THE IMPROVISING MUSICIAN'S MASK: USING MUSICAL INSTRUMENTS TO BUILD SELF-CONFIDENCE AND SOCIAL SKILLS IN COLLECTIVE FREE IMPROVISATION

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ABSTRACT

This study explores the idea that musical instruments can function as masks, allowing for greater creative expression and self-confidence, in the context of collective free improvisation. The use of masks has been well documented in various cultures throughout history and is still used in drama today, including in drama improvisation. Masks have traditionally been used to facilitate a deeper expression of the self. Musicians can use their instruments in similar ways, increasing their level of comfort and allowing for connection and communication with others in ways not available through traditional social exchanges.

Through a series of interviews, questionnaires, and performances, thirty young instrumentalists and vocalists participated in this study in order to better understand their relationship to their instruments when improvising. All subjects were under the age of thirty, had studied improvisation in university and self-identified as non-professional improvisers. Through analysis of their recorded performances during the study, interview and questionnaire responses, it was discovered that the vast majority of participants identified with the idea that their instruments functioned as masks. Furthermore, most of these individuals believed their instruments helped them express parts of themselves that could not be expressed through other means. Some also believed their instruments allowed for the creation of a persona, in which they felt they could “be” someone else when performing. While all participants were accomplished performers in a variety of styles of music, the idea of musical instruments functioning as masks was only relevant to them in the context of free improvisation; they did not feel this same relationship to their instruments when performing any other style of music.

DEDICATION

I wish to dedicate this thesis to my family and music teachers that helped shape my development as an artist and researcher. Specifically my parents, Don and Bonnie Ladano, my brother Mike Ladano, my grandmother Doris Winter, my aunt Lynda Mason, my cousin Geoff Mason, and my grandfather Crawford Winter who unknowingly started me on my path in music by purchasing a keyboard before passing away that would ultimately start me on my journey. The music teachers that I dedicate this thesis to are Michelle Bergauer, Mike Bergauer, Tilly Kooyman, Stan Climie, Lori Freedman, and Casey Sokol – all of whom helped shape me as an artist. I would not have gotten this far without their unwavering support and encouragement.

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CHAPTER 1: INTRODUCTION

Improvisation is the most common of all types of musical expression. It exists in every culture and would have been the very first type of performance, practiced before any music was notated or composed. In fact, all we do in music and art is improvised at one point or another. Composers improvise their musical creations before transforming them into compositions; Arnold Schoenberg—whose scores are famous for their exhaustive level of composition, musical instruction, and detail— defined composition as a “slowed down improvisation.”[1] While many classically trained musicians today find improvisation to be outside of their comfort zone, musicians in earlier times, such as the Medieval, Baroque, and Classical eras, were expected to be able to improvise.[2] For example, in the Baroque era, musicians improvised based on a figured bass pattern, and in the Classical era, cadences/cadenzas and ornamentations were often improvised. Beethoven himself was renowned as a skilled improviser before achieving recognition as a composer.[3] Improvisation was common and played a very important role during the height of Western art music in the 17th and 18th centuries. While improvisation currently enjoys a widespread practice, artists within the classical tradition often painstakingly preserve compositions such as orchestral works, striving to recreate them as faithfully as possible without placing emphasis on the characteristic individualization often evidenced in musical improvisation. By the 19th century, the rise of conservatories and the concert hall gradually put an end to most concert improvisation, placing a greater emphasis on

[1] Stephen Nachmanovitch, *Free Play: Improvisation in Life and Art* (New York: Penguin Putnam Inc., 1990), 6.

[2] Bruno Nettl et al., "Improvisation." *Grove Music Online*. (Oxford: Oxford University Press, 2001). Accessed April 24, 2013.

[3] Ibid.

note-for-note playing of musical scores.[4] At the end of the 18th century, music conservatories rose in prominence with the primary purpose of preserving musical standards through normalized instruction.[5]

Free improvisation, which is the basis for this study, came to prominence in the 1960s in Europe and has been quite resistant to definition. Simply put, free improvisation tends to lack any specific rules, relying more on aural cues and individual expression, rather than fitting into a specific harmonic, rhythmic, or formal framework. Derek Bailey quite accurately describes it as being “the most widely practiced of all musical activities and the least acknowledged and understood.”[6] Researcher Jared Burrows discusses free improvisation in a very simple way, implying that it is perhaps best defined in open terms with minimal restrictions:

> Freely improvised music is a music in which there are no preconceived systems for melody, harmony, or rhythm. In this kind of music making, musicians simply begin playing when they choose and stop when they are finished.[7]

In his book, *Free Play*, violist and author Stephen Nachmanovitch focuses on the inner sources of improvisation and how he feels this type of expression can result in the pure joy of creating art. Nachmanovitch is no stranger to this type of activity, having spent years cultivating a musical practice of improvisation, largely seen as being marginalized. In the book, he discusses his first, very personal experiences practicing free improvisation and describes them as follows:

> I had found a freedom that was both exhilarating and exciting. Looking into the moment of improvisation, I was uncovering patterns related to every kind of

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[4] Ibid.

[5] Richard Taruskin, "Chapter 5 Virtuosos." *The Oxford History of Western Music* in the *Nineteenth Century* (New York: Oxford University Press, 2010). Accessed April 24, 2013.

[6] Derek Bailey, *Improvisation: Its Nature and Practice in Music* (Cambridge, MA: Da Capo Press, 1992), ix.

[7] Jared Burrows, “Resonances: Exploring Improvisation and its Implications for Music Education.” (PhD diss., Simon Fraser University, 2004), 74.

> creativity; uncovering clues as well to living a life that is self-creating, self-organizing, and authentic. I came to see improvisation as a master key to creativity.[8]

Researchers and music therapists are beginning to discover that experiences such as these are not unique. The practice of free improvisation in fact holds great benefits for musicians, offering a valuable creative outlet where one need not worry about playing a wrong note. This liberation from the anxiety of making mistakes is key in assessing the value of freely improvised music. When musicians no longer need to fear playing incorrect notes or getting lost, they can concentrate on different aspects of music, allowing a more inward perspective and thinking more creatively about what they are producing. The practice of free improvisation allows individuals to work together as a collective in an encouraging environment free from judgment. They can communicate, express, and connect with each other in ways that they cannot without their instruments.

This study was inspired by my observations of both student and professional musicians, who appeared to be shy, socially anxious, and/or having difficulty conversing confidently with others. These same individuals were observed exhibiting very different personalities when on stage improvising with a musical instrument. For example, the shy student, who never speaks up in class, is given the chance to improvise with his saxophone and suddenly becomes an extremely confident and dominant musical personality, bearing no resemblance to his outward appearance in classroom or social settings. The socially awkward and unassuming percussionist, who fidgets all the time, plays in a concert with his classmates and is somehow able to bring an entire ensemble together, leading them in a way that makes them play better than they ever have before. Yet this is something he would find difficult if not impossible to do without his primary

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[8] Nachmanovitch, *Free Play*, 6.

instrument. Are these students effectively putting on a mask, allowing them to be someone else on stage? Or is the musical disposition conveyed actually their true personalities - ones that they are unable to show the rest of the world through traditional social interaction? These students, and musicians like them, inspired the undertaking of this study in an effort to explain what it is that allows a musician to display such different personality characteristics when improvising. They are somehow able to transcend the limitations of how they are perceived by others in social and/or classroom or other professional settings. How is this transcendence achieved? And is it common to all improvising musicians or only to a select few?

The purpose of this study was to explore the benefits of practicing collective free improvisation and examine the extent of the role played by musical instruments in allowing individuals to feel a greater sense of security, opening up new channels of communication, allowing for a greater sense of connection between players, facilitating a deeper expression of the self, and transcending social limitations. Previous studies have shown that the practice of free improvisation can be very beneficial to individuals in many ways, including reducing performance anxiety, increasing feelings of satisfaction when performing, and providing a variety of therapeutic benefits, which is why music therapists use it in clinical settings with patients. Studies outside of music therapy, which focus exclusively on student and professional musicians and the benefits free improvisation practice can provide, are not overly numerous but certainly indicate that there is more to this practice than simply "jamming" with friends and having fun doing it. The benefits appear to penetrate deeper than this, allowing individuals to better express themselves, communicate with each other, reduce anxieties, and have a more positive experience performing music.

The goal of this study was to take these concepts a step further and explore the role that instruments play in the process of collective free improvisation. Can musical instruments act as masks do in dramatic and cultural performances? If a mask can be used as a tool to connect with audiences, and allow its wearer to better express herself, whether by portraying a specific character or gaining the confidence to perform and/or reveal deeper parts of the self, could instruments serve the same function? Do instruments provide performers with a sense of security when performing or simply being on stage, and do artists feel less exposed when they have an instrument in front of them? Do instruments allow musicians to connect on a deeper level with other individuals? Do instruments facilitate a different type of communication between players, and if so, what does this involve and how does it differ from other types of performance? Do vocalists have the same kind of experience as other musicians even though they have no external object to serve as their instrument? Do electronic musicians experience collective free improvisation the same way as acoustic musicians do? Can collective free improvisation practice help shy or socially anxious musicians?

This study's significance extends into several different aspects of improvisatory practice, dealing with issues of self-expression, social connection, self-confidence, and communication, all of which can apply to many different areas of music making. The primary significance is a greater understanding of the process of collective free improvisation, why and how that experience differs from other types of performance, and how an individual's relationship with their instrument can affect their ability to express themselves creatively. This understanding extends to music pedagogy, for which improvisation can and should be used as a teaching tool to help individuals find and use their creative "voice" and connect with others in a deeper way than they are able to do outside of musical practice. This study also sheds light on how male and female musicians respond differently in the context of improvisation as well as how experiences may differ according to instrument type. Lastly, my research reveals that a musician's relationship with their primary instrument is different in the context of collective free improvisation than it is in other types of performance (such as playing a composed work or improvising in a more structured format like jazz). Moreover, the notion of instruments serving as masks is not universal to every type of musical expression.

This document has been divided into five more chapters. Chapter 2 is a literature review surveying writings and research on free improvisation, including topics such as general discussions in improvisation, group improvisation and social connections, studies featuring the use of improvisation as a therapy tool for anxiety, and various mask theories. Chapter 3 outlines the methodology used in this study, including both qualitative and quantitative data collection and analysis. Chapter 4 details all of the research findings of this study, including conclusions drawn from the analysis of qualitative and quantitative data collected. Chapter 5 examines the recorded performances of subjects in this study and connects study findings to different theories in music analysis. Lastly, Chapter 6 details how the conclusions drawn in the research findings could be applied to various mask theories discussed in chapter 2 and how the concept of instruments as masks corroborates these philosophies. This chapter also deals with a discussion of the limitations of the study, suggestions for future research, and a brief discussion of the benefits of incorporating collective free improvisation practice in the classroom.

CHAPTER 2: LITERATURE REVIEW

Improvisation is a subject that has been largely ignored in musicology until quite recently.[9] While there has been a significant increase in academic writing on the subject in recent years, the volume of sources pales in comparison to that of other more traditional subjects in musicology. While current literature on improvisation is quite varied, covering a variety of subjects and genres, this review will focus specifically on research involving the social aspects of group free improvisation, studies involving the use of free improvisation as a therapy for performance anxiety, and various mask theories, applicable to this study. There is currently no literature available that discusses the use of masks in the context of free improvisation or that examines musical instruments (or other devices) as a type of hypothetical mask – one which potentially offers a measure of security during performances.

Sources in this review have been grouped and will be discussed according to the following subject areas: 1) Defining free improvisation, 2) Group improvisation and social connections, 3) Studies involving the use of free improvisation as a therapy for anxiety, and 4) Various mask theories as they could be applied to this research. Sources that deal specifically or predominantly with more rule-based or idiomatic forms of improvisation (such as jazz or classical improvisation) will not be addressed.

Free Improvisation

Although improvisation has been practiced widely throughout history and is the oldest type of music, existing long before musical notation, this section will focus strictly on free improvisation since the 1950s. The term “free improvisation” can be problematic

[9] The majority of sources referenced in this paper were written in the last decade, and the oldest source used was written in 1989. Some referenced sources, such as Ernest Ferand’s *Improvisation in Nine Centuries of Western Music*, date back to 1938, but focus strictly on performance practice through musical examples.

because it is difficult to define. Terms such as "free jazz," "open improvisation", and "creative improvisation" have been used since the 1950s to essentially address the same characteristics found in music defined as free improvisation, although it is "free jazz" that is most often linked with free improvisation. While similar to free improvisation, free jazz often uses some type of reference point such as a specific technique, collection of notes, or general structure. Guitarist Derek Bailey argued that free jazz is a form of music whereas free improvisation is an approach to music making.[10] To further remove free improvisation from association with the jazz, classical or rock world, Bailey coined the term "non-idiomatic improvisation," which he defined as any type of freely improvised music that is not attached to a specific genre.[11] This definition is also problematic because anyone practicing free improvisation is inevitably going to implement elements of their musical background or training into their music. This could include music that has clear elements of Romantic music, or Jazz, or Flamenco, or virtually anything else. Is it even possible to play a music that bears no resemblance to any other genre of music? Is there really such thing as a music that is completely free?

Historically, free improvisation has more often been defined as what it is not rather than what it is. It has often been described as music that has abandoned all traditional constraints such as form, harmonic structure, melody, and tonality. While this definition is true of much free improvisation, it fails to acknowledge what free improvisation actually is. Bailey has described it as being diverse music that lacks any stylistic commitment or prescribed sound.[12] This too is problematic because Bailey's own music features specific stylistic elements that can be heard and described. He believed

[10] Todd S. Jenkins, *Free Jazz and Free Improvisation: An Encyclopedia, vol. 1* (Westport, CT: Greenwood Press, 2004), xxxii.
[11] Bailey, *Improvisation*, xii.
[12] Ibid., 83.

that in free improvisation, only the musicians playing determine its characteristics. As noted jazz critic John Litweiler explains, “the free improviser, by definition, doesn’t have a tradition with which he can identify. But what he does have is the possibility to develop and maintain personal authenticity.”[13] This too is problematic because most free improvisers do have a tradition that they come from, with the majority coming from either a classical or jazz background (such as the participants in this study). The music itself can be either simple or complex and any musician with a voice or instrument can engage in it.[14]

Free improvisation is also very social, interactive music when performed as a group. Because the basic elements of traditional musical forms are often absent, the “musical materials are instead determined over the course of the performance through communication and negotiation between the musicians.”[15] One of the simplest yet most effective definitions of free improvisation has come from British percussionist Eddie Prévost, who argues that free improvisation is simply discovery via music making. The point is self-invention or the search for a sound or unique voice that can be used to express or represent a musician’s individuality. “The relations between musicians are directly dialogical: their music is not mediated through any external mechanism such as a score. ”[16] The main structural element within free improvisation is that of personal expression and personal interpretation. The music is inspired by its surroundings and, therefore, performances can never be replicated. The musical decisions made within each

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[13] John Litweiler, *The Freedom Principle: Jazz after 1958* (New York: Da Capo Press, 1984), 260.

[14] Bailey, *Improvisation*, 84.

[15] Robert Hodson, *Interaction, Improvisation, and Interplay in Jazz* (New York: Taylor & Francis Group, 2007), 117.

[16] Edwin Prévost, “Free Improvisation in Music and Capitalism: Resisting Authority and the Cults of Scientism and Celebrity,” in *The Ashgate Research Companion to Experimental Music*, ed. James Saunders (Burlington, VT: Ashgate Publishing Company, 2009), 133.

performance are based on intuition, anticipation, and logic.[17] Within the realm of free improvisation, all instruments are considered equal. The traditional roles of melodic instruments and those providing harmonic and rhythmic support are rendered less relevant in favour of giving each instrument an equal role.

Perhaps the biggest problem with defining free improvisation is the assumption that it is simply music that lacks any type of conventional musical devices (such as tonality, melody, rhythm, structure etc.), which is simply not the case. While free improvisation certainly can be this, it is not exclusively so. At its core, free improvisation is about personal expression, intention, and connection (with other musicians, an audience, or oneself). In free improvisation, performers feel comfortable expressing thoughts, feelings, and musical ideas without any constraint. While performers can certainly choose to impose a structure or even a tonality, these are choices that are made not in advance, but rather in the moment, in response to a variety of stimuli such as other performers, sounds in the room, audience, or simply personal preference and feeling. Because free improvisation is ultimately musical expression determined in the moment, it can literally sound like anything a performer wishes to dream up: an abstract soundscape, a light classical-inspired melody, a jazz head, or anything else. This is why it is so difficult to classify and why there is still much confusion about what it really is. It is music defined by its intention and process, not by its sonic characteristics.

Sources in free improvisation include books and articles from a wide variety of perspectives. Only a small number of these sources will be discussed, specifically those that relate the closest to the subject matter in this study. Unlike many other subject areas, most of the best-known writers of freely improvised music are not academics, and not

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[17] Jenkins, *Free Jazz*, xxxi.

always academics in music - but rather professional improvisers. This is likely because, as described earlier, free improvisation is very difficult to classify or even describe. Perhaps the writers best equipped to do this are those that have fully immersed themselves in the art form. Arguably the best known of these authors is Derek Bailey, referenced earlier and one of the leading figures in the free improvisation movement, who originally performed in the jazz tradition. His book, *Improvisation: Its Nature and Practice in Music*, is exceptionally thorough, covering many different types of improvisation including East Indian, Flamenco, Baroque, Rock, Jazz, and Free, among others. Additionally, Bailey looks at many different aspects of improvisation, such as solo playing, the role of the composer, improvisation in education, recording improvisation, the effect of an audience on live improvisation, and a discussion of specific improvising musicians and ensembles. This book is frequently cited in the bibliographies of other sources on improvisation.

The role of the audience in improvisation is something Bailey addresses very well. In Bailey's words, "the effect of the audience's approval or disapproval is immediate and, because its effect is on the creator at the time of making the music, its influence is not only on the performance but also on the forming and choice of the stuff used."[18] Literature on improvisation often discusses the choices made by musicians, but it rarely discusses or acknowledges the power audiences have over the direction and outcome of an improvisation, a power they are given without the need to ever say a word. This theme also arises regularly in literature describing the role of masks in culture, ritual, and performance. While the role of the audience is a factor in live performance settings, this study focuses strictly on the practice of collective free improvisation in a

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[18] Ibid., 44.

controlled setting; participants were able to focus on themselves and each other exclusively, without the external factor of an audience influencing their musical choices. While the role of the audience is discussed a great deal in literature on free improvisation, it is important to note that not all writings view the audience's role in a positive light. For example, musician Ng Hoon Hong states in her article, "Free Improvisation: Life Expression" that the audience takes away from the experience of self-exploration when improvising.[19] Certainly the audience is an external force that has the power to dictate the direction of an improvisation in either a positive or negative way.

Another source widely referenced in writings on improvisation is a collection of articles titled *In the Course of Performance*, edited by Bruno Nettl and Melinda Russell. This book was groundbreaking when it was published in 1998, when few resources on improvisation were available. The articles are widely varied, featuring those that explore improvisation with respect to various cultures, approaches, and repertories. The strongest and most frequently referenced of these is Nettl's introduction, "An Art Neglected in Scholarship." Here Nettl discusses various definitions and issues such as the neglect of improvisation in scholarly writing, the place of improvisation in both society and musicology, and musicology's unnecessarily limited focus on finished products rather than creative processes. Nettl accurately notes that musicology continually deconstructs compositions preserved in staff notation, with little emphasis on how they came to be, despite the fact that improvisation is often the vehicle of choice for composers as they work.[20] While this is not strictly true given the research and analysis of sketches of composers such as Beethoven and Stravinsky, Nettl is more concerned with music in an

[19] Ng H. Hong, "Free improvisation; Life expression," *International Journal of Education & the Arts* 12 no. 14 (2011) Accessed May 5, 2014.

