of psycho-social distress such as sexual harassment manifest as physical symptoms. The subjective nature of stressful experiences, when considered for their embodied effects (with admittedly cognitive components) must be explored firstly as qualitative factors in the overall context of catalysts that can affect a female brass player's functionality.

2. Materials and Methods

2.1. Procedure

This study used a cross-sectional survey design, encompassing both close-ended and open-ended questions, for the purpose of generating themes for future study on a population that is under researched. Qualitative methods were used in order to code the responses to the open-ended questions [43].

The research project, its methodology and procedures for consent that protect the identity of participants, was reviewed and accepted by the Institutional Review Board (IRB) of The University of St. Thomas, where the investigators are employed as faculty and scholars. The IRB reviewed and accepted the survey questions, interview guide, consent form, study website, recruitment advertisements and assigned the project the reference number 1250360 to IRBNet.

As a hypothesis-generating study, the research question seeks to explore, describe, and understand a specific, self-selected population of music practitioners. The goal of the investigators is to establish foundational, descriptive data of salient items and themes among female brass players, toward generating both quantitative and qualitative hypotheses [44]. Data related to workplace environment, the subject of this report, derived from participants' responses to queries about changes to their brass playing from sexual harassment, and about their perceptions of their environment of brass musicians as equitably gendered. Discussion of survey data on life-cycle events, mental health, and injury will be reported elsewhere [45]

2.2. Recruitment of Subjects and Collection of Data

Participants were recruited through a purposive non-probability sampling technique by placing advertisements in music publications and social media sites of music organizations with a high volume of female-identifying brass players. Potential study subjects were directed from the advertisement to the study website. The website provides a brief rationale for the study; information on the research team members, the sponsoring institution for the study; and a link to the online survey. The website clarifies the terms of participation in the study, including confidentiality and consent items.

Participation in the study was optional and targeted to attract participation by female-identifying brass musicians. Participation required reviewing the inclusion criteria, items for consent, and anonymity protocols. Participants had to be at least twenty-one years old, identify as female, and identify playing a brass instrument as either a significant component of their livelihood or avocation. Those who met the inclusion criteria and agreed to the terms of consent were allowed to complete the full survey, with the option to skip questions or exit the survey altogether.

2.3. Survey Instrument

Surveys, although often associated with quantitative research methods, nevertheless ably serve qualitative research as well, especially when combining both qualitative and quantitative measures. Methodologically, the combination of numerical and ranking questions with comment boxes can generate rich, detailed information that might not otherwise be obtained from exclusively either quantitative or qualitative forms of data collection [46,47]. The investigators thus used a variety of question types to design the survey instrument [48]. From the responses emerged salient themes and items of concern or interest among the participant cohort [49].

The survey questions reflected issues and events commonly associated with female-identified experiences, both in general and as musicians. These included specific aspects of female physiology (life-cycle events), common relational experiences (parenting, caring for an aging parent, divorce/separation), common physical hazards for musicians (injury, mental health), and experiences often reported among females and other minority groups (racism, homophobia, abuse, harassment, equity).

Table 1 presents the survey's question topics as well as the type of question formats used. The numerical and ranking questions in the survey included thirty-six Yes/No questions and twenty Likert Scale questions. The survey included five open-ended comment boxes, four of which asked for additional information about a specific Y/N question if a participant responded "Yes." A fifth open-ended comment box was optional and placed at the end of the survey with the invitation to contribute comments on any topic of the participant's choosing.

The survey polled eleven distinct catalysts within three different areas of potential change upon a participant's brass playing: (1) life-cycle events, specifically menstruation, pregnancy, childbirth, and menopause; (2) injury, illness, and mental health issues; (3) harassment based on gender, sexuality, or race, and perceptions of gender bias. The survey also queried demographics of race, ethnicity, and religion, as well as familial status in terms of committed relationships (partnership, marriage, divorce), parenting (present and past), and parental caregiving.