[20] Bruno Nettl, "An art neglected in scholarship." in *In the Course of Performance; Studies in the World of Musical Improvisation* ed. Bruno Nettl and Melinda Russell (Chicago & London: The University of Chicago Press, 1998), 12.

ethnomusicological context, noting that free improvisation is a neglected art that needs to be addressed.

Another author who has contributed a great deal to the literature on free improvisation is David Borgo, a saxophonist and ethnomusicologist at UC San Diego. He has written many useful articles on improvisation, often focusing specifically on free improvisation, such as his work "Synergy and Surrealestate: the Orderly Disorder of Free Improvisation." In this article, Borgo references the book *Wisdom of the Impulse* by Tom Nunn, and uses some of its concepts to describe the musical activities of his free improvisation ensemble, "Surrealestate". According to Nunn's book, there are seven key elements of improvisational music practice, which Borgo uses to explain the musical work of his ensemble. These are:

1) Use of a tonal system or a mix of systems
2) Irregular rhythmic character and phrase lengths oriented to physical gesture
3) Compound "voice" texture or multiple independent "voices"
4) Multiple stylistic influences
5) Cadential formal processes that function as cues
6) Sectional nature, with each section defining a certain musical character or mood, with connections to subsequent sections.
7) Responsive and quickly changing interaction, creating various shifting role relationships in real time.[21]

While Nunn's list contains interesting elements, I feel that they may be applicable to Borgo's ensemble but not necessarily to free improvisation as a whole. Such music does not necessarily use a clear tonal system, irregular rhythms, clear sections, or even feature a clear variety of stylistic influences. While free improvisation can feature these elements, Nunn's list seems too simplistic and not varied enough to encompass all of the possibilities of free improvisation. There are undoubtedly layers of sophistication and technique when developing skills in free improvisation. While one's musical background

[21] David Borgo, "Synergy and Surrealestate: The orderly disorder of free improvisation," *Pacific Review of Ethnomusicology* 10 (2002), 3-4.

and listening preferences will certainly influence musical output in this context, my experiences teaching young improvisers has been that beginners tend to restrict themselves to more conventional modes of playing, including incorporating a clear tonal centre and simple melodic content without consideration of form, dynamics, musical development, or the incorporation of contrasting material. Because my experiences have been predominantly with classically trained students at the undergraduate level who have already taken courses in musical skills and ear training, it is possible that beginners from other backgrounds may approach their early experiments in improvisation differently.

Borgo also presents an insightful discussion of group improvisation. He describes it as an open system that gradually takes in energy from the enculturation, education, training, and experience of its members and more immediately in the form of influences from the physical and psychological context of the performance (such as the acoustic space, the potential sonic materials, and the reaction and participation of an audience).[22] He also believes that the most successful performances of group free improvisation feature decisive musical ideas and marked transitions taking place at specific moments of group consensus, showing an awareness of what has occurred and a conception of what may follow.[23] He notes this mutual cohesion as being essential in any group improvisation, regardless of its size.

In Alvin Curran's "On Spontaneous Music", the author equates improvisation with an art form where the improviser becomes the music:

> Improvisation is the art of becoming sound. It is the only art in which a human being can and must become the music he or she is making. It is the art of constant, attentive, and dangerous living in every moment. It is the art of stepping outside of time, disappearing in it, becoming it. It is both the fine art of listening and responding and the more refined art of silence. It is the only musical art where the

[22] Ibid., 11.
[23] Ibid. 12.

> entire ‘score’ is merely the self and the others and the space and moment where and when this happens. Improvisation is the only musical art which is predicated entirely on human trust.[24]

Like many of the previously mentioned writers, Curran believes that all people are born with the ability to participate in this music, meaning that one does not need to have an inborn talent or ability on an instrument, and he sees various aspects of the 20th century as attempting to “liberate music from various forms of tyranny – rules and traditions real or imagined.”[25] He specifically notes the 1960s as being a critical point, where the British ensemble AMM and Italian ensemble Musica Elettronica (MEV), went far in terms of freedom and liberation, essentially reinventing music from nothing.

> As far as one knew (in 1966), there had never before been a music made on such far-reaching principles of individual freedom and democratic consciousness; this was *collective music* pure and simple – and without knowing it, a stunning artistic example of political anarchy.[26]

While free improvisation is an art form that anyone can participate in, even if they completely lack musical training, ensembles like AMM and MEV certainly could not have accomplished what they did without the musical skills and experience of their ensemble members. Many of Curran’s ideas about the importance of free improvisation ensembles are similar to those of Borgo; however, while Borgo equates free improvisation with the idea of it acting as a complex system, Curran aligns his ideas more closely with politics and humanism.

In Matthew Sansom’s article, “Imagining Music: Abstract Expressionism and Free Improvisation”, the history of free improvisation and where it fits within Western music history is addressed. While Sansom leans towards the idea of free improvisation coming out of the tradition of Western art music, he does acknowledge the parallel roots

[24] Alvin Curran, “On spontaneous music,” *Contemporary Music Review* 25, no.5/6 (2006), 483.
[25] Ibid., 484.
[26] Ibid., 484.

in free jazz (evidenced by artists such as Ornette Coleman) and European art music in the 1960s. Sansom sees free improvisation as coming to prominence in response to the increased role of indeterminacy, or the ability of a piece to be performed in a number of different ways, in Western art music. Specifically, he mentions the changing roles of the composer, notation and performance, reactions against serialism, and the development of graphic scores, which gave significantly more freedom to the performer, as being catalysts for the development of free improvisation in the 1960s in Europe.[27]

Like Borgo and Curran, Sansom takes ideas and theories from outside of music to explain and discuss free improvisation, in this case describing free improvisation as analogous with Abstract Expressionist art, including Surrealism.[28] "The surrealists sought to break the barrier between consciousness and the unconscious, a barrier maintained as they saw fit only for the sake of order and control, through dreams and automatic writing."[29] While Sansom notes many of the clear parallels between free improvisation and abstract expressionism, such as the fact that both are highly personal art forms, he does not use a wide variety of sources or examples, and his main argument comes across as too glib.

Keith Sawyer, jazz pianist and professor of education at the University of North Carolina, has been a prominent voice in the improvisation literature, particularly in relation to education. While his primary field is psychology, not music, much of his work examines the concept of creativity in various contexts. In his article, "Improvisation and the Creative Process: Dewey, Collingwood, and the Aesthetics of Spontaneity", Sawyer appropriately notes that studies of artistic creativity have largely ignored improvisation,

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[27] Matthew Sansom, "Imaging Music: Abstract Expressionism and Free Improvisation," *Leonardo Music Journal* 11 (2001), 29.
[28] Ibid., 29.
[29] Ibid., 30.

focusing primarily on "complete" works, such as paintings or scores. Like musicians, painters too can decide to create a work without any pre-determined plans or ideas. While I do not claim to be a professional painter, I have "improvised" paintings on many occasions; some of the works that I consider to be my most successful were created that way. Sawyer believes this focus on finished works is a great disservice to our knowledge of art and creativity as "the creative process *is* the final product; the audience is watching the creative process as it occurs."[30]

Sawyer examines different types of improvisation, including verbal improvisation, or dialogues between people. Much of his research is balanced between both musical and verbal or social improvisation, and he notes five important characteristics of these:

1) An emphasis on creative process rather than creative product.
2) An emphasis on creative processes that are problem-finding rather than problem-solving (noting that art is only great if the artist finds a problem during the creative process).
3) The comparison of art to everyday language use.
4) The importance of collaboration with fellow artists and with the audience (this assumes the improvisation is a public performance, which isn't always the case).
5) The role of the ready-made, or cliché in art; meaning the incorporation of phrases, motifs, or quotes from pre-existing pieces.[31]

Sawyer's discussions of verbal improvisation are particularly instructive as few scholars are examining this type of creative interaction as it relates to music. He likens these types of interactions to improvisational theatre, stating:

> In every conversation, we negotiate all of the properties of the dramatic frame – where the conversation will go, what kind of conversation we are having, what our social relationship is, when it will end. In fact improvisational theater dialogue can best be understood as a special case of everyday conversation.[32]

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[30] Keith Sawyer, "Improvisation and the creative process: Dewey, Collingwood, and the aesthetics of spontaneity," *Journal of Aesthetics & Art Criticism* 58, no. 2 (2000), 149.
[31] Ibid., 152.
[32] Ibid., 155.

Sawyer sees this type of creative interaction as being “ready-made”, or following a specific formula, like most types of theatrical improvisation or jazz improvisation, where musicians often draw from specific motifs or pre-determined structures.

Clearly, the literature within the category of general discussions on improvisation is diverse. With articles and books representative of authors, researchers, educators, and musicians with varying backgrounds and viewpoints, improvisation is discussed thoroughly from many broad perspectives. While some authors clearly understand the process of free improvisation better than others, the diversity of writing on the subject presents a significant amount of valuable research that can be applied to our understanding of the process that unfolds during group free improvisation.

Group Improvisation and Social Connections

The second section of sources features those that deal specifically with group improvisation and its potential social connections. While some of the other previously discussed sources have ventured into this topic, this section will focus only those articles and books whose main argument deals specifically with the social connections found within group improvisation.

The first of these sources is Marcel Cobussen’s article, “Improvisation: Between the Musical and the Social.” Cobussen is a jazz pianist and Professor of Auditory Culture and Music Philosophy at Leiden University (the Netherlands). Cobussen’s perspective for investigating improvisation is socio-musicological. He presents three core concepts in which group improvisation is examined: interaction, listening, and freedom. Cobussen argues that improvisation is always an interactive, collaborative, and social event, even in the case of solo performances in front of a live audience.[33] He believes that in the case of group improvisation, musical and social elements are fused together as one. Through the process of group improvisation, there is "a simultaneous construction of a musical text as well as the development of emotional bonds among the musicians through musical risk, vulnerability, and trust."[34] Cobussen feels that these social bonds involve an interaction both of personality and instrument, and he believes this is supported by the fact that improvising musicians tend to describe their group improvisations in interpersonal terms, rather than musical terms.[35] This unique connection is something Cobussen calls an "intermusical relationship", or a communication process that occurs through musical sounds instead of words, where the music itself contributes to the maintenance and creation of social interactions between and among musicians.[36]

Like Sawyer, Cobussen notes the many similarities improvisation shares with conversation, such as the fact that it is not pre-determined. As with conversation, the reactions of others (musicians or audiences) dictate whether or not an individual's musical idea is picked up on, developed, or ignored. In these moments the musical and the social become one.[37] Cobussen also focuses heavily on the importance of listening. He believes that listening is far more important than technical facility. While technical ability is a requirement for those highly skilled at performing improvised music, listening is what allows us to literally be in tune with others, and feel both a musical and a social

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[33] Marcel Cobussen, "Improvisation: Between the Musical and the Social," *Dutch Journal of Music Theory* 13, no. 1 (2008), 48.
[34] Ibid., 49.
[35] Ibid., 49.
[36] Ibid., 49.
[37] Ibid., 49.

unity.[38] Cobussen specifically cites German philosopher, Hans-Georg Gadamer, and his book *Truth and Method* to illustrate this point:

> Listening opens up the world instead of closing it down. In doing so, it moves us towards creativity. If we cannot listen properly, we can no longer share in creativity, and we confine ourselves more and more to circulating within a given repertory of standard articulations, which can be summoned up each time in mnemonic fashion.[39]

Cobussen believes that his ideas apply to all forms of improvisation, and he also believes that free improvisation is not truly free since it can feature constraints, just as jazz improvisation does. He states that in free improvisation we are free to choose what we wish to play, but in the context of group improvisation we must also accept responsibility for the material of other musicians, which in effect constrains our musical output.[40]

Keith Sawyer, whose research on improvisation is considerable and has been discussed above, has also contributed to the field of group improvisation and social connections in his article, "Group Creativity: musical performance and collaboration." Here he focuses on what he feels are the three main characteristics of group creativity, in both musical and theatrical contexts: improvisation (where performers are creative artists working in the moment), collaboration (where all members of a group contribute to a final performance), and emergence (the collective phenomena where the whole is greater than the sum of the parts).[41] While Sawyer points out the contributions of each member when performing (with or without an audience), he also notes the "centralized mindset", where performers sometimes attribute their group activity to only one person, the leader

[38] Ibid., 50.
[39] Ibid., 51.
[40] Ibid., 54.
[41] Keith Sawyer, "Group creativity: Musical performance collaboration," *Psychology of Music* 34, no.2 (April 2006),148.

or soloist.[42] While individuals may perceive their creative success in this way, group improvisation is rarely, if ever, dependent on only one individual.

Sawyer examines structures for group improvisation, including both jazz music and theatre in his discussion. He believes that there are two basic forms of structure that guide improvisation for ensembles: “scenarios that guide the overall improvisation, and formulaic speech that actors use in their individual lines.”[43] He expands on this idea stating that musical improvisation is often based on chordal structures and shares many similarities with conversational exchanges. He also notes that the formulaic speech of actors is very similar to the use of motifs, habits, or musical traditions which performers tend to utilize when improvising.

One of Sawyer’s most interesting ideas presented is the theory of “group flow”, based on Csikszentmihalyi’s flow theory:

> [flow theory] represents a state of consciousness within the individual performer, whereas group flow is a property of the entire group as a collective unit…in group flow everything seems to come naturally; the performers are in interactional synchrony. In this state, each of the group members can even feel as if they are able to anticipate what their fellow performers will do before they do it.[44]

This idea of group flow represents a very complex type of communication that can take place between performers during a group improvisation. It does not always happen within a group, but it is very powerful when it does and can inspire musicians to play differently than they normally might. Some Chicago musicians also refer to this phenomenon as “groupmind”.[45] While most students learn music individually, Sawyer believes that group

[42] Ibid., 153-54.
[43] Ibid., 156.
[44] Ibid., 158.
[45] Ibid., 159.

musical collaboration is necessary in our educational system because it can help us to understand all of the various different types of collaboration, including group flow.[46]

Authors Clément Canonne and Nicolas Garnier, who specialize in psychological, ethnographic, and philosophical approaches to improvisation, also examined group free improvisation in their article, "A Model for Collective Free Improvisation." While the article is very scientific, and directed primarily at mathematicians and computer scientists, it aims to fully understand collective free improvisation, which the authors define as "a musical phenomenon produced by at least two persons improvising simultaneously and freely, i.e., trying to leave undecided every compositional aspects [*sic*] until the very moment of the performance."[47] Some of the characteristics of Collective Free Improvisation (or CFI) include an undetermined unfolding of sound, an absence of planning, and a musical output that is much more difficult to control than other types of improvisation (such as jazz or more structured forms of improvisation).[48] Canonne and Garnier specifically mention Sawyer in their article, and aim to scientifically and psychologically explain his theory of group flow. Through the analysis of acoustical signals over a period of time (which they refer to as time scales), their research determined that leaders in a group improvisation setting have a superior cognitive capacity and tend to get bored more slowly than others when improvising.[49] They also noted that collective organization and group flow was easier with fewer musicians, which is to be expected. In larger groups, musicians tended not to interact with everyone, but focused instead on only one or two specific individuals to interact

46 Ibid., 164.

47 Clément Canonne and Nicolas Garnier, "A Model for Collective Free Improvisation," in *Mathematics and Computation in Music: Third international conference*, ed. Carlos Agon et al. (Berlin:Springer, 2011), 28.

48 Ibid., 30.

49 Ibid., 37.

with.[50] The conclusion of their study shows that self-organization, or group flow is possible in CFI, but that it depends on many different factors, such as musical ability or virtuosity, leadership quality, and others.[51]

In his article, "Improvisation et processus compositionnel dans la genèse de Fenêtre Ovale de Karl Naëgelen", Canonne collaborated with improvising musicians in Paris to dissect composer Karl Naëgelen's "Fenêtre Ovale", which blurs the lines of composition and improvisation. While not specifically addressing social connections in music, and using "Fenêtre Ovale" as its primary example, this article states that improvising musicians can collectively generate new compositional ideas, inspire each other, and mobilize a work that fuses composition and improvisation.[52] This is achieved through non-verbal communication between improvising musicians.

Specific research on the complex social connections that are formed and nurtured through the practice of group free improvisation still has much room to grow. While Sawyer, Cobussen, Canonne and Garnier have opened up ideas that many other writings on free improvisation have alluded to, there are still many questions to be asked.

Studies involving the use of free improvisation as a therapy for anxiety

Somewhat related to the topic of this research study is the concept of free improvisation being used as a therapy to help musicians with anxiety. While these types of studies are scarce, they do shed some light on the different types of psychological benefits that can be accessed through the practice of free improvisation.

Several studies from the past 25 years have shown evidence that the practice of free improvisation can benefit musicians suffering from performance anxiety. Music

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[50] Ibid., 39.
[51] Ibid., 39.
[52] Clément Canonne, "Improvisation et processus compositionnel dans la genèse de Fenêtre Ovale de Karl Naëgelen," *Critical Studies in Improvisation* 10, no.1 (Feb. 2015), 23.

therapist Louise Montello conducted the first two studies of this kind in 1989, and with the assistance of Coons and Kantor in 1990. Montello's 1990 study involved a 12-week music therapy intervention for freelance professional musicians experiencing performance anxiety. It featured three components: musical improvisation, three performances in front of an audience, and awareness techniques such as verbal processing of anxiety responses.[53] The results of this study showed that the participants became "significantly more confident as performers and less anxious" than the control subjects used.[54] Montello's 1989 study also showed group improvisation to be an effective means of treating performance anxiety. In her therapy sessions, she found that her subjects became more accepting, less judgmental, and more musically expressive as they were able to take the focus off themselves during performance and express their music to an audience in ways that made them feel less self-conscious.[55] While an external audience is clearly a factor in creating performance anxiety, positive feelings experienced in collective improvisation (such as feeling connected to others) can be achieved without external factors such as these.

Music therapist Youngshin Kim also conducted two separate studies on free improvisation and performance anxiety. In her 2005 study, she examined the combined effects of musical improvisation and desensitizing techniques on reducing performance anxiety in female college-aged pianists. Her research focused exclusively on female subjects because her previous research led her to believe that women experience greater performance anxiety than men. The results of this study showed that a combined treatment of improvisation and desensitization was effective in reducing anxiety and,

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[53] Dianna T. Kenny, *The Psychology of Music Performance Anxiety*. (Oxford: Oxford University Press, 2011), 195.
[54] Ibid., 195.
[55] Ibid., 195.

while the majority of subjects felt that improvisation played an important role not only in reducing their subjective anxiety, they also recovered the joy of music making."[56] Her second study in 2008, which also included only female college-aged pianists, used two different approaches to treating performance anxiety: improvisation-assisted desensitization, and music-assisted progressive muscle relaxation and imagery.[57] The results showed both treatments as effective in alleviating anxiety in the subjects, with no difference in effectiveness of one treatment over the other. While Kim's results are intriguing and show promise that the practice of free improvisation may hold benefits for musicians with anxiety, it would be interesting to know if her results varied according to gender or instrument type, and who the audience consisted of, if any.

The most recent study on free improvisation and performance anxiety was conducted by Robert Allen and published in 2010. Allen's study compared performance anxiety symptoms in students performing a free improvisation versus a repertory piece and used a gender-balanced sample of 36 piano students ranging in age from 7 to 18 years. The objectives of this study were to examine the relationship of students' levels of anxiety over free improvisation and repertory pieces in a performance, and to examine the effectiveness of free improvisation as a treatment for the reduction of performance anxiety.[58] The results of Allen's study showed free improvisation to be an "effective

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[56] Youngshin Kim, "Combined treatment of improvisation and desensitization to alleviate music performance anxiety in female college pianists: A pilot study," *Medical Problems of Performing Artists*, 20, no.1 (2005), 23.

[57] Youngshin Kim, "The Effect of Improvisation-Assisted Desensitization, and Music-Assisted Progressive Muscle Relaxation and Imagery on Reducing Pianists' Music Performance Anxiety," *Journal of Music Therapy*, 45, no.2 (2008), 165.

[58] Robert G. Allen Jr, "Free improvisation and performance anxiety among piano students," (DMA diss.,Boston University, 2010), v.

treatment for significantly reducing anxiety during the public performance of a musical work."[59]

Allen's research found anxiety levels to be significantly higher for repertory pieces and, contrary to Kim's research, he found anxiety levels to be higher in males than females. Following the study, the majority of students in all age groups agreed with the statement: "Improvising makes me feel better about performing in front of people."[60] While these results are promising, there are limitations to Allen's study, too. Like Kim, Allen focused entirely on piano students, so the effect of free improvisation on anxiety levels in musicians playing different instruments is unclear. His study also did not incorporate group improvisation, so the differences between group and solo improvisation, if any, are also unclear.

Phenomenology and Improvisational Performance

When analyzing freely improvised musical performances, traditional music theory is unable to offer a full picture as it does not allow us to see certain aspects such as connection between players, body language, communication, etc. The field of phenomenology, however, offers a different lens with which to view this music, allowing us to interpret and analyze some of the subtler aspects of this type of performance practice, many of which will be discussed as they apply to performances recorded in this study in chapter 5.

One theory that lends itself well to understanding improvisational music, and specifically the process of collective free improvisation, is Christopher Small's theory of

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[59] Ibid., vi.
[60] Ibid., 101.

"Musicking". In this theory, Small accurately notes the important role that both performers and listeners play in the experience of music, stating:

> The essence of music lies not in musical works but in taking part in performance, in social action. Music is thus not so much a noun as a verb, 'to music'. To music is to take part in any capacity in a musical performance, and the meaning of musicking lies in the relationships that are established between the participants by the performance.[61]

Small accurately notes that while performers are responsible for bringing music to the public, they are rarely mentioned in writings on the meaning of music; the performer is viewed only as the vessel through which the music passes before reaching the listener.[62] While Small is primarily concerned with classical music performance in his writings (such as his book *Musicking: The Meanings of Performance and Listening*), his ideas transfer well to free improvisation practice. For collective free improvisation, the role of the performer is greater than that of composed music since musicians embody the role of performer, composer, and listener. The musician's musical choices and listening to the choices of others directly influences one's experience of music, influencing the direction it will take and how each participant, observer or audience member will hear and feel it.

Levels of connection between performers can be examined both by participant responses in interviews and questionnaires as well as through their recorded performances. One weakness in the later method is that researcher observations of these recordings can be subjective. In their article, "Path Dependence in Economics and Music", Jared Burrows and Clyde G. Reed offer another lens with which to view improvisational connection through their theory of "coordination", which they describe as an achievement of equilibrium, or what happens when "players collectively explore

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[61] Christopher Small, "Musicking — the meanings of performing and listening. A lecture," *Music Education Research* 1, no.1 (1999), 9.
[62] Ibid., 10.

and enhance a coherent musical space."[63] Burrows and Reed describe this state of equilibrium as being reached after players have determined which musical choices they will make and what their role in the improvisation may be (leading, following, contrasting, etc.). They also note that a decay of this equilibrium can happen very quickly "as players lose emotional or intellectual interest or think of new ideas."[64] This concept of connection in free improvisation is very similar to Sawyer's concept of "Flow Theory" discussed in earlier. During subject interviews, it was clear that when performers were pleased with an improvisation and felt it was successful, it was because they were connecting and ideas flowed and blended together with ease, just as "Flow Theory" or "Coordination" describe.

In his article on the "Phenomenology of Music" Bruce Ellis Benson outlines Edmund Husserl's contributions to the phenomenological movement. In explaining Husserl's idea of internal time consciousness, Benson clarifies that we in fact experience a phenomenon over time. We perceive in the moment, thus when we hear a melody, "the notes which have just been played are 'retained' in our memory and those which we currently hear 'protend'…in the direction of the future." Benson explains that in Husserl's later philosophy he recognized the "historical, cultural and communal condition in which we live."[65]

Martin Heidegger, took these ideas further and considered how one's cultural background influences what we do. Heidegger stated:

> We are interpretive beings whose understanding is always from within a cultural and intellectual horizon. As beings who are fundamentally 'hermeneutical' in

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[63] Jared Burrows and Clyde G. Reed, "Path Dependence in Economics and Music," in *The Oxford Handbook of Critical Improvisation Studies* 1, ed. George Lewis and Benjamin Piekut (New York: Oxford University Press, 2016), 398.

[64] Ibid., 398.

[65] Bruce Ellis Benson, "Phenomenology of Music," in *The Routledge Companion to Philosophy and Music*, ed. Theodore Gracyk and Andrew Kania (New York: Routledge, 2011), 582.

> nature, our entire interaction with the world is one in which the things that we encounter take on meaning precisely by way of their relation to us.[66]

This concept applies to players of free improvisation and the subjects of this study as it was noted how participants from classical backgrounds differed in their responses from those with non-classical backgrounds, and their musical responses will be observed in further detail throughout this chapter. Even when subjects are asked to perform a group improvisation without any structure or guidelines, their cultural and musical backgrounds and experience most certainly guide some of the decisions made throughout their performances and how they respond to others. Heidegger believes that the most fundamental way of knowing is interpretive, and interpretation of the musical output of others is one clear way in which these subjects were able to connect and communicate with one another; often interpreting what one another was feeling.[67]

Phenomenologist F. Joseph Smith also contributed ideas that apply to the practice of collective group improvisation such as “akumenology”, or the combination of music and phenomenology, emphasizing sound over sight.[68] Smith highlights the importance of words, for example, as living “acoustical phenomena” or “akumena”, which have meaning because they are spoken by one person and heard by another.[69] This concept, which emphasizes sound over sight and implies there is meaning in sounds created by one person and heard by another, is very applicable to this study. It was noted in chapter f4 that most subjects did not need to see one another in order to connect or experience meaning in the music they heard and produced. While they felt their sense of sight was important initially (as was recorded in their pre-study interviews), this turned out to be

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[66] Ibid., 582.
[67] Ibid., 583.
[68] F. Joseph Smith, *The Experience of Musical Sound: Prelude to a Phenomenology of Music* (New York: Gordon and Breach, 1979), 31.
[69] Ibid., 30.

false, with a majority of subjects feeling more connected when they were in the dark and unable to see one another; their focus shifted from sight to sound. Smith calls for "echotic reduction" in music, meaning that we should focus more on the sensory reception of music, which is something traditional music theory at the time of Smith's writing did not deal with.[70] While Smith does not specifically address improvised music, he does see making music with others as a communal experience "that requires a dialogical exchange and receptivity to the other."[71] This concept applies to improvisation very well as the exchange of ideas, connecting, and being receptive to other players has been noted throughout this study as being key to the experience of collective free improvisation. Smith also notes the interpersonal side of music, which again applies to the performances observed in this study. He describes the idea of "going outside and *beyond myself* by offering my hand, my heart, even my whole bodily being to the other."[72] While there were few performances within this study in which participants appeared comfortable enough to truly go outside themselves and offer their whole self to the other players or the music they were creating, this concept was documented as being familiar to a number of participants in subject interviews and something they have experienced in the past.

Philosopher Don Ihde also contributed ideas to the field of music that are applicable to the practice of collective free improvisation. He noted that our experience of music affects the entire body, stating, "music amplifies a participative sense of bodily involvement in its call to the dance."[73] While this concept obviously applies to listeners of music, it also applies to performers who are usually seen responding to musical sound and expression with some form of body movement; observing these movements can help

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[70] Ibid., 30.
[71] Benson, *Phenomenology*, 585.
[72] Smith, *Experiencing*, 36.
[73] Don Ihde, *Listening and Voice: A Phenomenology of Sound* (Athens, Ohio: Ohio University Press, 1976), 159.

an audience feel and observe the emotion and expression involved in performance. In the musical examples discussed throughout this chapter, it is noted that subjects tended to appear more "stiff" and unable or unwilling to move at times when they seemed to be hesitating musically. Players that were observed taking more risks and showing greater comfort and confidence tended to use their bodies much more and often displayed movement from side to side or forward and backward. This type of movement is difficult to codify as "dance" (a term Ihde uses), though Ihde's thoughts on movement as a part of musical experience still apply. Clearly the involvement of the body is important, but those who are less comfortable in an improvisation are less likely to move.

Lastly, philosopher and musician Lawrence Ferrara noted the need for a more "eclectic" approach to music in which phenomenology and more traditional approaches to music could be brought together.[74] In his ten-step "eclectic method" of analysis, Ferrara considers many different aspects of music, including levels of referential meaning such as "the manner in which a work is expressive of human feelings."[75] As Ferrara notes, music is able to express a variety of feelings such as gaiety, pride, turmoil, struggle, humour, sadness, excitement, anxiety, and more.[76] While Ferrara is referring to composed music, this concept is also applicable to free improvisation in which performers take on the additional role of composer. Chapter 4 discussed some of the ways in which participants felt they could express their own feelings or interpret the feelings the others when improvising. While not every participant felt they were expressing or interpreting emotions during the study, nearly all participants noted that

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[74] Lawrence Ferrara, *Philosophy and the Analysis of Music: Bridges to Musical Sound, Form, and Reference* (Bryn Mawr, Pennsylvania: Excelsior Music Publishing Co., 1991), 33.

[75] Ibid., 183.

[76] Ibid., 183.

they had been able to do this through their previous work in collective group improvisation at one time or another.

As noted earlier, traditional music analysis cannot properly examine the intricacies of improvised music. While music theory studies have been primarily involved with composed music and dependent on score, free improvisation cannot be analyzed in this way for the obvious reason that it lacks a written score. While it might be argued that free improvisation can be analyzed via transcription, this type of analysis would tell us nothing of the intricacies of connection and communication between players, which are essential elements of freely improvised music. We can, however, analyze certain performative aspects of free improvisation such as roles (if players are leading, accompanying, etc.), the use of tonality/atonality, musical texture, manipulation of timbre, and the application of rhythm. Additionally, we can reflect on the cultural or musical background of players and how these may influence performances, the use of movement and/or visual cues, or the anticipation of what material will follow. It is in these respects that a combination of basic analytical concepts and phenomenology provide the best option for a theoretical understanding of collective free improvisation performance.

Mask Theories

Currently there are no sources that broach the subject of masks as they could be connected to free improvisers or musicians in general. While mask improvisation is a known technique in improvisational theatre and is an established part of theatre tradition, it appears not to have made its way into musical improvisation. Likewise, the idea of using one’s instrument as a kind of mask or source of confidence has also not been explored. While some research has been conducted which explores a musician’s relationship to their instrument and the idea of the instrument acting as an extension of oneself (such as Luc Nijs, Micheline Lesaffre, and Marc Leman's article, "The Musical Instrument as a Natural Extension of the Musician"), no research has yet explored the relationship between a musician and her instrument within the practice of free improvisation. The sources discussed in this section originate predominantly in the fields of anthropology, psychology, and drama.

Perhaps the most relevant source discussing the idea of masks as they can relate to improvisational work is the book "Mask Improvisation for Actor Training and Performance: The Compelling Image" by Sears A. Eldredge. Here Eldredge discusses the many different perspectives and exercises used in mask improvisation for actors. It is a method that is used to teach actors how to perform more effectively unmasked and is meant to help individuals better understand the Self, the persona, and characterization, which can all also be applied to non-masked performance.[77] Eldredge also explores what he believes are the five different types of masks and their functions, which are as follows:

1) **Mask as Frame.** Like a picture frame, the mask is used to highlight what is placed within it, focusing attention inward.
2) **Mask as Mirror**. Mirrors reflect an image of the world. With masks acting as mirrors, the mask "allows you not only to see a surface reflection of yourself and your world but also to see *through* another reality."[78]
3) **Mask as Mediator**. Within this concept, the mask acts as a mediator between opposing worlds. This could include the worlds of society, nature, and the

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[77] Sears A. Eldredge, *Mask Improvisation for Acting Training and Performance: The Compelling Image* (Evanston, Illinois: Northwestern University Press, 1996), 143.

[78] Ibid., 5.

supernatural, or it could mediate the flow of power, or the transition of self, in which a new self is reborn out of the death of the old one.[79]

4) **Mask as Catalyst**. The mask acts as a catalyst to stimulate change or transformation.

5) **Mask as Transformer**. The mask's function is to transform and unite. This function of masks as agents of transformation is the most recognized and discussed aspect of masks in literature.[80]

One aspect of masks in theatre and anthropology that appears to recur regularly is that of masking as power. This entails both the mask having power over the person wearing it as well as power over the viewers of the masked activity or audience. "Masks offer defense and protection as well as a means of offense and intimidation."[81] It is important to note that in these theories of masks and power, power resides not in the mask or even with the wearer, but rather in the space between the masked performer and their audience.[82] In terms of an improvisational performance in music, power is likewise achieved somewhere between the instrument and the audience. Holding an instrument or sitting behind one does not necessary provide any sort of transformational process; however, when the instrument is played, something very powerful occurs. Of the different roles of masks discussed above, it is the mask as transformer that is the most applicable to the role instruments play in free improvisation. This process will be discussed in greater detail in chapter 4.

The method of mask improvisation is used to help loosen up performers and free their imaginations. In this situation, masks both conceal and reveal different aspects of

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[79] Ibid., 5.
[80] Ibid., 5.
[81] Ibid., 7.
[82] Ibid., 7.

their wearers.[83] While on the surface it may seem that masks function as a means of disguising performers, Eldredge is clear to state that the masks worn in theatre improvisation in fact represent the reality of an individual. They are not objects to hide behind or put on to fool others, but rather "the wearer's task is to allow herself to be taken over by this presence in the mask."[84] This idea of the mask transforming a person and allowing them to express different parts of themselves is similar to the idea of an instrument being viewed by musicians as an extension of themselves. This too is a type of transformation that cannot be achieved without the mask or the instrument.

Most of the remaining sources in this section come from the key anthropological writings on the role that masks have served in various cultures. Some of these include John E. Pfeiffer's *The Creative Explosion* which among other things discusses the origins of masking in human culture, and "Masks, Transformation, and Paradox" by David Napier, which discusses how in human culture, masks have appeared in conjunction with categorical change, providing a medium for exploring formal boundaries.[85] Napier is clear to state that while our Western perception is that masks are disingenuous, disguising a person, in many other cultures these connotations do not apply, as the focus is more on the development of the personae that masks incarnate.[86] Instruments too could be seen as providing a specific persona. For example, lower pitched instruments tend to be seen as darker and more powerful (and are also larger in size).

Phenomenologist Gaston Bachelard explores the need for humans to mask in *The Right to Dream*, which examines this concept throughout human history. He notes that masks represent a duplicity in which people want to appear other than they are, yet end

[83] Ibid., 17.
[84] Ibid., 41.
[85] David A. Napier, *Masks, Transformation, and Paradox* (Berkeley: University of California Press, 1986), xxiii.
[86] Ibid., xxiii.

up revealing themselves in and through their dissimulation.[87] Noted anthropologist and mask researcher Mircea Eliade also notes this dual function of masks. In his book, *Masks: Mythical and Ritual Origins*, he describes masks as offering a way to deal with "otherness". They serve a dual role of preserving one's personality (such as death masks and portraits) as well as alienating one's personality (such as with ritual and theatre masks, which can be *lived*, but only by changing one's personality and becoming "other").[88] This dual role of masks, as well as the idea of masks being used for power, is central to most theories on the cultural function of masks. In his article, "Masks, Participants, and Audience", anthropologist N. Ross Crumrine also notes that at the core of the relationship between masks and people is usually "the exchange and/or transformation of power…the masks might be defined as power-generating, -concentrating, -transforming, and –exchanging."[89] Famed anthropologist Claude Lévi-Strauss also echoes the idea of transformation as being key to masks and their purpose. While his work primarily deals with masks in Native Canadian and American cultures, he has noted that in mythology, specifically in the origin myths for various types of masks, their transformational properties are very prominent.[90]

Efrat Tseëlon discusses the duplicitous role of masks as well as their changing role throughout history in *Masquerade and Identities*. It begins by describing the role of masks as calling "attention to such fundamental issues as the nature of identity, the truth of identity, the stability of identity categories and the relationship between the supposed

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[87] Gaston Bachelard, *The Right to Dream* (New York: Grossman Publishers, 1971), 187.

[88] Mircea Eliade, "Masks: Mythical and Ritual Origins," In *Symbolism, the Sacred, and the Arts*, ed. Diane Apostolos-Cappadona (New York: Crossroad, 1985), 71.

[89] N. Ross Crumrine, "Masks, Participants, and Audience," In *The Power of Symbols: Masks and Masquerade in the Americas*, ed. N. Ross Crumrine & Marjorie Halpin, (Vancouver: University of British Columbia Press, 1983), 2-3.

[90] Claude Lévi-Strauss and Sylvia Modelski, *The Way of the Masks* (Vancouver: UBC Press, 1999), 14.

identity and its outward manifestations (or essence and appearance)."[91] Like most of the masking authors discussed, he brings attention to the contrasting roles of masks; concealing – hiding one's true self, versus revealing - "the multiplicity of our identity."[92] In Tseëlon's opinion, the real role of masks or masquerade is that it presents truth in the shape of deception.[93] If we equate these perspectives to the idea of a musical instrument acting as a mask, clearly the instrument itself cannot act as a full deception of a person; an audience can still perceive them quite clearly. The musician is still the one in complete control of the instrument. However, the idea of the instrument as a mask acting more as a channel to reveal different parts of an individual's identity seems more plausible with this type of theory. In a more applicable fashion, Tseëlon specifically discusses performative roles of masks, where masking acts as an extension of the notion of a performance, where the distance between the 'person' and the 'act' are obliterated: performance itself is identity.[94] Or rather, perhaps performance is identity, which is facilitated through or with the use of a mask.