Eligible, consenting participants were guided through a survey that grouped an initiating question about a specific experience or event with additional questions about it. A "Yes" response prompted a question ranking the extent to which the event/experience affected brass playing (minimal, moderate, significant, disabling, using Likert scales). Participants were also asked if they received advice or support from a teacher/mentor, peer, or colleague for adapting to the changes of the experience or event. A "Yes" response prompted a question to rank the effectiveness of the advice or support (negative, minimal, neutral, helpful, very helpful, using Likert scales).

Table 1. Survey Questions and Question Formats.

Survey Questions ↓	Survey Question Format →	Y/N Change	Likert Catalyst Significance	Support/Advice for Catalyst? Y/N	Likert Support Effect	Comment Box I = Identify D = Describe
Brass Instrument	What Instrument					
	Years Played					
	Livelihood	×				
	Avocation	×				
Catalyst	Menses	×	×	×	×	
	Pregnancy	×	×	×	×	
	Childbirth	×	×	×	×	
	Menopause	×	×	×	×	
	Mental health	×	×	×	×	
	Injury	×	×	×	×	D
	Sexual Assault	×	×	×	×	
	Sexual Harassment	×	×	×	×	
	Racism	×	×	×	×	
	Homophobia	×	×	×	×	
	Divorce/Separate	×				D
Demographic	Religion/Spirituality	×				I
	Racial/Ethnic Group	×				I
	Married/Long-Term Relationship?	×				
	Primary Caregiver to Child?	×				
	Primary Caregiver to Adult?	×				
Parity/Equity in work Environment?		×				
Open-Topic						D

Four of the five open-ended comment boxes requested specific additional information if participants responded “Yes” to a catalyst question. Participants whose brass playing changed due to injury were asked to describe the injury and effect in a comment box. Participants whose brass playing changed due to divorce/separation were asked to explain further how their divorce or separation affected their brass playing. Participants who answered “Yes” to identifying as belonging to a racial, ethnic, or spiritual population group were asked to identify these groups accordingly.

A fifth and final comment box was placed at the end of the survey, with the prompt “You are welcome here to provide any additional comments that were not covered in the survey about your experiences as a female brass player.” This question was purposely placed at the very end of the survey as a way to avoid emphasizing any specific line of inquiry. It was this comment box that generated the majority of the qualitative data illustrated in the following results. The cross-sectional survey enabled the investigators to understand the relationship between the descriptive data of Y/N and Likert questions and the explanatory data of the comment boxes [48,50].

The data from all five of the comment boxes were line-by-line coded. A second pass of the data was utilized in order to generate themes grounded in the data. A third pass of the data generated the quotes provided as our findings in the Results section to illustrate our themes. The themes presented below emerged from this qualitative data analysis process.

3. Results

Of the 508 participants who completed the survey, 72% reported that they played a brass instrument as all or part of their livelihood. The mean average playing their instrument was 22 years. The preponderance of horn and trumpet/cornet players among the participants, seen in the raw numbers of Table 2, reflects similar proportions in IWBC membership rosters as well as empirical observations of current collegiate music programs.

Of the participants who answered the question of identifying with a particular racial or ethnic population group, most identified as white/Caucasian. Those identifying as Asian, Latina, Jewish, African-American, Bi-racial, and Indigenous or Native American numbered from three to sixteen in each group. With regards to core relationships, 66% of the participant cohort reported being in a committed long-term relationship with a mean average of ten years, and 26% have been or are

a primary caregiver to a child. Over 9% have been or are a primary caregiver to an aging parent. Nearly 32% of the participants identified as belonging to a particular religious or spiritual community, predominantly Christian and also identifying Judaism, Buddhism, Atheism, Pagan, and Kemetism.

Table 2. Primary Instrument Demographics of Survey Participants.

Primary Instrument	
Horn	172
Trumpet or Cornet	155
Trombone	89
Euphonium	42
Tuba	41

n = 508 Variable. Note. Numbers are presented in raw count.

Coding analysis of the qualitative data from the fifth and final comment box revealed salient themes of gender parity, equity, sexism, and sexual harassment. Table 3 identifies these themes. These themes in turn amplify corresponding measures from the survey questions, presented in Tables 4 and 5.

Table 3. Salient Themes from Optional Comment Box 5.