In her article, "Stigma, Uncertain identity and Skill in Disguise", Christine Davies notes how many individuals are concerned with the presentation of self, which is typically done within a very narrow range comprising what a person thinks he or she 'is'. When forced to go beyond this range, people can become embarrassed and awkward.[95] Perhaps it is through masking and masked performances that individuals can break through these constrictions and present different parts of themselves. In terms of

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[91] Efrat Tseëlon, "Introduction: Masquerade and identities," In *Masquerade and Identities: Essays on gender, sexuality and marginality*, ed. Efrat Tseëlon (New York: Routledge, 2001), 3.
[92] Ibid., 4.
[93] Ibid., 5.
[94] Ibid., 10.
[95] Christine Davies, "Stigma, Uncertain Identity and Skill in Disguise," In *Masquerade and Identities: Essays on gender, sexuality and marginality,* ed. Efrat Tseëlon (New York: Routledge, 2001), 38.

performance, in their book, *Nonverbal Communication: Notes on the Visual Perception of Human Relations,* psychiatrists Jurgen Ruesch and Weldon Kees note that the creative arts have two distinct and important aspects. Firstly, that they represent nonverbal forms of communication, and secondly that they are deeply concerned with the metacommunicative, or the assumptions that must be made in order to understand the artist's statement.[96] While they primarily discuss acting in this context, they note that the use of masks have significant impact in this type of communication as they are often used to indicate emotions, characters, expressions, etc.

Perhaps the most renowned figure to write about masks, masking, and the idea of the persona was psychiatrist Carl Jung. Jung describes the idea of the persona as the hypothetical mask that people wear, or an "individual's system of adaptation to, or the manner he assumes in dealing with the world."[97] The word "persona" itself is derived from Latin, where it referred to a theatrical mask.[98] Jung believed that every profession, for example, has its own characteristic persona. One of the most commonly seen personas is that used by celebrities who often express a carefully contrived image to the world. Jung notes that the persona is nothing real at all; instead it acts as a compromise between an individual and society as to how a person should appear to be.[99] He goes further to state that despite this idea of the public persona, "one's real individuality is always present and makes itself felt indirectly if not directly."[100] Essentially, while the persona

[96] Jurgen Ruesch and Weldon Kees, *Nonverbal Communication: Notes on the Visual Perception of Human Relations* (Los Angeles: University of California Press, 1964), 30.

[97] C. G. Jung, *The Collected Works of C.G. Jung, Volume 9, Part 1: Archetypes and the Collective Unconscious* (Princeton: Princeton University Press, 1969), 122.

[98] Paul Bishop, *Analytical Psychology and German Classical Aesthetics: Goethe, Schiller, and Jung, Volume 1: The Development of the Personality* (New York: Routledge, 2007), 157-158.

[99] C. G. Jung, *The Collected Works of C.G. Jung, Volume 7: Two Essays in Analytical Psychology* (New York: Pantheon Books Inc.), 1953, 156.

[100] Ibid., 156.

represents how a person appears to oneself and the world around them, it is not what one is. "What one is, is one's individual self."[101]

Ronald L. Grimes, a researcher in ritual studies, notes the need for much greater study on the ways in which maskers relate to their masks. He notes that while some wearers claim that wearing a mask is confining and worn out of obligation, others define it as an experience of freedom. Wearers can hide their personal feelings or present a different identity.[102] He also notes the difference between what a masker experiences and what a viewer experiences. Specifically, he discusses that while mask theories often discuss maskers acting out of their unconscious minds and releasing repressed feelings, this is not the case for everyone. He believes that masking is in fact not always an activity for personal expression because people are rarely wearing masks of themselves.[103] Ultimately, Grimes believes that in this respect everything must depend on how a mask is received, interpreted, and encountered. As a result, theories of masking must consider and take seriously the audience, congregation, musicians, and others, who themselves may also be masks.[104] This consideration of the audience is certainly true of music and particularly improvised music, where the role of the audience is crucial to the performance as improvisers are constantly acting and reacting in response to what they are feeling from their respective audiences. This idea of the important role of the audience was also addressed and discussed by Derek Bailey. Grimes' idea of some wearers experiencing freedom also accords with the experience of most people that practice free improvisation because the removal of specific rules, which can be seen as confining, allows for greater comfort and freedom of expression. Grimes also points out

[101] C. G. Jung, *The Collected Works of C.G. Jung, Volume 6: Psychological Types* (Princeton: Princeton University Press, 1971), 218.

[102] Ronald L. Grimes, "The Life History of a Mask," *The Drama Review* 36, no. 3 (Fall 1992), 66.

[103] Ibid., 66.

[104] Ibid., 67.

the fact that many masks are transparent or do not cover the whole face or person (such as veils or Japanese *noh* drama masks). Such masks advertise, rather than disguise, the fact that there is a wearer underneath.[105] If we view instruments as masks, they too could be seen as transparent masks, which are not really hiding the performer but rather revealing her.

In her article, "Masks and Powers", Elizabeth Tonkin discusses the common theme of masks being used for power, but goes further to discuss the social implications of masking. She sees masks as being an important part of social interaction, arguing that they are an integral part of social phenomena, acting as operators in communicative events between people.[106] She also echoes ideas presented by the authors previously discussed, such as the concept of masks transforming events or mediating between structures, masks not really hiding an individual but instead revealing them, and the important role of the observer of masks (or audience). In Tonkin's words, "the observer of masks is by no means passive, but a participant caught up in a drama through which he or she is sometimes actually changed."[107] This description of the role of the observer is important to the idea of instruments acting as masks in freely improvised music and again echoes Derek Bailey's ideas about the important role an audience plays.

Musicologist and cellist George Kennaway is one of the few writers to have dealt with connections between music and masking. While he has not broached the idea of instruments as masks, he does discuss the idea of the mask or persona of the musician in his article, "Trills and Trilling: Masks, dandyism, historical performance, and the self." Kennaway has not researched free improvisation and instead focuses on historically-informed performance (HIP) practice, specifically that of musicians playing Classical and

[105] Ibid., 68.
[106] Elizabeth Tonkin, "Masks and Powers," *Man* 14, no.2. (June 1979), 239.
[107] Ibid., 246.

Baroque music. He notes that in the creation and presentation of HIP, musicians create, adopt, and present a persona during performances that he believes facilitates a particular kind of social exchange.[108] Specifically, Kennaway examines the dress of HIP musicians and how they purposely try to distinguish themselves from orchestral musicians in terms of how they choose to present themselves, which he believes is an intentional resistance against various negative aspects of the traditional symphony orchestra such as "its notably hierarchical power struggles, its preference for pragmatism over principle, its institutional status, its professionalism, its workshop of tradition, its location outside academic discourse, and its circumscribed concepts of a 'musical' sound."[109] Kennaway sees the world of early music players as quite different as they "practiced democracy, adopted a relaxed dress code, cherished their principles, resisted institutionalization, embraced the amateur, circumvented received tradition, enthusiastically participated in academic discourse, and embraced unconventional sounds."[110] This description of HIP musicians is particularly interesting because it parallels the ideals behind freely improvised music and the characteristics of those that practice it. Free improvisers also distinguish themselves in most of the same ways Kennaway describes and perhaps they too are wearing masks when they perform as a means of distinguishing themselves from more conventional art forms or types of musical practice. In terms of early music performers, he believes they wear two types of masks: the historical mask representing the past, and the present mask representing the performer as they currently are. He sees both of these as assumed visual identities which, like masks, conceal one identity by

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[108] George Kennaway, "Trills and Trilling: Masks, dandyism, historical performance, and the self," *Music Performance Research* 7 (2015), 47.
[109] Ibid., 48.
[110] Ibid., 48.

suggesting another, clearly artificial, one. In the case of performers, a multiplicity of identities that can be adopted at will.[111]

Unlike many of the previous authors, anthropologist Gary Edson looks at masks and their purpose from three distinct functions: psychological, cultural, and political. He believes that masks evolved out of the need for identity verification, and that identity itself is a psychological, cultural, and political phenomenon.[112] Looking at these different functions, Edson believes that psychologically masks involved self-perception and projection, providing self-esteem, while culturally they provided a sense of distinctiveness for the group, and politically they created a sense of pride, empowering the group.[113] Musical instruments can also serve these three different functions to individuals while they are improvising.

Anthropologists Judi Young-Laughlin and Charles D. Laughlin also discuss many of the recurring themes in masking theories, such as that of transportation and the roles masks play in the context of performances, but also delve into other issues such as non-verbal communication and the exaggeration of the face in their article, “How Masks Work or Masks Work How?” They note that it is the face that is most responsible for non-verbal communication and cues, signalling emotion, intention, and more. Like Grimes, Young-Laughlin and Laughlin point to the Noh masking tradition in Japanese theatre where there is “no clearly demarcated distinction between face and mask but rather the seeming paradox of both at once.”[114] The entire face is not hidden, creating an

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[111] Ibid., 56.

[112] Gary Edson, *Masks and Masking: Faces of Tradition and Belief Worldwide* (London: McFarland & Company, 2005), 218.

[113] Ibid., 218.

[114] Judi Young-Laughlin and Charles D. Laughlin, “How Masks Work, or Masks Work How?,” *Journal of Ritual Studies* 2, no.1 (1988), 63.

ambiguity. If the mask transforms, perhaps the Noh mask indicates an intentionally incomplete transformation.[115]

Summary

While the subjects of masking and free improvisation practice are quite different and the authors of literature on these subjects come from vastly different backgrounds, there are certainly a number of obvious parallels between the two subjects. Concepts of self-expression, the role of the audience, social connections forged through masking (and improvising), using masks (or instruments) to present a different face to the world but also reveal different parts of oneself, and experiencing transformation through masking (or improvising) are important concepts in both masking tradition and group free improvisation. While none of the literature reviewed draws parallels between these vastly different fields of research, there is much common ground suitable for exploration that can contribute to this study.

[115] Ibid., 63.

CHAPTER 3: METHODOLOGY

This research study employs both qualitative and quantitative data collection, which was referenced to the overall hypothesis that musical instruments function as masks in the context of free improvisation. Seven sessions, involving a total of thirty participants, took place over the course of nine months in different locations across Canada, involving groups of improvisers who performed collectively and individually. While it was intended to have a gender-balanced sample of subjects, this was not achieved and there are a larger number of male participants. Qualitative data such as subject observation and interviews were employed as well as quantitative data such as questionnaires in which subject responses were given on a scale of 1-10. Each session involved two interviews, seven questionnaires, and six different improvisational exercises performed individually and in groups. The goals of this study required gathering statistical data regarding subject feelings about individual exercises, which could then be either supported or expanded upon through subject interviews and/or analysis of recordings of performances within the study. The specifics of each of these research elements will be discussed in greater detail throughout this chapter.

Subjects

For this study, thirty subjects with skills on a variety of instruments were selected. While many studies that bear some similarity to this one restrict subjects to one instrument, this aspect was left open in order to identify whether or not an individual's relationship with their primary instrument differed according to instrument type. The study required all subjects be under the age of thirty, have some experience with improvisation but not self-identify as professional improvisers, and be currently or formerly registered in a university music program. There was no year limit placed on how recently participants had left school and it did not matter if they had graduated from music study. These parameters were intended to ensure subjects would be experienced and comfortable enough to complete the exercises without any guidance while also avoiding participants with professional experience and potentially greater levels of confidence. Because it was ideal for all participants to have roughly the same amount of experience, participants who had previously improvised in university music courses and were under the age of 30 were considered ideal. Because many of these subjects were undergraduates it should be noted that while their technical facility was quite strong, their instrumental ability was not at the level of seasoned professionals.

Subjects were tested in three different cities: Waterloo, Ontario; Toronto, Ontario; and Lethbridge, Alberta. Of the thirty subjects employed, twenty were male and ten were female. Thirteen completed the study in Waterloo (in three different study groups), eleven completed the study in Toronto (in three different study groups), and six completed the study in Lethbridge (in one study group). Each study group consisted of three to six participants, each playing different instruments. While it was preferable to have a completely gender-balanced sample of subjects, it proved to be very difficult to find an equal number of women matching the parameters of the study. In each of the cities and respective music programs subjects were selected from, there were more males studying or participating in musical improvisation.

Subjects in Waterloo were tested at both the University of Waterloo and Wilfrid Laurier University. The majority of these students were classically trained musicians who currently or formerly studied music at Wilfrid Laurier University, with one participant who had previously studied at the University of Guelph. Several of these participants knew each other prior to the study. The instruments used in these sessions included:

piano, acoustic guitar, keyboard, saxophone, percussion, violin, voice, trumpet, and clarinet.

Subjects in the Toronto groups were tested at York University and featured a greater mix of classically and non-classically trained musicians. Most of these students were currently studying music at York University; however, one subject had studied at the Glenn Gould School and another at the University of Toronto. While some of these students were acquainted with one another, no more than three per session had had a previous association. The instruments used in these sessions included double bass, violin, trombone, classical guitar, electric guitar, piano, voice, and percussion.

Subjects in Lethbridge were tested at the University of Lethbridge and all were currently studying there. These students were all enrolled in the Integra Contemporary and Electroacoustics (ICE) ensemble under the direction of Dr. D. Andrew Stewart. The majority were multi-instrumentalists and not classically trained. Five of the six participants played some form of electronic instrument (synthesizers, electronic keyboard, electric guitar with pedals, and electric bass with pedals), while one performed on acoustic piano. These students were specifically chosen in order to investigate the relationship between electronic musicians and their instruments, and to explore whether or not this relationship differs from that of acoustic instruments.

The breakdown of subject instrumentation was as follows:

Instrument:	**Number of subjects:**
Voice	5 (2 classically trained/3 non-classically trained)
Piano	4 (3 classically trained/1 non-classically trained)
Guitar (acoustic)	3 (2 classically trained/1 non-classically trained)
Guitar (electric)	3 (3 non-classically trained)
Keyboard (electric)	2 (1 classically trained/1 non-classically trained)
Percussion	2 (2 classically trained)
Violin	2 (2 classically trained)
Trombone	2 (2 classically trained)
Synthesizer	2 (2 non-classically trained)

Saxophone	1 (1 classically trained)
Trumpet	1 (1 classically trained)
Clarinet	1 (1 classically trained)
Bass (acoustic)	1 (1 classically trained)
Bass (electric)	1 (1 non-classically trained)[116]

Interviews

The design of this study required each participant to engage in two one-on-one interviews with the researcher. All interviews were recorded via video camera and audio recorder and were later transcribed in full. The first subject interview took place at the start of each session and was meant to determine each participant's subjective understanding and use of certain terminology. Some of these terms included what it means to feel connected when improvising; what it means to feel inhibited when improvising; how to tell if you're improvising well; how to tell if you're communicating with others while improvising; and what it means when people describe their instruments as extensions of themselves.[117] These questions were intended to stimulate the subject's thinking about all aspects of musical improvisation and to clarify how they interpreted words such as "connection," "inhibition," and "communication" as they applied to improvisation, as these words occur frequently throughout the study. These interviews varied in length between three and fifteen minutes. Interview lengths appeared to have no correlation with each subject's musical personality, however those that considered themselves to be shy were most likely to have shorter interviews.

The second interview took place at the end of the study, after all performances and questionnaires were complete. This interview was significantly more detailed and sought to expand upon feelings measured in the questionnaires as well as to ask

[116] Some subjects self-identified as being both classically and non-classically trained, having a variety of approaches in their past musical education. These subjects were categorized based on whether or not their initial music education was classical or non-classical.

[117] See appendix A for complete list of pre-study interview questions

additional questions meant to delve deeper into each subject's relationship with their instrument.[118] It was designed to be much more personal, asking questions such as which exercises were most and least comfortable and why, while also examining the subject's feelings about communication through improvisation. These interviews varied in length between six and twenty-five minutes. As observed previously, those that considered themselves to be shy were most likely to have shorter interviews. These participants were given the same amount of time to answer the interview questions but tended to keep their answers briefer than the others did, and were less likely to provide specific examples or offer additional information.

Questionnaires

In addition to subject interviews, participants completed one questionnaire following each performance exercise in order to document and assess their feelings and impressions, which were later compared against one another.[119] A longer final questionnaire took place at the completion of all performance exercises; it was intended to gather more information on feelings about the study as well as to measure consistency among responses since many of the questions asked earlier were repeated. Participants were asked to relate to each statement on the questionnaires via a scale of 1-10, with 1 indicating strong disagreement and 10 indicating strong agreement. This scale was chosen over a standard five-category questionnaire (containing statements such as strongly agree, agree, neutral, disagree, and strongly disagree) in order to allow participants to express a wider range of responses and be able to best express their level

[118] See appendix B for complete list of post-study interview questions
[119] See appendices C-I for all study questionnaires

of agreement, disagreement, or neutrality. The following are a few examples of statements that appeared frequently on the various questionnaires:

- I felt connected to the other players when performing [in the individual exercise]
- Performing [in the specific parameter of the exercise] makes me feel less inhibited
- I felt safe taking musical risks [in the individual exercise]
- I felt that I was able to communicate with the other players [in the individual exercise]

Questions such as these made it possible to compare responses such as perceived connection, communication, and inhibition across the various exercises and identify patterns according to instrument type, gender, musical background, or study location.

Audio and Video Documentation

All of the interviews and performance exercises were documented via both audio and video recordings. Participants were informed of this before participating in the study, though several mentioned afterwards that the camera made them nervous. While there was no live audience present other than the researcher, the camera functioned as an external observer. While it could not provide any kind of live reaction, participants were always very much aware of its presence throughout the study. Video footage was collected via a Canon Vixia HFM31 HD video camera mounted on a tripod and audio recordings were collected with a Zoom H4n digital recorder mounted on a miniature tripod. Both video and audio footage were used so that, if necessary, performances could be analyzed and subtleties of improvised performance that cannot be documented with audio alone, such as visual cues and other forms of communication, could be observed. This was also used as a means of identifying obvious discomfort in participants during specific exercises. While this was not always easily identifiable, subjects were sometimes observed fidgeting during exercises, holding onto their instruments despite not needing them for specific exercises, or looking down or facing away from other musicians, making it difficult for them to connect or communicate fully.

Exercises

In addition to subject interviews and questionnaires, the primary element of the study was the participant exercises. The exercises began after all subjects completed their first interviews. For the most part these were performed as a group. After each exercise, participants were given a short questionnaire so that they could express how they were feeling about each exercise while it was fresh in their minds. The exercises and their order of presentation were specifically chosen so that participants would presumably feel more comfortable as the study progressed, with the exercises deemed to be the easiest to complete occurring earlier in the study. All of the exercises took place in a controlled environment, meaning participants performed only for each other, the researcher, and the video camera inside a classroom. Literature on free improvisation often discusses the role of the audience, and particularly how performers can be influenced by it; it can change the direction of a performance. The focus of this study was to create an environment in which participants were comfortable expressing themselves and analyzing their experiences in each exercise. Because of this, it was deemed necessary to limit external forces so that participant's musical ideas would be dictated only by themselves and the other performers – not by an audience.

The Warm-Up

The first exercise was a warm-up done in two parts. The intention was to give participants an opportunity to perform with one another without any strict parameters, as a means of enabling them to feel more comfortable and familiar with the instruments and music created by the other participants in the study. The expectation was that this exercise would not rank particularly highly with participants in any category, such as feelings of inhibition, communication, or overall comfort. It was meant only as a starting point.

The first part of this exercise was a structured improvisation called “round table,” in which the participants were arranged in a circle and one person was designated by the researcher to start the piece. The first person may play whatever they like and, after they have started, entrances move in a clockwise direction, with each participant choosing the ideal point to enter as it makes sense to them musically. Once each participant has entered one by one in order, each player then drops out one by one in the same order, leaving one participant playing alone at the end. A basic structure was provided to begin the study as a way of helping participants open up and avoid having to think about their points of entry and exit. These structured improvisations ranged in duration from 2.5 minutes to 4.5 minutes.