Gender Parity/Equity Issues (n = 62)	Positive Experience (16)	No Problems Ever (7)
		Resilience/Post Traumatic Growth (5)
		Treated Equitably (4)
	Gender Disparity/Inequity (46)	Working Harder/"Proving" to be Treated Equitably by Males (17)
		Noting More Male Than Female Brass Players (11)
		Male Teachers Less Engaged/Effective due to Being Female (7)
		Thwarted Advancement due to Being Female (6)
Sexism, Harassment, Abuse (n = 41)	Sexism (27)	Benefits of Working/Learning with Female Brass (5)
		Experiences of Sexism in School or Workplace (20)
	Harassment or Abuse (14)	Sexism/Harassment Did NOT Affect Brass Playing (7)
		Description of Sexual Harassment (10)
		Description of Sexual Assault/Abuse (4)
Health Issues—illness, life-cycle, mental health (n = 27)		
Other—instruments, industry, education, gigs (n = 40)		

"You are welcome here to provide any additional comments not covered in the survey about your experiences as a female brass player" n = 170.

3.1. Gender Parity in the Workplace—"I Have Been the Minority in the Brass World"

A singular question in the survey asks participants, "Do you make music in an environment where there is appropriate parity or equity of male and female brass players?" Of the total number who answered the question (n = 500), 250 responded "No" and 250 responded "Yes," as illustrated in Table 4.

Table 4. Responses to Survey Question on Gender Parity.

Yes n = 250	50%
No n = 250	50%

"Do you make music in an environment where there is appropriate parity or equity of male and female brass players? n = 500.

Excerpts from the optional, open-ended comment box at the end of the survey offer contextual clarification of both “No” and “Yes” responses. In these comments, the subjective nature of gender parity emerged in language describing perceptual, experiential value over numerical occurrence. Even when comments acknowledged unequal numbers of male/female brass players in a particular scenario, the responses did not consistently determine this as the cause of either a positive or negative experience.

Some “No” responses remarked a negative effect of being outnumbered or feeling unequal:

“There are a very limited number of female brass players . . . my male counterparts in the section don’t see me as an equal even when I can play faster, higher, and better than them.”

“My entire musical career I have been the minority in the brass world: female.”

“As a trombone player, I am frequently most exclusively surrounded by males, and they aren’t always nice, and they certainly weren’t always accepting of my skills.”

“ . . . almost every ensemble I have ever played in had far more male brass players than women.”

“I feel like I have to succeed more frequently and by a larger margin in order to be seen as a serious tuba player compared to my male counterparts.”

“Different is not accepted in the brass world . . . and I have suffered greatly from that fact.”

The participants (250) who responded “Yes” to the question of whether they made music in an environment where there is parity or equity also offered comments at the end of the survey. These comments also described variable experiences of equity:

“I do want to say that although the brass world is male-dominated, I have never encountered any issues, or been made to feel inferior by any of the men I have worked with or studied under.”

“I mentioned that I make music in an environment where the number of women is comparable to the number of men (my department has four brass professors: two women, two men) but almost every ensemble I have ever played in has far more male brass players than women.”

In the write-in comments at the end of the survey, some participants took care to emphasize that numerical disparity didn’t affect their ability to play:

“I’ve been the only woman in the non-horn side of the orchestral brass setting for most of my life . . . I have never let it be a problem.”

“Sure, I have had old (and young!) dinosaurs tell me that ‘girlies don’t play tuba,’ which luckily is easily answered by playing well. If I chose to dwell on the comments of the last forty-odd, really fifty years, I could have made myself miserable.”

3.2. Sexual Harassment

Table 5 presents the percentages of participants who selected “Yes” to the question “Have you experienced any changes to your brass playing due to being sexually harassed?” Out of the 507 respondents who answered the question, 23% answered yes, and were directed to additional questions about that change. Of those who responded “Yes,” 43% felt that sexual harassment moderately affected their brass playing.

Table 5. Responses to Survey Questions on Sexual Harassment.