The second part of this exercise was a free improvisation with no specific guidelines. Participants were simply advised when the recording had started and were invited to play at any point after that. In order to facilitate the most comfortable performance situation – one eliminating reliance on directions and rules – the ‘free’ exercise was given subsequent to the structured one. This was done to help the participants better anticipate what they might hear from the other musicians. These unstructured improvisations ranged in duration from two to four minutes, with the majority being under 3 minutes. Presumably the unstructured versions of the exercise were shorter because there were no set entrance or exit points.

The Dark Room

The second exercise of the study involved performing a group improvisation in a darkened space. Having already warmed up with the other participants in both structured and free settings, the intention of this exercise was to get participants to open up and feel comfortable taking risks early on in the study. This exercise was born out of my observations teaching improvisation at the post-secondary level where students almost always took greater musical risks and played more confidently whenever the lights were turned off. The intention was to have that level of comfort and confidence be experienced during this study, but to also have those feelings of security extend into the subsequent exercises, which were expected to be more difficult. The expectation of this exercise was that participants would find the darkened space more relaxing, would feel more confident as performers and be more willing to take musical risks with the darkness masking them.

For this exercise, participants were asked to perform one free improvisation as a group. No structure, rules, or guidance was provided. Ideally, this exercise would have been performed in complete darkness in each study group, which was not always possible to achieve. While all of the Waterloo groups were tested in complete darkness (in rooms with no windows and all lights turned off with opaque coverings on door windows), this was not possible to achieve elsewhere. For example, the Toronto subjects were tested in the music department at York University, where either there are windows where light seeps in, or the rooms are not capable of full darkness while people are inside due to the light sensor system. To remedy this, subjects were tested in the darkest room possible and were asked to face away from each other. This way, they were provided with some cover of darkness and were still unable to see one another. While it was possible to create complete darkness in the testing room for the Lethbridge group, some students were using laptops that generated their own light, providing a small amount of illumination in the darkened space. Test results showed that participants did not experience any significant difference when the space was completely dark or simply darkened. The most important element, according to participant interviews, appeared to be that subjects could not see one another, and this was achieved in each session.

The dark room improvisations varied in length between two, five and ten minutes, with the majority being under four minutes. This was the only element of the study in which video footage was not regularly collected due to fact that the darkness prevented the video from focusing properly. Video recordings were made only for two of the three Toronto sessions in which there was enough light to create a basic, low quality video recording; however, audio recordings were collected for all of these sessions.

Instrument Switch

The third exercise of the study involved having participants improvise as a group with instruments other than their own. The intention was to see how participants would respond when their primary instrument, which they presumably had an attachment to, was taken away. The expectation of this exercise was that most participants would find it more difficult to improvise without their primary instrument due to feelings of unpreparedness or a lack of technical facility. While this was true for some subjects, others found it liberating to be away from their primary instrument, feeling that there was no longer any pressure to play well; they could do whatever they wanted.

For this exercise, participants were instructed not to use their primary instruments but rather switch with one another or find objects in the room to improvise with. Subjects were asked to perform a free piece with no specific structure or rules. All of the locations in which the study sessions took place were classrooms in university music departments (such as the University of Waterloo, Wilfrid Laurier University, York University, and the University of Lethbridge), and many of these rooms already had instruments in them (such as pianos, and in some cases percussion instruments). While most subjects switched instruments with each other or chose conventional instruments already in the room, a small number of subjects chose objects such as music stands, chairs, a guitar footrest, and chalk and an eraser on a chalkboard.

The Instrument Switch improvisations varied in length from two minutes to just over four minutes with the majority being three minutes or less.

Voice Alone

The fourth exercise of the study was another two-part exercise in which participants were instructed to use only their voices to improvise. As with the Instrument Switch exercise, Voice Alone was intended to take each participant's primary instrument away and see how he would respond under different performance circumstances. As with the Dark Room exercise, the researcher had tried something similar before in a classroom setting with post-secondary students. In those classes, students in general seemed to enjoy using their voices to improvise, creating a wide variety of sounds and textures not normally heard in other contexts within the class. However, in those previous classroom experiences, it was clear that students already comfortable using their voices tended to play very dominant roles in improvisations and those not comfortable tended to sit back and blend in with the sound as best as they could, perhaps trying not to be noticed. The expectation of this exercise was that it would be divisive. As with the previous experiences in a classroom setting, it was expected that those already comfortable singing and using their voices (such as the vocalists in this study) would greatly enjoy the exercise, while those who were not would potentially find this exercise difficult, feeding into their inhibition. It was interesting to note that some participants chose to keep holding on to their primary instruments in preparation for this exercise, even though they knew they would not be using them (and had not needed them for the previous exercise either).

The first part of this exercise was a free improvisation performed with vocals alone. Subjects were instructed that, while they had to use some kind of vocalization, they did not have to use conventional singing techniques; any sound that came from the voice was acceptable. Subjects were asked to first perform a free piece, which it was expected they might find easier since those who felt more exposed could blend in however they wished. These improvisations varied in length between two minutes and three and a half minutes.

The second part of the exercise was a structured “round table” improvisation, just like the first Warm-Up exercise in which the participants were arranged in a circle with one person designated to start the piece. After the first person began, entrances progressed in a clockwise direction, with each participant choosing the ideal point to enter. Once each participant had entered, players then dropped out one by one in the same order, leaving one participant performing alone at the end. These improvisations varied in length between just over one and a half minutes and just over two and a half minutes.

Interestingly, while the structured version of the Warm-Up exercise was noticeably longer than the unstructured version, the opposite was true for the vocal exercise. It was expected that participants would find the structured version more difficult because participants could potentially feel more exposed while performing. It is possible that participants chose to enter and exit hastily in an attempt to get the exercise over with as quickly as possible.

Masks

The fifth exercise of this study involved participants improvising while wearing facial masks. This exercise was intended to see whether or not participants would feel greater security performing while masked, and whether or not this would affect feelings of inhibition. As with the Dark Room, this exercise provided a different type of masking for participants, with one another's faces obscured from view. It was expected that, like in theatre, performers would find wearing physical masks allowed them to express themselves differently, potentially allowing them to embody a different character that could be expressed musically. It was also expected that results would be similar to those of the Dark Room, as this exercise simply provided a different type of masking for participants. As can be seen in greater detail in the results section, this exercise ended up being a greater hindrance to participants than anticipated.

For this exercise, participants were instructed to perform a free improvisation as a group with no structure or direction while wearing a facial mask. Each participant was asked to wear a facial mask of their choosing, with 30 different ones provided. Each mask was painted and designed differently, allowing for individuals to pick the one they felt best suited them. All of the masks were painted, designed, and decorated by the researcher. Some covered the entire face and others only covered half of the face, making it possible for vocalists, wind and brass players to perform comfortably while wearing a mask. Interestingly, some vocalists chose the full facial mask, regardless of the fact that it partially obscured their voices. In addition to facial coverings, participants were provided with a variety of other items to mask themselves with such as scarves, hats, and "leis".

Participants were encouraged to take their time selecting masks and customizing their look in order to feel comfortable. While most participants chose to wear their masks, scarves, and hats in a conventional way, some chose to use the scarves to wrap around their heads, covering themselves to the point of being completely unrecognizable. None of the participants knew that masks would be a part of the exercises because they were concealed from view until this point in the study.

The complete selection of masks, scarves, hats, and “leis” can be seen below:

One difficulty with the Masks exercise was that, while some of the masks fit participants quite comfortably, others did not. All of the masks were the same basic size and shape and did not fit all faces universally. Participants were encouraged to take their time choosing and trying different types of masks on to ensure a comfortable fit before starting the exercise. Of the 30 participants, the majority (19 participants) chose to wear half-masks, with only 11 choosing to wear full facial masks. Two participants (both pianists) chose to cover their entire face with a scarf (both chose the same black scarf with white trim) during this exercise, and both wore a half-mask on top. The mask improvisations varied in length between 3 minutes and 5 minutes, with the majority being 3.5 to 4 minutes in duration.

The Mirror

The final exercise in this study involved two parts and required participants to perform a short solo while looking at themselves in a mirror, both with and without a mask. Participants were instructed not to break eye contact; and if they did, the researcher would blow an air horn, notifying everyone in the room of their error. The intention was to create a higher-stress environment for participants, one in which they were the centre of attention and it was possible to make mistakes. It was also another opportunity to feature mask wearing and examine whether or not masks provided any kind of security in a higher-pressure performance environment. It was expected that most participants would feel very much on display and would find it difficult to break free of inhibited playing. It was also expected that wearing a mask would ease these tensions to a certain extent, as it would create a visual barrier between the participant and their reflection in the mirror.

Participants were allowed to either stand or sit, depending on how they felt the most comfortable performing. A large mirror was placed on a music stand in front of them, a video camera was pointed very close to their face, and the researcher was situated as close to the mirror as possible to ascertain if and when the participants were breaking eye contact during their performances. Participants were instructed to keep their solo improvisations to approximately one to two minutes in length, without looking at a watch or clock. The other participants taking part in the study were in the room while each soloist performed. The first part of this exercise simply involved participants performing a short solo in front of a mirror while maintaining eye contact. For the second part, the parameters were identical except that participants were also asked to mask themselves before performing a second solo. Whenever the researcher noticed a participant breaking eye contact, an air horn sound would play; specifically, this was done via the "Air Horn!" phone application by Foncannon Inc. played at maximum volume.

While participants were specifically instructed to limit their solos to one to two minutes, the solos ranged from 50 seconds to 3.5 minutes in duration. The majority of these solos were under one and a half minutes and there was no significant difference in duration between the masked and un-masked versions of this exercise. As with the previous Masks exercise, two participants chose to further conceal themselves by putting scarves on or around their heads in addition to wearing a facial mask; those who chose to do this were not the same individuals that did so earlier in the study.

Threats to Validity

For most research studies, the ideal participants are acquired from the general population and represent a diverse cross section of their respective communities. For this study, while many participants met these ideal requirements, not all did due to the fact that the study required participants with very specific qualifications; they all had to be under 30, have experience in improvisation but not self-identify as a professional, and they all had to have studied music, or be studying music, at a post-secondary institution. Because of these relatively strict parameters, the majority of subjects considered ideal for this study were found through the researcher's own network of students and those of colleagues also teaching improvisation. It was extremely difficult to find suitable participants without using these connections. Originally, the researcher's intention was to test subjects in a broader variety of locations including Ottawa, Ontario, Calgary, Alberta, and Ann Arbor, Michigan. Professors of contemporary music and improvisation who knew current or former students who met the parameters were contacted in all of these locations; while there was some interest to participate in the study, there were not enough participants to put together a research session. As a result, the study was limited to three locations only.

No current students of the researcher were used for this study in order to minimize the "teacher effect", which could potentially result in students responding in an inauthentic way if they felt it might have an impact on course grading. The researcher's former students were featured primarily in the three Waterloo groups, since the majority of those participants had studied improvisation with the researcher previously at Wilfrid Laurier University. The Toronto groups consisted primarily of students of both Casey Sokol and Dorothy de Val at York University. They were recruited by the researcher while doing demonstrations in class and describing the study as a means of attracting participants. The Lethbridge group consisted entirely of students participating in the Integra Contemporary and Electroacoustics (ICE) ensemble, directed by D. Andrew Stewart. Information about the study was provided to Dr. Stewart, which he used to get his students interested in participating. Approximately half of the ICE ensemble ended up taking part in this research study. The participation of all subjects in all locations was completely voluntary and no compensation was offered.

Ideally, the subject pool would have been 50% male and 50% female. While this was always intended, it proved to be extremely difficult to find sufficient female subjects with the appropriate qualifications. It appears that there is a growing number of female students now studying improvisation (I have noticed a significant increase in female participation in my own classes over the past several years), however, there remained a shortage of female participants in most of the study sessions. For example, there were no women at all in the ICE ensemble at the University of Lethbridge, therefore no female subjects were tested in that location. As a result, female musicians accounted for only a third of the participants in this study.

While there are no previous studies that are completely comparable to this one, several studies have been conducted regarding the use of free improvisation as a potential therapy for performance anxiety. These studies also used human participants and were consulted since they most closely aligned with the research in this study. In comparing the performance anxiety studies with the current one, it was determined that the sample size of 30 subjects used in this study was acceptable. For example, research by Montello (1989), Kim (2008), and Allen (2010) showed comparable sample sizes. Montello sampled 20 university music students, Kim sampled 30 female piano students, and Allen sampled 36 piano students aged 7-18. Therefore a sample of 30 individuals on various instruments under the age of 30 seemed congruent with parallel studies by others.

CHAPTER 4: RESEARCH FINDINGS

The research for this study was gathered via both quantitative and qualitative means. In an effort to provide greater insight into the research findings and better understand subject responses, both quantitative and qualitative results will be discussed together in this chapter. While most of the research obtained by questionnaires show general trends in terms of how participants were feeling during the individual exercises, the accompanying interviews help to provide a more thorough insight into why participants responded the way they did and what factors were involved.

In terms of quantitative data, the primary sources used to gather this information were the questionnaires that participants completed after each exercise and completing the study. Because the answers on the questionnaires were ranked from 1-10 (with 1 showing strong disagreement and 10 showing strong agreement with each statement), results will be discussed in terms of averages found on these scales. For example, if a question is discussed as having a resultant average of 6.9, it means that the average response on the scale from 1-10 was 6.9, showing a stronger inclination on the side of agreement). Column charts are used throughout this chapter to better illustrate subject responses on all questionnaires and to illustrate the range of responses across the scale from strong disagreement to strong agreement.

The Warm-Up

As discussed in the previous chapter, the warm-up exercise was intended to provide an introduction to the study as a whole and give the participants the opportunity to play with one another without any strict guidelines or parameters. The questionnaire results indicated that this exercise did exactly what was intended.

The questions on the warm-up questionnaire were as follows:

1. I felt connected to the other players when performing warm-up pieces or exercises today.
2. I felt confident improvising with this group of players today.
3. I felt safe taking musical risks improvising with this group of players today.
4. I felt that I was able to communicate with the other players through improvisation today.
5. I preferred performing an unstructured improvisation with this group of players today.
6. I preferred performing a structured improvisation with this group of players today.
7. I prefer to improvise alone and in private rather than in front of people.
8. Improvising in a group is easier for me than improvising as a soloist.

Questionnaire responses showed that the majority of subjects felt a high level of confidence performing in this exercise (with an average of 7.4 out of 10 in response to that question), but a lower level of connection with the other players when compared to the other exercises. Of all instruments included in the study, pianists scored highest in terms of confidence with 75% of pianists scoring between 8-10 on this scale. Guitarists and vocalists ranked the lowest on this exercise in terms of confidence with an average of only 5.8.

When asked about feelings of connection with the other players, participants scored an average of 6.8, which, while still relatively high, was a lower result than all other group exercises with the exception of the Instrument Switch exercise. This was possibly a result of participants just beginning to play and get comfortable with one another at this point in the study. Perceived levels of connection were lowest amongst the Toronto group (5.9), which featured the most players unfamiliar with one another and playing together for the first time. As noted later in this chapter, as the study progressed, participants felt significantly more comfortable with one another. The following charts illustrate the range of participant responses regarding the Warm-Up exercise and feelings of confidence and connection. For each chart in this chapter, the x axis represents each respondent's ranking from 1-10 (strongly disagree to strongly agree), and the y axis represents the number of subjects who responded with each number on the x axis.

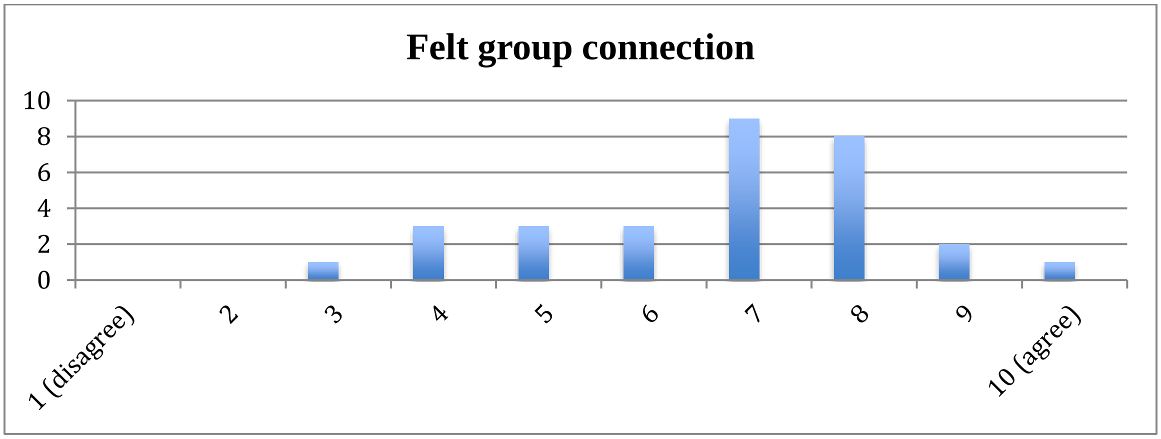

Figure 1. Warm-Up exercise – Felt group connection

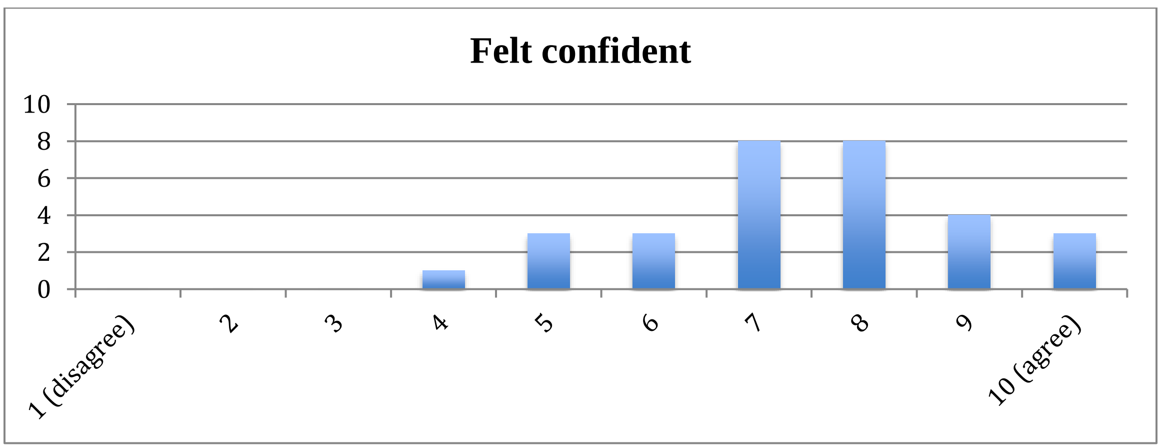

Figure 2. Warm-up exercise – Felt confident

Many subjects ranked this exercise quite highly (7.0 average) in terms of feeling that they were safe to take musical risks. While these results show how the participants were feeling, when watching and listening to recordings made from this study, evidence of significant risk-taking or playing outside the norm was not abundantly apparent since most subjects performed with noticeable hesitation. It is likely that participants felt comfortable in the space and were not afraid of being judged, though most chose not to play anything too adventurous or to take on a dominant role in these exercises.

Participants were in moderate agreement about feeling that they were able to communicate with the other participants. This question averaged 6.9 which, while showing agreement for the most part, was the lowest result of all group exercises in the study. This is not surprising given that, as previously noted, it was a warm-up exercise meant to help participants feel more comfortable. It is doubtful that at this point in the study a large number of participants would already be feeling completely comfortable playing with one another.