“Have you experienced any changes to your brass playing due to being sexually harassed?”				
Yes 23%	Significance of change to brass playing (if “yes”)	Minimal 39% Moderate 43% Severe 16% Disabling 2%		
	Received advice/support in adapting to change?	Yes 25% No 75%	Effectiveness of advice or support (if “yes”)	Negative 10% Minimal 24% Neutral 17% Helpful 31% Very Helpful 17%
No 72%				
Don’t Recall 5%				

Some participants used the open-ended comment box at the end of the survey to describe their particular experiences with sexual harassment, whether as ongoing or as having long-term effects:

“I was sexually harassed by my undergrad horn professor, and it was debilitating. It’s been a couple years since I have been in contact with him, but it still affects my playing and my life.”

“I experienced SEVERE trauma from my high school band director who sexually harassed me and embarrassed and degraded me from the podium.”

“Lots of problems with sexual abuse from male music teachers, from 6th grade through college and even when teaching music after college.”

Table 5 shows that of the respondents who experienced changes to their brass playing due to sexual harassment, 75% did not receive any advice or support from a teacher/mentor, peer or colleague for adapting to these changes. The effectiveness of support from those who received it was ranked variably, with the highest ranking as helpful. One participant noted the support from harassment was crucial to remaining in music: “I am probably only still playing today because of a year of counseling that my trombone professor pretty much had to force me to go to as a sophomore.”

Out of the comments coded for themes around sexual harassment, gender parity and equity, three sub-themes emerged: (1) threatening language; (2) playing within the system; and (3) empowerment.

3.2.1. Threatening Language: “... Gave Up the Ensemble”

Some of the responses in the final comment box of the survey explained how being a woman brass player led to situations where sexual propositions by men took place, and where appearances were more important than their talents. For instance, one participant explained, “A male asked me for a blow job before rehearsal. Comments about short skirts, breasts and ‘she can’t play but she is good to look at’ are frequent in this brass band.” Another participant described how her male peers dismissed her accomplishments at a contest: “When the top horn player found out I was the only one [in a competition] to continue on, he told me I must have slept with the judge.”

In the final open-ended comment box, comments about harassment reveal cues of how sexuality is being used as a way to try and push women out of brass playing [22,25,30] Some participants explicitly stated as such, such as one explanation of how harassment literally pushed her out of a group: “I [stopped] playing in a community ensemble as an older gentleman would not stop

commenting on my appearance in a kind of probing way. I grew uncomfortable and gave up the ensemble." Another participant experienced harassment in college and later, both of which caused them to quit: "College harassment was not discouraged in the 1970s, if not condoned. I curtailed my participation in instrumental music then . . . and when similar issues came up in a community band just a few years ago, I dropped out."

3.2.2. Playing within the System: " . . . Be More Blokey Than the Boys . . . "

In the open-ended comment box at the end of the survey, some participants described experiences of suppressing or changing their behavior to be more masculine due to perceived gender stereotypes of femininity [25]. The following participants' comments highlight this theme, particularly showing how they downplayed femininity, or witnessed their female peers doing the same possibly to effect equity:

"I adopted stereotypical male body language . . . common male sayings and behaviors such as pride in belching . . . "

"I feel like I have to act a certain way in order to be taken as seriously as my male counterparts."

"I have never once felt comfortable addressing any physical, mental, or menstrual related problem in my lessons for fear of seeming weaker than my male peers."

One participant noted the experience of same-gender harassment:

" . . . women also deal damage to each other in the brass community. A female trumpet player I know . . . revered the male musicians far more than the female musicians and acted superior to us . . . her own internalized sexism felt far more damaging to me than any comment a male brass player has ever told me."

When considering further exploration of characteristics of role modeling and social support around some possible gender equity issues, some participants explained personal experiences in the final comment box:

"I was told by my teacher that to succeed I would have to be 'more blokey than the boys' . . . "

"You're told not to breathe like a girl, you're told to be aggressive when playing loudly 'like a man would,' and you're told not to wear dresses or shorts while you play . . . "

"I am a trans-woman, and this has affected my brass playing in many ways. It introduced many of the problems that women face culturally as well as what many gay people have to face in their playing."