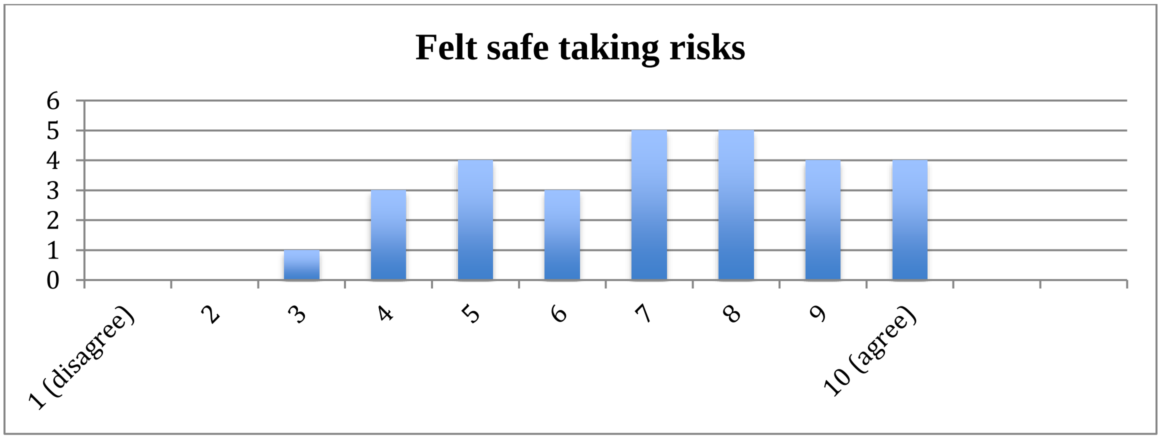

Figure 3. Warm-up exercise – Felt safe taking risks

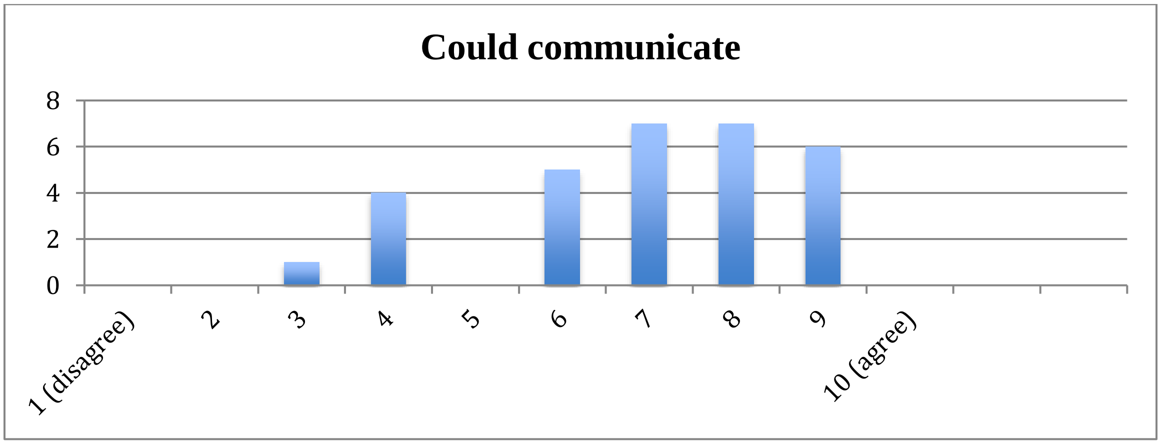

Figure 4. Warm-up exercise – Could communicate

Results were largely negligible in terms of preference for unstructured or structured playing. Most subjects were largely indifferent with a slight preference for the unstructured exercise, which was the second exercise given. The unstructured version averaged to 6.3 and the structured averaged to 6.0. Subjects were also asked if they preferred improvising in a group or as a soloist. The majority of subjects were neutral in terms of preference with a small majority finding group improvisation to be easier. The few respondents who strongly preferred improvising alone were predominantly male pianists and included a mix of classically and non-classically trained musicians.

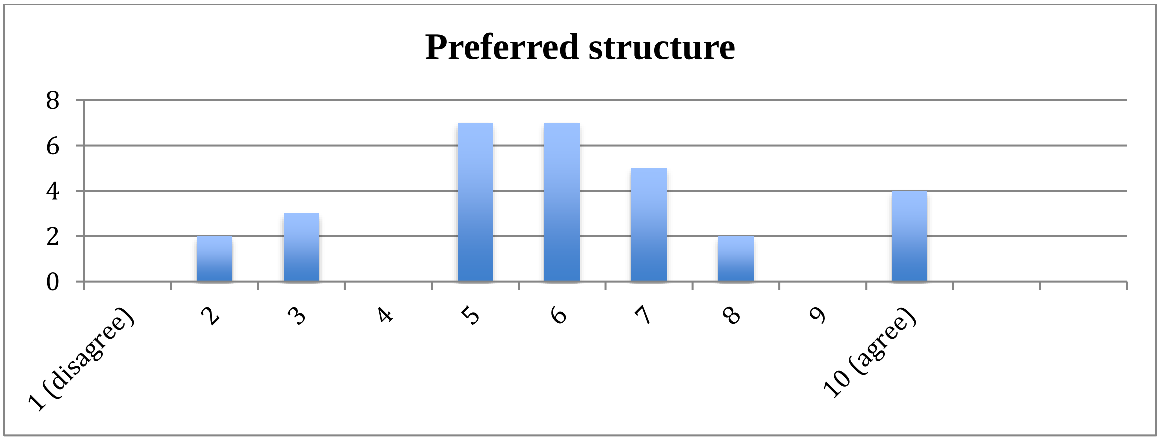

Figure 5. *Warm-up exercise – Preferred structured playing*

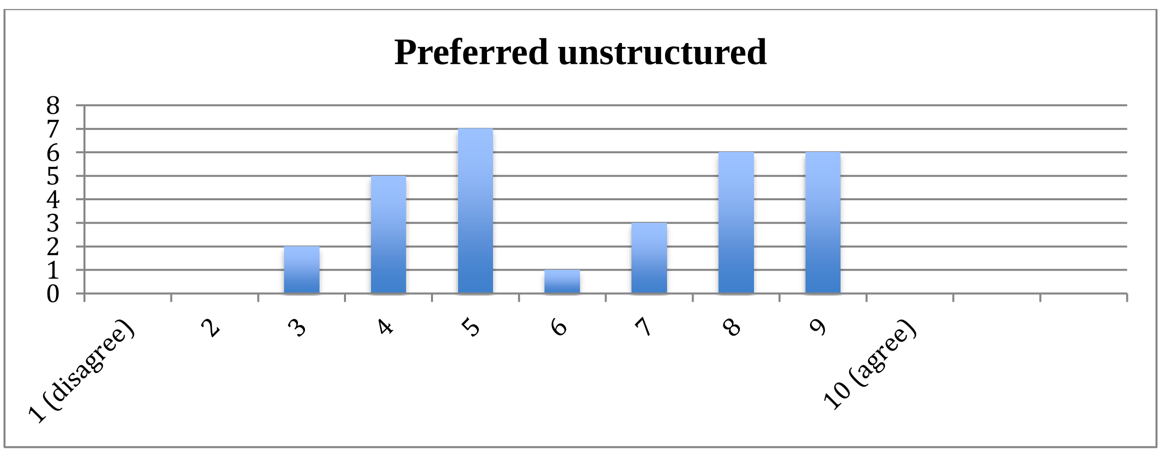

Figure 6. *Warm-up exercise – preferred unstructured playing*

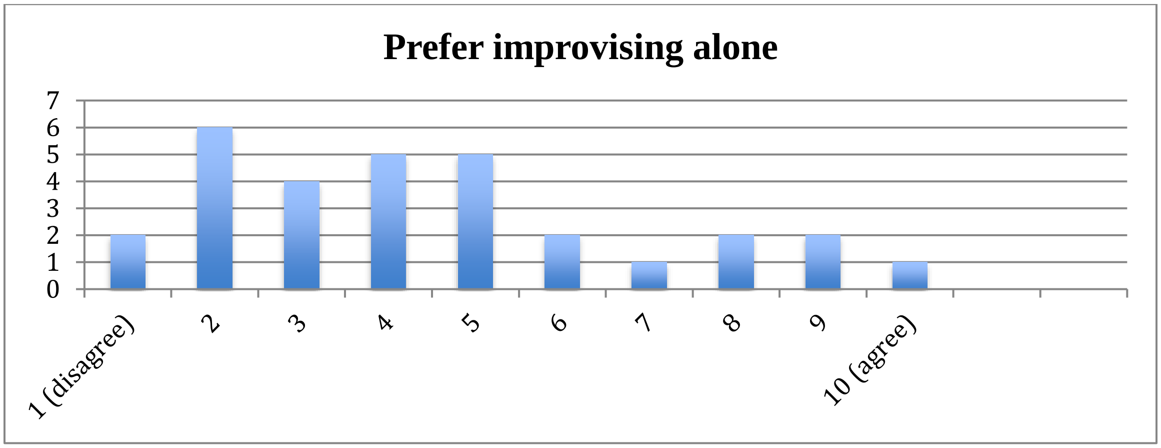

Figure 7. Warm-up exercise – Prefer improvising alone

The Warm-Up exercise offered an opportunity to prepare subjects for the rest of the study, but it also provided a relative baseline with which to compare responses from the other exercises. The Warm-Up involved nothing out of the ordinary and simply required participants to play whatever they liked in both structured and unstructured situations.

In the post-study subject interviews, the Warm-Up exercise did not appear to be overly impactful for subjects, in either a positive or negative way, as it was rarely mentioned. Some general statistics about this exercise in terms of how it was discussed in subject interviews are as follows:

- 10% claimed the structured version of the exercise helped them loosen up
- 10% claimed the structured version of the exercise aided their creative process
- 13.3% found this exercise to be the easiest of the whole study
- 13.3% found this exercise to be the most difficult of the whole study

While 10% of subjects claimed that the structured version of the warm-up exercise helped them to loosen up, this seemed to have a lot to do with who was designated to start the exercise. Those that were asked to start more often found this exercise helpful in loosening them up because they were able to determine how the improvisation was to begin, providing them with a great deal of control in terms of how musical events unfolded. Of the 10% of subjects who mentioned the warm-up as aiding their creative process, all of them specifically stated that it was the structured version of the exercise that made them feel this way. Of the 13.3% of subjects that found the warm-up to be the easiest exercise of the study, the majority found the structured version to be easier while just one participant found the unstructured version to be easiest. However, quite surprisingly, just as many participants (13.3%) chose the warm-up to be the most difficult exercise of the study. Of the subjects that felt this way, half felt no distinct difference between the structured and unstructured versions and the remaining half felt the unstructured version specifically was the most difficult.

While none of these quantitative results are overly significant, it is interesting that an exercise that was intended only to make participants feel comfortable in the setting and playing with one another was still able to create strong feelings (both positive and negative) for a minority of subjects in the study. Some of the reasons why these subjects found the exercise to be helpful in loosening up were as follows:

- "It's simple and it forces you to make a decision that you might not otherwise make." – Male violinist
- "I liked that I had to literally start everything off…it just got my mind right into it…Just having to go first right away just kind of put me right in the zone." – Male bassist
- "I got to start it, so it was kind of something in my control." – Male pianist

Subjects who felt the exercise aided their creative process or felt it was the easiest exercise in the study made similar statements, such as:

- "That one gave me a clear place to enter and exit and I felt that I could build my own arc that way and hear what everyone else's arcs were. It was more a listening exercise…I liked that the focus was for me not driven by my playing." – Male pianist
- "The structured improvs…allow us to follow within certain constructs, so when you're doing free improv that can be anything. It can be really vulnerable for people." – Female clarinetist
- "I think at the beginning it's exciting to play with new people…it was interesting to do the round table where somebody new joins and I have no idea what their

> style is – what they're going to do. So I always take a step back, that's something that I know about myself, and listen and look before I leap." – Male guitarist

Participants who found the warm-up exercise to make a positive contribution to their overall creativity or comfort cited one or two elements of the exercise to be significant: the fact that it had a structured component creating some direction for participants or because they themselves were starting the exercise and were thereby given an additional element of control. Many participants who began the exercise experienced the exercise in a more positive light overall. The participants were never given any direction regarding what musical material they could or should play. They were only told who would start playing and in what order entrances would take place. All comments made about this being a positive creative exercise mentioned either the element of structure as being helpful or being chosen to begin the improvisation. Those that began the exercise generally experienced their musical contributions being followed or complemented by others. Generally speaking, it was observed that the male participants tended to play more dominantly than the female participants in the mixed sessions that contained both male and female participants.[120] Of the subjects who specifically stated that starting the round table Warm-Up exercise helped them loosen up, aided their creativity, or made it the easiest exercise to perform in, all but one were male. In terms of impact, the one female participant who mentioned the Warm-Up exercise as being useful discussed it strictly in terms of the structured exercises in general that were used throughout the study as being helpful to her. It is possible that, in general, women in this study took longer to warm up than the men did.

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[120] There were not any obvious patterns in terms of which type of male musicians (classical or non-classical) were the most prone to playing in a dominant fashion.

A few subjects viewed the warm-up exercise in a negative light. Four participants claimed that it was more difficult than any other exercise given to them, which is quite surprising given some of the parameters of the later exercises. Of those who felt this exercise was the most difficult, half were female and half were male. Some of the statements describing the difficulty of this exercise were as follows:

- "The first one was really hard, the warm-up, because it's like starting up. I'm never really good at start-ups, so that made me a little bit anxious." – Female trombonist
- "It's the beginning…so that was really stressful because it was four of us, some people I hadn't even met…and it was the first time hearing people's instruments." – Female vocalist
- "It was a warm-up, so we were all kind of rusty and it was a little bit chaotic…I kind of didn't really pay all that much attention to everybody else." – Male synthesizer player
- "I wasn't that confident, even like, who goes first, what are we going to do? Maybe because it was the first time, we just began to do it – I was just kind of finding my place." – Male guitarist

Those that found the warm-up exercise particularly difficult clearly felt that way because it was the first exercise and participants did not know what to expect. Most, but not all, of these participants were set up in groups that included at least one ensemble member that they had not met before, so they were unaware of what their musical style or individual personality might be. The primary reasons why some participants found this exercise to be the most difficult were simply because it was the first exercise and they were not yet warmed up or comfortable, and/or because their ensemble contained individuals they had never played with before. These types of comments were completely expected, though it is surprising that, even for a very small number of participants, the Warm-Up was more difficult than some of the later exercises in which certain levels of comfort were eliminated.

The Dark Room

The Dark Room exercise was intended to introduce the first type of mask into the study: the cover of darkness. It was believed that participants would feel more comfortable in a darkened space with other subjects unable to see them, forcing them to rely strictly on listening. What was not clear was whether or not the cover of darkness would be a hindrance in terms of communication, as visual cues such as body language and eye contact would be unavailable to use. Many subjects specifically noted these visual cues as being essential in group improvisation and something that they tend to rely on quite heavily during their pre-study interviews.

The questions on the Dark Room questionnaire were as follows:

1. I felt connected to the other players when performing in a darkened space
2. I feel more connected to the other players in the dark than I do when everyone can see one another clearly
3. Performing in a darkened space makes me feel less inhibited
4. I feel safer taking musical risks while improvising when people can't clearly see me
5. I don't need to see the other performers to be able to improvise well with them
6. Even with the lights off I feel that I'm communicating with the other players through improvisation

Participants in this exercise expressed a high level of connection with one another in comparison to the rest of the study, averaging 7.5; the only exercise that scored higher in this category was Voice Alone, which was quite unexpected. A high level of participants (8.1 averaged) felt that they did not need to see the other participants in order to improvise well with them. This is an interesting result because, as previously mentioned, several participants noted the importance of visual cues such as eye contact, body language, and facial expressions in order to improvise well and connect with other musicians. Clearly this is not as significant a requirement as many participants may have thought. The only element taken away from players in this exercise was the ability to see one another. Instead of relying on visual cues, they instead had to rely solely on their ears and listening skills, and many participants mentioned that experience as being significant for them.

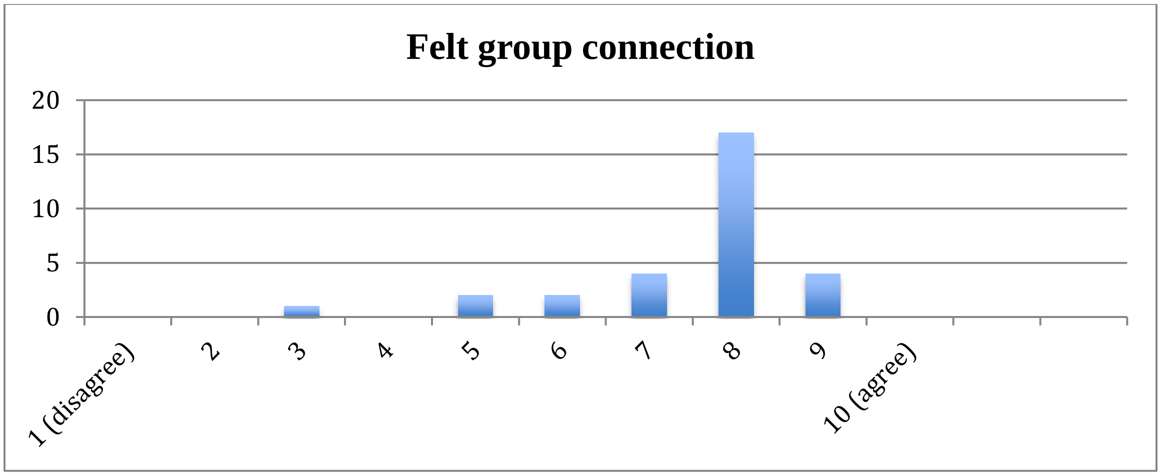

Figure 8. Dark room – Felt group connection

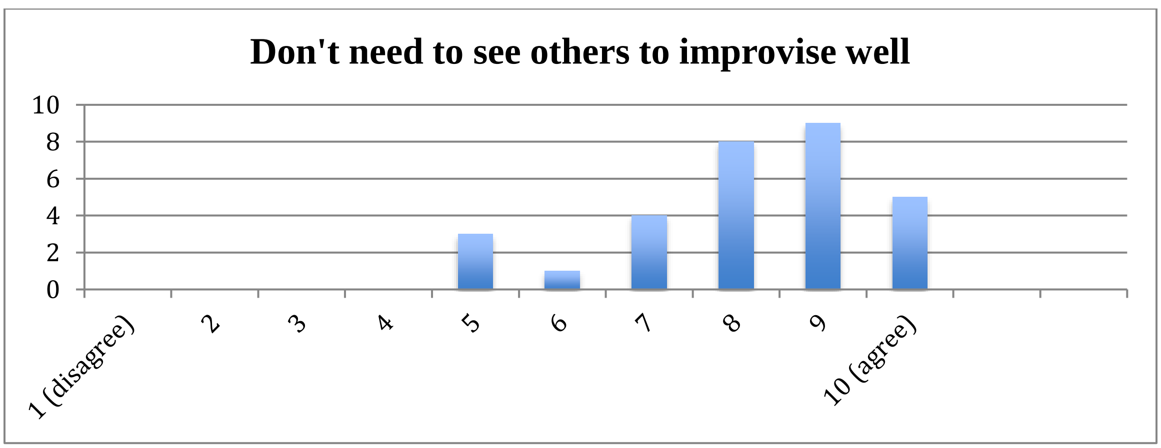

Figure 9. Dark room – Don't need to see others to improvise well

Remarkably, participants scored slightly lower (6.5 averaged) regarding whether they felt more connected in the dark, given that they could not see the other players. Clearly this was the exercise in which they indeed felt the most connected; however, it is likely that participants scored this question a little lower due to the fact that it appeared quite early in the study when there weren't as many group experiences to compare it to. Nevertheless, while this result was slightly lower than anticipated, it still ranked higher any of the other exercises. This exercise also ranked highest in terms of communication within the group. Participants felt they were communicating with one another significantly more in this exercise than in any of the others, with an average score of 8.6. This is significant given the importance that many participants placed on visual contact for both connecting and communicating with other musicians while improvising, which was impossible during the Dark Room exercise.