For some, the system seemed fair enough on the basis of merit, and that gender should not be considered in the matter. In the open-ended comment box at the end of the survey, some participants asserted that gender was not an issue of concern:

"Girls need to stop complaining and start working harder. I am a girl and I have worked so hard to be where I am, and men aren't stopping me. They never have."

"They only "sexism" I've experienced is when men are insecure about their own playing or jealous because I'm better than them . . . If you're not a pansy and you work hard, you'll be just fine, jeeze."

3.2.3. Empowerment: "I Feel More Empowered . . . "

In some of the open-ended question comments left at the end of the survey, we noted some participants mitigating not only sexual harassment but also parity and equity with considerations related to empowerment and resiliency. Some participants though, viewed bias as an opportunity to challenge stereotypes:

“ . . . if anything, I feel more empowered as I disprove the comments made . . . by men who don't seem to believe that playing the horn is also a 'female instrument.'”

“Old men who think I'm too small or too female to play well tend to be motivating. They make me angry and I want to show them up.”

“If I chose to dwell on the comments of the last forty-odd years, I could have made myself miserable . . . I have never let it be a problem”

“As soon as folks realize I can play, all is good.”

“Women brass players tend to be considered a lesser instrumentalist due to gender. I usually ignore and come back stronger musically.”

Lastly, when it comes to systems of social support from teacher, mentor, or peer, most found the experience helpful or very helpful. Comments below highlight the benefits of having women and other supportive allies in positions of authority [11,20]

“I was lucky enough to have a female doctoral student as my private lessons instructor when I first started [lessons in college]. We were able to commiserate about the inequalities.”

“When I started my career, I was lucky enough to have a band director that did not force gender bias on a particular instrument.”

“I had the opportunity to play in an all-female horn section for one year and it was one of the best experiences I've ever had.”

“My band teacher was always supportive . . . and he always, quietly, made sure I was taken care of and my needs were met.”

4. Study Limitations

The Brass Bodies Study was created because of the paucity of research on female brass players. Female brass players could be deemed an underrepresented population, making a randomized sample hard to obtain. The nature of work in the creative industries also makes obtaining a sampling frame challenging. For instance, surveying a randomized list of guild members would miss all non-guild members. Purposive sampling was therefore an essential recruitment technique, with the hopes of identifying some of the experiential parameters of a particular population.

As an exploratory survey, it is important to realize that numerical counts from this data should not be interpreted as generalizable, but rather as a beginning stage in highlighting the issues that are experienced among female brass players. The physical and social conditions that affect brass playing for female identifying musicians have not been explored. As such, the data enables investigators to formulate a foundational profile of conditions to explore in the future by describing and understanding what can affect the playing ability of female brass player.

It is important to note that this report's aim was not to enumerate the incidence of sexual harassment in the music world, but instead to highlight sexual harassment as one of the variables that can affect these musicians' ability to play. In particular, the researchers never expected comment box #5 to be utilized by participants in the ways illustrated here in our findings. We also acknowledge that a participant who experienced sexual harassment could have answered “No” to the question on harassment if it did not affect their brass playing. Additional research should be conducted in the future on some of the variables identified here as being problematic for female brass players.

5. Discussion

5.1. Gender Parity and Harassment Perspectives

As previously noted, the lack of research on female brass musicians indicates a fundamental lack of a population census. Therefore, the question on gender parity and equity must be interpreted

as initiating scholarly dialogue regarding the gender climate that our participants are playing in. The “No” responses (50%) to the question of playing in environments where there is gender parity and equity among brass musicians, as well as participants’ own comments about the issue illuminate some of their specific experiences. This reflects much of the sociological literature on workplace climate issues. Descriptions of sexual harassment, feelings of having to “prove” oneself because of being female, and of modifying behavior to “seem less female” also resonate with sociological research findings of how male-dominated workplaces affect workplace climate [18,20,21]

The “Yes” responses (50%) to the question of playing in environments where there is gender parity and equity among brass musicians also prompted some of these respondents to share their perspectives. Thus, the workplace environment cannot be conclusively determined as wholly inequitable for brass musicians. Nor can a workplace lacking equal numbers of male and female brass musicians be deemed automatically negative, as some participant comments reported having no problems being the lone female brass musician in an ensemble. The intersection of additional factors must be considered in understanding more deeply how female brass musicians perceive and experience gender equity and parity.

The qualitative characteristic of participant responses overall to this study’s survey questions about their experiences poses an opportunity to explore further the complex components of gender equity. The data illustrated in this report point toward more specific inquiry into the contexts of workplace climate, educational climate, and the spectrum of influences upon perceptions of equity. Through telephone interviews, the investigators will query a randomized sample of survey participants who volunteered to discuss these issues in more detail. This will allow us to better understand the experiences of female brass players, toward generating new hypotheses about the conditions most conducive to their occupational functionality and well-being

5.2. The Indirectly Physical Effects of Harassment

That few participants received advice or support in adapting to experiences of sexual harassment and its isolating effect led the investigators toward reviewing the literature on workplace climate to contextualize the responses [17,20,21,32,35,40] Participants who did receive help or support (25%) reported it as mostly helpful or very helpful (48%). This confirms findings on the benefits of mitigating the effects of bias in the workplace [21,28,29,34,36] but also the larger social constructs of sexual harassment and the supportive resources available to those who have experienced it.

How sexual harassment, if not also one’s perception of gender inequity or disparity, can physically manifest as noticeable changes to brass playing suggests a compelling query for the interview phase of the study and beyond. This exploratory phase of inquiry therefore presents items for potential use in quantitative research, for example the design of an index of physical symptoms that can be compared to indices of general trait anxiety and music performance anxiety. So too, more specific information on best practices of support in mitigating these changes could reveal possible correlations with treatment for performance anxiety or post-traumatic distress, as well as pedagogical approaches.

5.3. Conclusions—Implications for Continued Research

The range of comments in the optional comment box at the end of the survey highlighted the importance of looking more deeply at equity and parity in the brass world. The open-ended comment box could have been used to discuss anything related to the survey; and yet, a preponderance of participants elected to contribute comments chose to address issues of gender parity and equity as well as experiences with harassment and sexism. In this manner, the survey’s combination of descriptive and contextualized data illuminated particularly salient themes within the developing profile of this participant cohort.

This report has focused on describing responses to two questions from the survey and their relationship to the research question “What is the experience of female brass players?” The survey data on life cycle changes, injury, mental health issues, and social demographics will be addressed

in a forthcoming complementary report [45], and will further contextualize the experience of being a female brass musician. The data illustrated in this report can also inform existing research on sexual harassment, gender parity, and gender equity that is ongoing within several fields of study.

The investigators will apply the salient themes and items to develop continued inquiry into the experiences of female brass musicians. With regards to the issues described above, the investigators seek to query further how this population group connects particular psycho-social experiences with distinctly physical changes to their brass playing. The investigators also hypothesize that actions taken to treat or diminish particular physical changes most likely derive from systems of psycho-social support, which are perhaps distinct from actions taken to treat or diminish physical symptoms due to life-cycle events or injury.

Toward understanding both catalysts for changes to brass playing as well as opportunities for post-traumatic growth, the next phase of the Brass Bodies Study seeks to collect data that will connect experiences of particular catalysts to physical manifestations of distress, stress, and resiliency. Data from the BBS thus offer fresh perspectives on issues pertinent to performing artists, music pedagogy, performing arts medicine, sociology, and psychology, while also describing a distinctive population group that has not been previously studied so thoroughly. A descriptive profile of this group will allow researchers to introduce safety measures or control groups, by which to comparatively examine catalysts affecting functionality in much larger and diverse contexts (i.e., string players, jazz musicians, etc.).

This research has begun to identify certain variables that affect female brass players. The investigators project that the salient items and themes from the survey data in this qualitative study can be used to help inform hypotheses that are generative to both quantitative and qualitative research. It is hoped that these would establish larger models of variables affecting female brass players, toward measuring statistical significance that can interpret the meaning of regression coefficients in an empirical study.

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