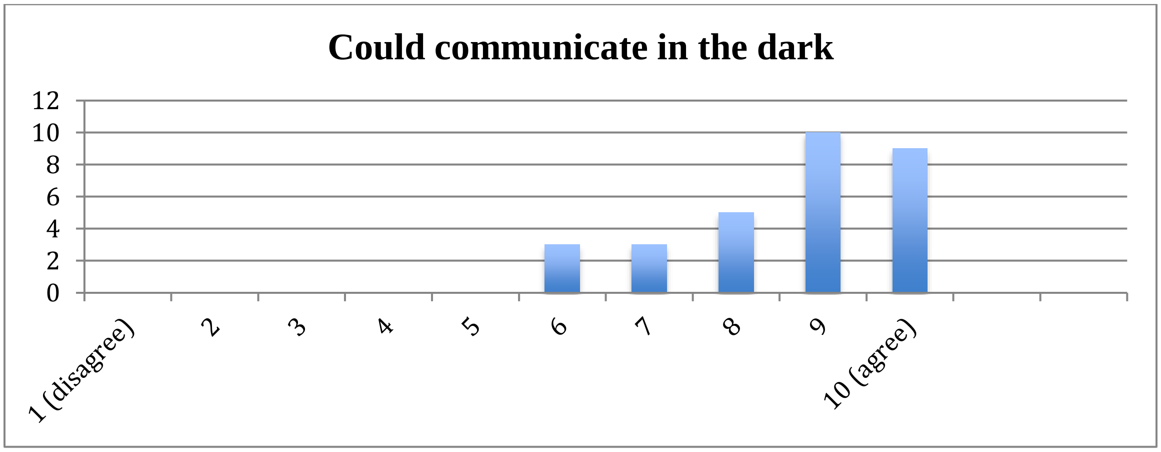

Figure 10. Dark room – Could communicate

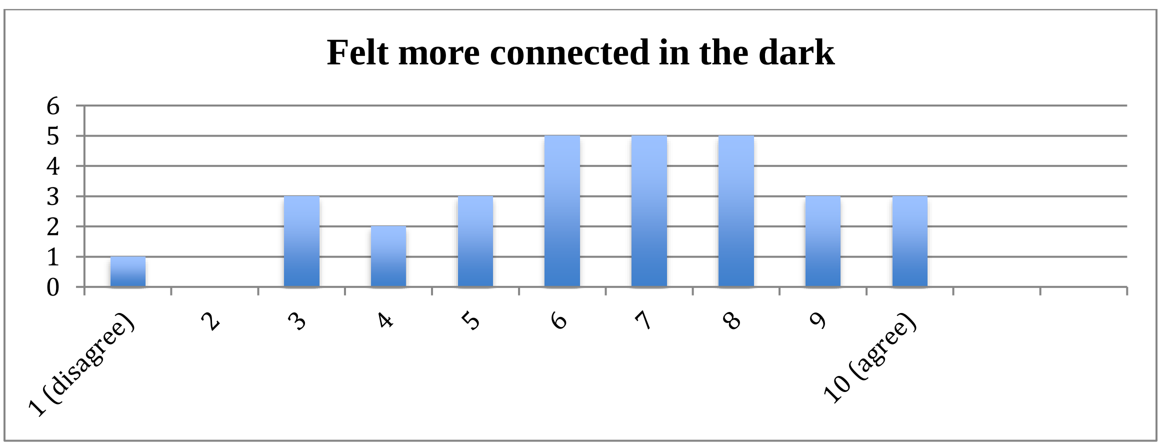

Figure 11. Dark room – Felt more connected

This exercise was expected to be the most impactful in terms of lessening feelings of inhibition and making participants feel safer taking musical risks during the exercise. These results were once again slightly lower than expected, but still high in comparison to the rest of the study. Participants scored an average of 6.6 in feeling less inhibited during this exercise, which was the highest result of all exercises. They scored an average of 6.9 in feeling safe taking musical risks, which was only second to the Warm-Up, which averaged 7.0 on the same question. Of those that felt safe taking musical risks in the dark, 53% self-identified as being shy; these are individuals that likely found greater security when the other participants could not see them. Those that self-identified as shy were asked to define what shyness meant to them. Some of the most common responses were a feeling of being uncomfortable in new situations or around new people, a wariness of conversing with new people, being tentative socially and musically, and an unwillingness to bring attention to oneself or be the first to speak (musically or verbally). The placement of this exercise early in the study may have impacted responses to these questions; however, the subject interviews allowed for a deeper understanding of this exercise and how it affected participants.

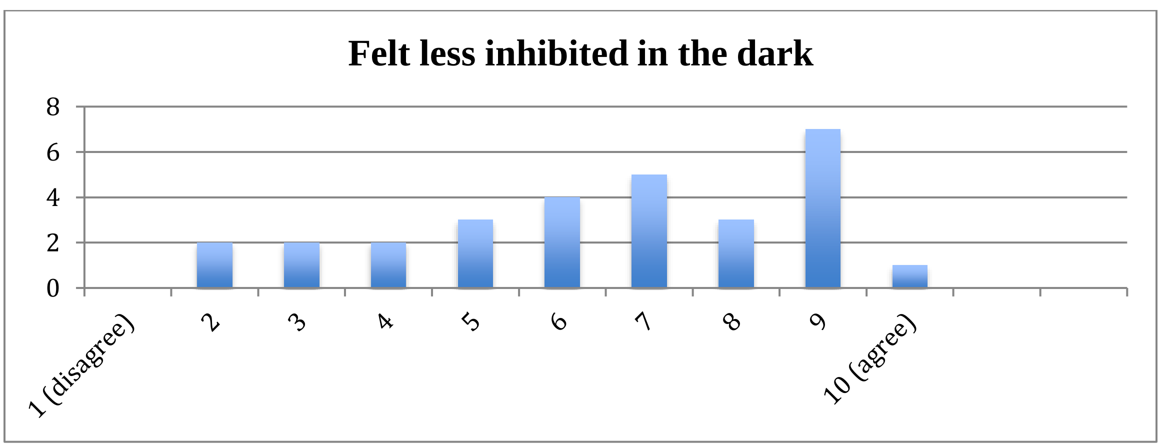

Figure 12. Dark room – Felt less inhibited

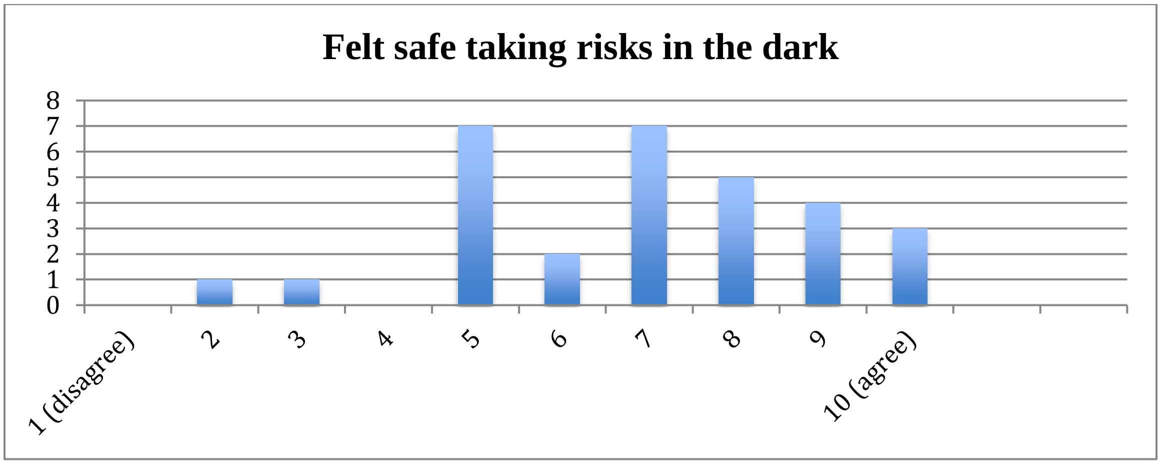

Figure 13. Dark room – Felt safe taking risks

In the subject interviews, this exercise was identified as one of the most impactful of the entire study. Many participants had very strong opinions about this exercise, almost always very positive ones. Some general statistics about this exercise in terms of how it was discussed in subject interviews are as follows:

- 46.6% claimed this exercise helped them loosen up (more subjects felt this way about the Dark Room exercise than any other)
- 23.3% claimed this exercise aided their creative process (this exercise was tied with the Voice Alone exercise for the most participants who felt this way)
- 43.3% found this exercise to be the easiest of the entire study (more subjects felt this way about the Dark Room exercise than any other)
- 6.6% found this exercise hindered their creative process
- 10% found this exercise to be the most difficult of the entire study

This exercise was mentioned in the subject interviews very frequently. While the majority of subjects found this exercise very easy to perform in or felt it helped them loosen up, two subjects felt that this exercise hindered their creative process. Surprisingly, one of these subjects stated that they also felt the exercise aided their creative process, but in very different ways. Those that felt hindered often felt so because the darkness impeded their ability to see or perform well on their instrument; these participants were pianists in every instance. It is important to note that this was only an issue in the sessions in which complete darkness was achieved. Those that felt the exercise was easy or aided their process in some way usually felt so because their sense of sight was removed and they in turn had to rely more heavily on their listening skills. While many subjects noted the importance of visual cues in their interviews, none mentioned the lack of this as being a barrier for musical connection in the Dark Room exercise.

Unlike the Warm-Up exercise, feelings about the Dark Room were much more statistically significant. This exercise was meant to help participants loosen up and feel less vulnerable because they would not be visible to the other participants in the study. This was certainly achieved for a high percentage of participants. Some of the participants who found the exercise helped them to loosen up made the following comments:

- "I think just losing that visual stimulus put so much more attention to what I was hearing. I noticed myself being able to absorb more of what everyone was doing as opposed to in other exercises…it was easier to listen to the sound as a group." – Male percussionist
- "I was no longer worried about the physical space I was taking up…I could just freely look around without feeling like I'm imposing on someone's private experience." – Female vocalist
- "It was the time when I was just most focused on my ears because I couldn't see anything. It made me listen a lot more." – Male synthesizer player
- "It inhibits other people's perceptions of you…it allows you to just listen." – Male electric guitarist
- "It takes away the main visual connection you have with everyone, so you're focusing more on sound." – Male percussionist

Subjects that felt the exercise aided their creative process or felt it was the easiest exercise in the study made similar statements such as:

- "It made us more creative as a group and me personally...it was more about listening for me." – Male percussionist
- "It was just so comfortable to not have to see anything." – Male pianist
- "It really helped me concentrate on the sound instead of having people look directly at me." – Female trombonist
- "You can just kind of get into your zone and still hear [the other musicians]…I feel a lot more free." – Female vocalist
- "I just felt more confident, I felt like I can take the lead." – Male guitarist

A very small number of subjects viewed the Dark Room exercise in a negative light. Two subjects stated that the exercise hindered their creative process and three subjects described it as the most difficult of the entire study. Those that experienced the Dark Room exercise in a negative fashion described their experience as follows:

- "Keyboard geography [was a problem]. But in other ways it made you look for different things. It hindered some things but it opened up other things." – Male pianist
- "In the Dark Room…there were two of us that were trying to take it in one direction, and two of us in the other. I don't know if I'm the only one that felt that, but I was trying to kind of be friends in both camps…it was hard to make stuff happen because I was so aware of that conflict." – Female trumpeter
- "I think it was hardest because they're both guitars [in my group] and I couldn't tell who was playing what and I had to just listen, I couldn't see anything else." – Female pianist

This exercise is significant in the outcome of this study because it is the only exercise in which participants had such strong positive feelings and so few negative experiences. For those that did find the exercise difficult, it was due to one of two issues; Either they were keyboardists in a group in which the exercise was conducted in complete darkness and their skills were compromised due to not being able to see their keys, or they simply happened to be in a group in which the instrumentation was not preferred or the direction the music was taking was not considered to be satisfying. The later cause is a variable that could potentially cause some inconsistencies throughout the study. If subjects felt that the improvisations created within each parameter were not adequate, it is possible that they would then rank the exercises as a negative experience overall. However, while this did come up occasionally in the subject interviews (as can be seen in the second and third quotation above), it did not appear to be an overwhelming factor in the outcome. Additionally, if this study were conducted again, it would be interesting to see if the keyboardists who struggled in the dark experienced this exercise differently had they been placed in a group in which the lighting was diminished but not completely dark.

Summary: Playing in the dark was the exercise in which participants felt they were most able to communicate with one another, most likely because, as many participants noted in their interviews, their sense of hearing was heightened, forcing them to focus much more intently on sound rather than visual stimuli. The results of this exercise also reveal that visual cues are not necessary for individuals to communicate through musical improvisation; participants regularly noted that they could communicate more strongly when they could not see one another. Participants were also more likely to feel safe taking risks, feel less inhibited, and feel connected to the other players. The only instances in which participants viewed this exercise negatively were when instrumentalists felt impeded by not being able to see their instruments, and random situations in which the music created was simply not deemed as satisfying, or participants experienced difficulty connecting with the other instruments that happened to be in their subject groups.

Instrument Switch

The Instrument Switch exercise was intended to more closely examine the relationship between participants and their instruments while also surveying whether or not using one’s primary instrument, in the context of improvisation, felt more secure. For example, if an instrument does in fact act as a mask, how would participants react when it was taken away? It was expected that participants would find switching instruments without adequate preparation to be quite difficult; however, several participants (particularly those classically trained) found it liberating.

Questions asked on the Instrument Switch questionnaire were as follows:

1. I felt connected to the other players when performing on something that was not my primary instrument
2. I feel more connected to the other players using my primary instrument than I do when playing a different one
3. Performing on something other than my primary instrument makes me feel less inhibited
4. I feel safer taking musical risks while improvising on something that is not my primary instrument
5. I don't need to play my primary instrument to be able to improvise well with the other players
6. Even on something that is not my primary instrument I feel that I'm communicating with the other players through improvisation

In comparison to the previous two exercises, Instrument Switch scored low for participants in areas such as group connection, feeling less inhibition, and feeling comfortable taking risks. In terms of feelings regarding group connection, participants scored an average of only 5.5, which was by far the lowest ranking of the entire study; most participants either disagreed or felt neutral about feeling connected with one another. In comparison, participants scored quite highly (7.5 averaged) when asked if they felt a greater connection with the other players when using their primary instrument. The only participants that strongly disagreed were two male guitarists and one male pianist.

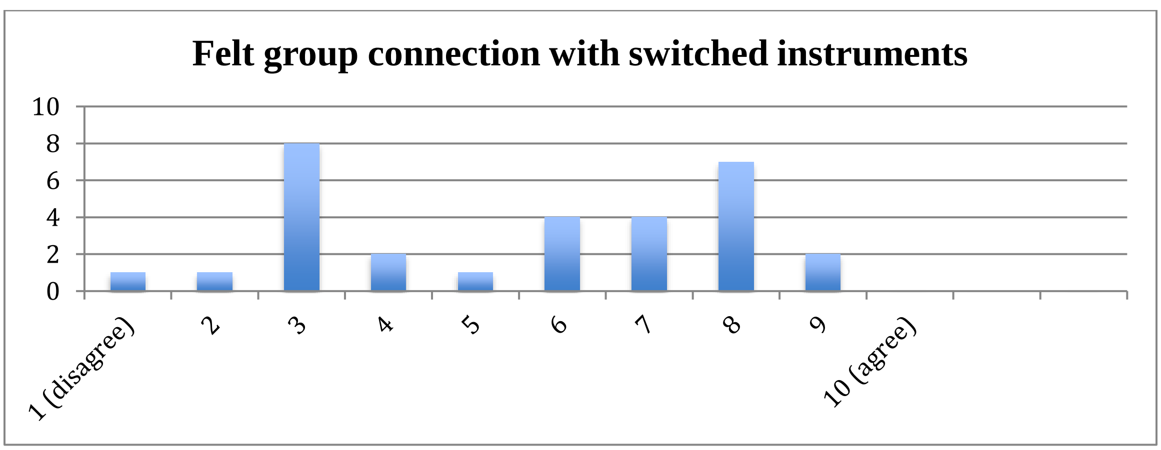

Figure 14. Instrument switch – Felt group connection

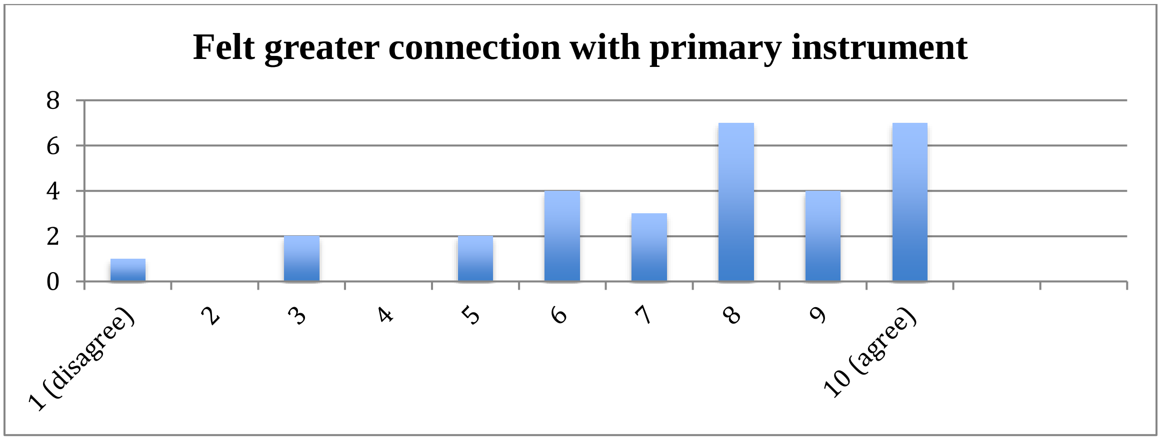

Figure 15. Instrument switch – Felt greater connection with primary instrument

When asked about feelings of inhibition and feeling safe taking musical risks during this exercise, responses were once again very low, but not the lowest of the entire study. In response to the statement, 'performing on something other than my primary instrument makes me feel less inhibited', very few participants agreed. Participants scored this question with an average of only 5.0, though there were four participants that did strongly agree with the statement, responding with either a 9 or 10. Of the four subjects who strongly agreed, two were vocalists, one was a guitarist, and one was a pianist; three of the four were women. In response to the statement, 'I feel safer taking risks while improvising on something that is not my primary instrument', the average was still very low, but did increase to 6.0. While the majority of subjects ranked this statement very low, three participants gave it a ranking of 10 (indicating extremely strong agreement), and all were in the Toronto sessions. Of those who disagreed the most with the statement, the majority participated in the Waterloo sessions and were also classically trained musicians. For example, when counting only the Waterloo participants, the average response to the statement drops to 4.8. However, when taking the Waterloo participants out, the average increases to 6.9. This is noteworthy because the Waterloo group contained nearly all classically trained musicians, whereas the other groups featured a greater mix of participants who were not classically trained. It is very likely that the classical musicians, who spent a great deal of time learning repertoire and practicing technical skills, felt much less comfortable when forced to play different instruments where they likely lacked technical prowess. For those who did not have this same kind of rigorous training, switching instruments in general seemed to be less of a concern.

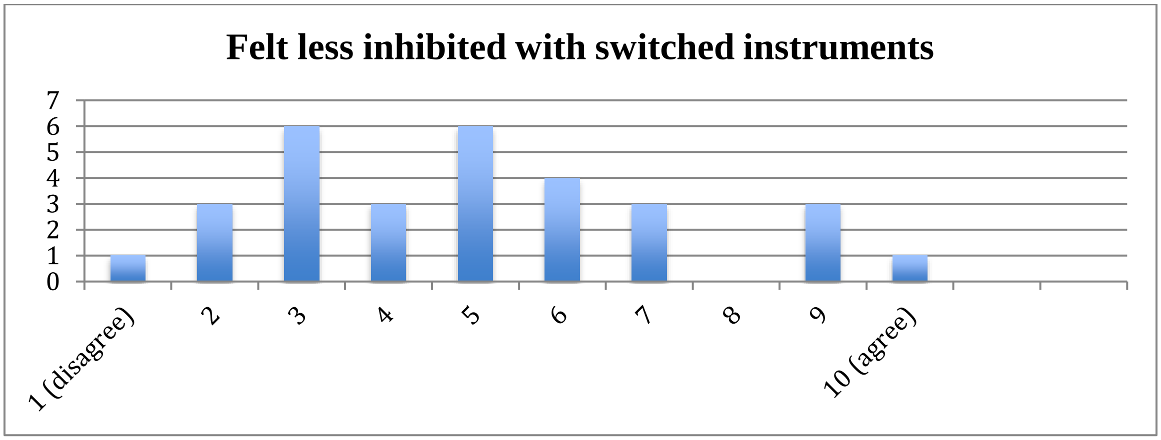

Figure 16. Instrument switch – Felt less inhibited

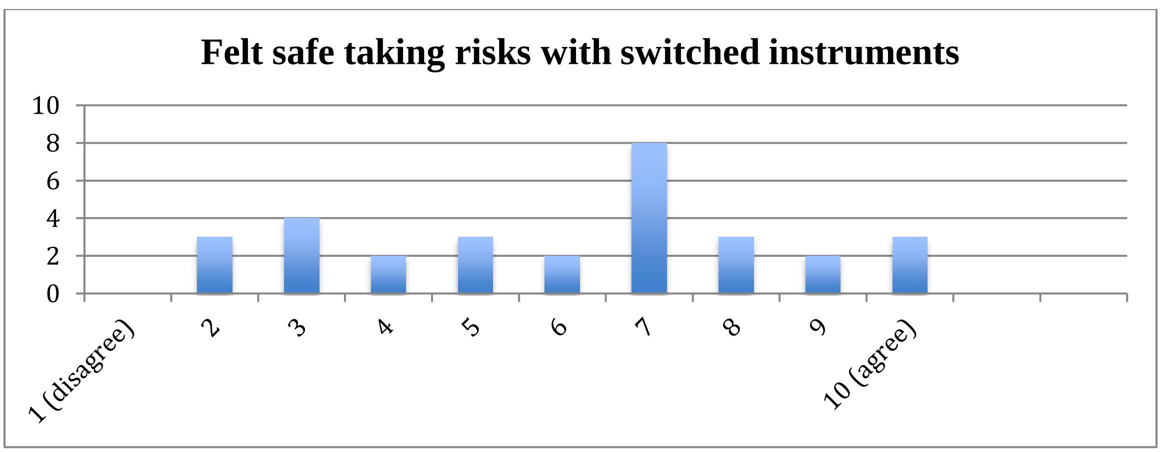

Figure 17. Instrument switch – Felt safe taking risks

While participants in this exercise generally felt less connected, more inhibited and felt less safe in risk-taking, there was some inconsistency in their responses regarding their ability to improvise with other players. In response to the statement, “I don’t need my primary instrument to be able to improvise with the other players", participants scored surprisingly high with an average of 6.6. Several of the participants who scored this statement with a rating of 9 or 10 also stated that they strongly agreed that they felt more connected with the other players when performing on their primary instrument as opposed to when they switched instruments. There seems to be some discrepancy here since many of the participants clearly did not feel that they connected well when they had to switch instruments, so it is curious that they would also feel that they don't need their primary instrument to improvise well. Most of the participants who scored this question highly were again in the Waterloo group, which contained the greatest number of classically trained musicians. In terms of feelings of communication, most participants agreed that they were still able to communicate with one another even when playing an instrument other than their own. This scored a 6.9 average, which was identical to the warm-up exercise and the lowest average of the entire study in this category. Once again, this statement was scored the highest amongst the Waterloo participants. Five of the Waterloo participants scored this statement a 10, indicating very strong agreement, however no other groups matched this level. Each of the three Waterloo groups had at least one participant who scored this statement a 10. It is interesting that even when a majority of the subjects felt more inhibited and less comfortable overall, the majority still felt they could communicate through improvisation, which is something that remained fairly consistent across each of the exercises in this study.

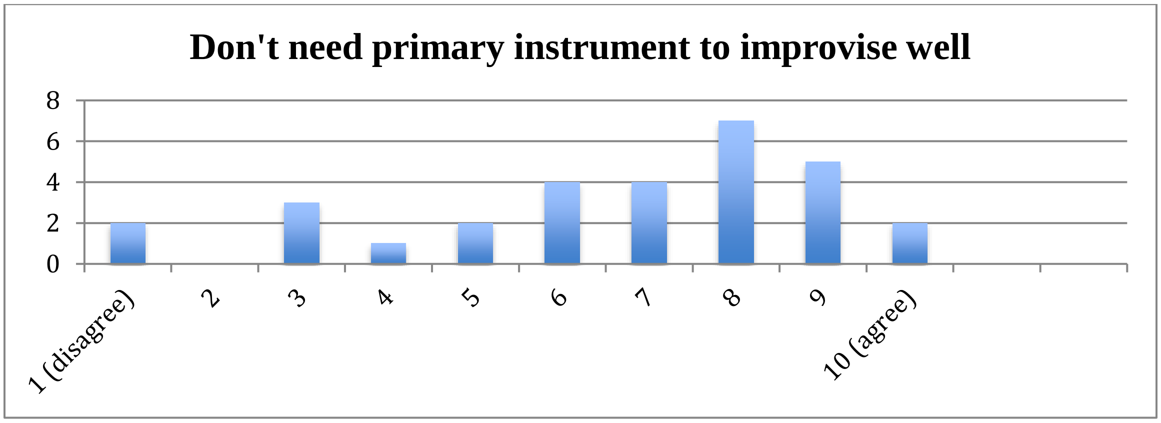

Figure 18. Instrument switch – Don't need primary instrument to improvise well

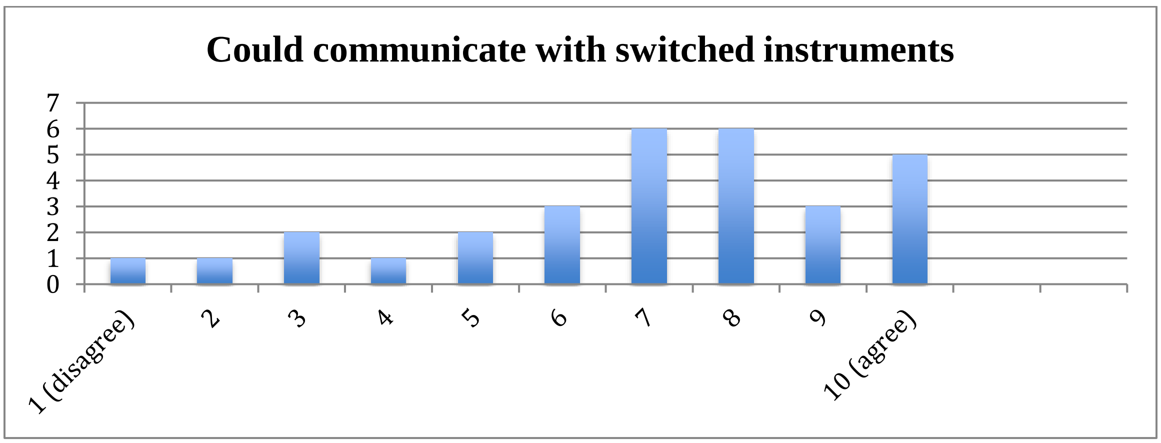

Figure 19. Instrument switch – Could communicate

In the subject interviews, this exercise did not come across as overly impactful. While it was mentioned in subject interviews in response to a number of different questions, it was not nearly as statistically significant as some of the other exercises, such as the Dark Room. Some general statistics about this exercise in terms of how it was discussed in subject interviews are as follows:

- 6.6% claimed this exercise helped them loosen up
- 13.3% claimed this exercise aided their creative process
- 6.6% claimed this exercise made it harder for them to open up or made them feel more self-conscious
- 16.6% found this exercise hindered their creative process
- 3.3% found this exercise to be the more difficult of the whole study

This exercise was mentioned in the subject interviews fairly infrequently. Those that did mention it seemed quite divided on whether or not it was a positive or negative experience. For example, 6.6% of subjects (two out of 30 subjects) found the exercise helped them loosen up, but the same number of participants felt it made it more difficult for them to open up as a performer. Likewise, 13.3% claimed the exercise aided their creative process while 16.6% claimed that it hindered their creative process. No subjects mentioned this exercise as being the easiest of the study and 3.3% of them (or 1 subject) felt it was the most difficult. These statistics are fairly insignificant in relation to the full study as so few participants felt this exercise impacted them in a significant way. The questionnaires indicated that most participants experienced this exercise more negatively; however, the interviews show that while the exercise was more negative than positive for most, it did not make a large enough impact for them to mention it regularly in their interviews.

Some of the participants who found the exercise helped them to loosen up made the following comments:

- “When I wasn’t playing my own instrument, I felt pretty confident because I didn’t feel like there were any expectations. I could do whatever I wanted. I could come up with anything and there was no pressure to be a virtuoso on it.” – Female pianist
- “Definitely using an instrument other than my primary instrument [helped me to loosen up]. So using the piano, one, it is something physically to kind of hide behind, but two you’re not really worried about accuracy or technique or anything, so you can just kind of treat it like a toy.” – Female vocalist

Only two participants felt strongly about the Instrument Switch exercise as helping them loosen up during the session. Both of these subjects were women and both were classically trained. Two ideas in these statements are worth examining. The first notion, which both participants have in common, is that the pressure to perform well and be technically proficient was completely removed in the context of this exercise. It is not surprising that two classically trained musicians felt this way; having said this, they do not represent the majority of these types of subjects. The other comment worth noting is that the subject who chose to switch to piano commented that they liked having the grand piano "to hide behind." This statement implies that for this subject, any instrument can serve as a mask, but in this instance, the mask is being used to hide oneself, not to reveal to express oneself differently. The participant who made this statement was a female trombone player. While the trombone is a somewhat large instrument, the physical size of the piano would certainly provide more of a mask to hide behind than a trombone. The piano's size alone does not allow for other people to stand close to the player.

In total, four subjects claimed that the Instrument Switch exercise aided their creative process. Those that made these statements were not the same participants that felt the exercise helped them loosen up. These participants made the following statements about how the exercise aided their creative process:

- "The one where we stopped playing our instruments and were told to play something we weren't familiar with. In a way, I think that helped me creatively in a macro perspective – being able to get away from my instrument, feel what it feels like to be somewhere else. And then when I got back on my instrument, it sort of felt like, oh yeah, okay, I know where I'm at now. I feel more control. That feeling of sort of being outside of it and then coming back really helped me." – Male guitarist
- "I think just like being able to switch up sounds by changing instruments – that did help." – Male electric bassist
- "The one where we were not performing on our instrument…because you kind of have something removed, but you're not so far out of your comfort zone." – Male synthesizer player
- "[The Instrument Switch exercise] was definitely fun because I got to try out a new instrument and hear everybody else trying out new instruments…so that definitely aided creativity." – Female vocalist

Of the participants that made the statements above, three were men, one was a woman, and all were non-classically trained musicians. The statements above are quite contrasting to those made about the exercise helping them to loosen up. These statements demonstrate the exercise as being a much more carefree and fun environment for these participants. None of these participants specifically mention the lack of expectation to perform well, but rather they discuss the exercise more as a welcome change that, in the context of the full study, offered some variety and gave them an opportunity to try something different. It is interesting that these subjects and the two mentioned above all found the exercise to be useful, but in different ways. Those that felt the exercise aided their creative process described a performance experience more enjoyable to engage in. Those that felt the exercise helped them loosen up felt so mainly because the pressures of being technically proficient were removed. These are two very different reasons for responding to the exercise in a positive way, however it appears that among those that found the exercise impactful, both classical and non-classical musicians had very different experiences and feelings within the exercise.

The participants that experienced the exercise in a negative light slightly outnumbered those that experienced it positively. For example, a total of six participants (20% of the entire study) either felt the exercise helped them loosen up or aided their creative process while a total of eight participants (27% of the entire study) either felt the exercise made it more difficult to open up, hindered their creative process, or was the most difficult exercise of the entire study.

Of those that felt the exercise either hindered their creative process, made it more difficult to loosen up, or was the most difficult of the study, the following statements were made:

- “I feel like it hindered the group because people I felt were just, oh, what can I do with this? This isn’t something I know. It hindered me in particular because there was some of that, but also because I like to think of exactly or almost exactly what I want to play and when I want to play it…and I just don’t have any fluency on a keyboard, so I was like trying to do group things that were rhythmic, textural based, but again I couldn’t really connect as well.” – Male violinist

- "I felt like I wasn't sure what I could do, what boundaries there were, and there weren't." – Female vocalist
- "It was kind of hard to create something when I picked up the bass because it was the first time I was playing it. I didn't know what was going on…but it wasn't difficult based on, oh I don't want to sound bad, because it was totally ok to sound bad. Everyone was sounding bad. It was just difficult to do it." – Male guitarist
- "Choosing a different instrument was really difficult because it wasn't my primary instrument. I didn't view it as an extension of myself – I didn't feel it." – Male pianist
- "The one without primary instruments was interesting because I could tell, I was really put off…I'm not finding the connection." – Female clarinetist

Of the subjects who viewed the Instrument Switch particularly negatively in their interviews, the majority were women, wind or brass players, and/or classically trained. 75% of the subjects that viewed the exercise negatively fell into at least one of these categories. Many of the negative comments from participants dwelled on issues such as feeling as if an element of control was lost with the parameters being quite limiting, and feeling uncertain about how to perform on a different instrument. Some participants specifically mentioned issues such as not being able to connect with the other musicians and not having the same kind of fluency or deep relationship with one's primary instrument. One participant specifically mentioned that the feeling of the instrument being an extension was erased, creating a very negative experience. While not overly significant in terms of the entire study, this exercise did affect some participants quite strongly, particularly those that felt exceptionally reliant on their technical ability on their primary instrument in order to perform well as an improviser.

Voice Alone

Like Instrument Switch, the Voice Alone exercise was meant to examine a different perspective regarding a participant's relationship to her instrument. How would participants respond when, once again, their instruments were taken away from them, and instead of external objects, they had to use their own voices to improvise with the group?

Because several participants were already vocalists, this was intended to see how the instrumentalists responded, but also to see how the vocalists responded when a level playing field was created with everyone using the same instrument. It was anticipated that the instrumentalists would feel much more exposed with this exercise, especially those that had little or no previous experience singing or using their voices to improvise. It was also expected that those that were already comfortable would find the exercise liberating, so a fairly discordant response was anticipated. As expected, this exercise was the most divisive of the entire study and showed more extreme responses than any other exercise.

The Voice Alone questionnaire was the longest of all the individual exercise questionnaires and featured the following questions:

1. I felt connected to the other players when performing using only my voice
2. I feel more connected to the other players using my voice than I do playing an instrument (non-vocalists)
3. Performing with only my voice makes me feel less inhibited
4. I feel safer taking musical risks while improvising with only my voice
5. I can improvise just as well with other players using only my voice as I can with a physical instrument
6. I feel that I'm communicating with the other players through improvisation when using only my voice as my instrument
7. When improvising using only my voice I feel that I can get away with fewer mistakes because I must rely on my own sound production rather than that of a physical instrument
8. When using only my voice, I preferred performing an unstructured improvisation
9. When using only my voice, I preferred performing a structured improvisation

In terms of feelings of connection within the group, this was the only exercise in which responses were either extremely high or extremely low, with very few people responding in the neutral range. Surprisingly, the average was 7.8 in response to the statement, "I feel connected to the other players when performing using only my voice", making it the highest average of all exercises in terms of feelings of group connection. What is interesting is that not only did participants claim to feel the strongest connection with the Voice Alone exercise; the majority did not feel that this connection was stronger than it was when using their primary instruments. Participants responded to that question with a very low average of 5.1. What is it that made the participants feel so much more connected in this exercise, despite also feeling that the connection was not as great as when using their main instrument? It is possible that this exercise simply took place at the right time in the study for the participants to start feeling more connected; however, the forthcoming discussion about subject interviews will shed more light on this.

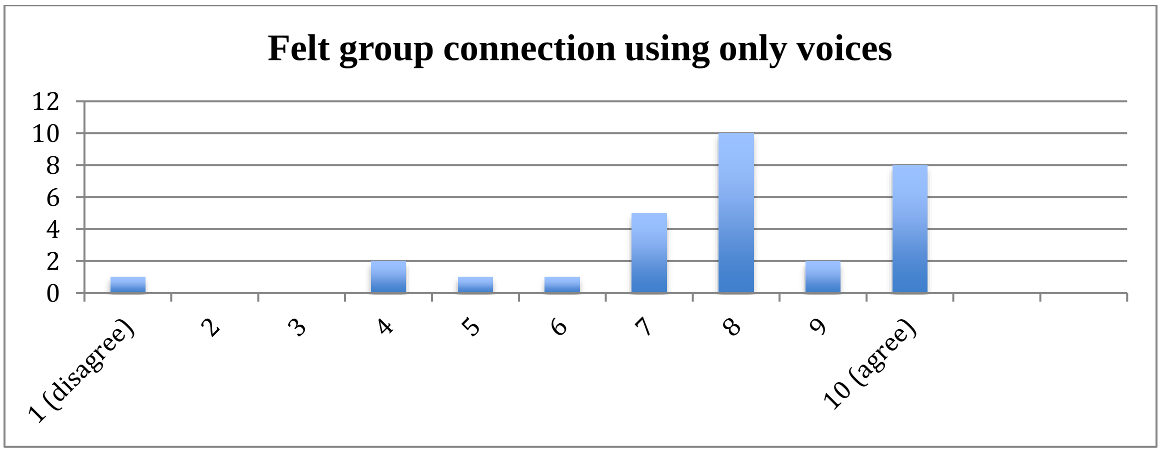

Figure 20. Voice Alone – Felt group connection

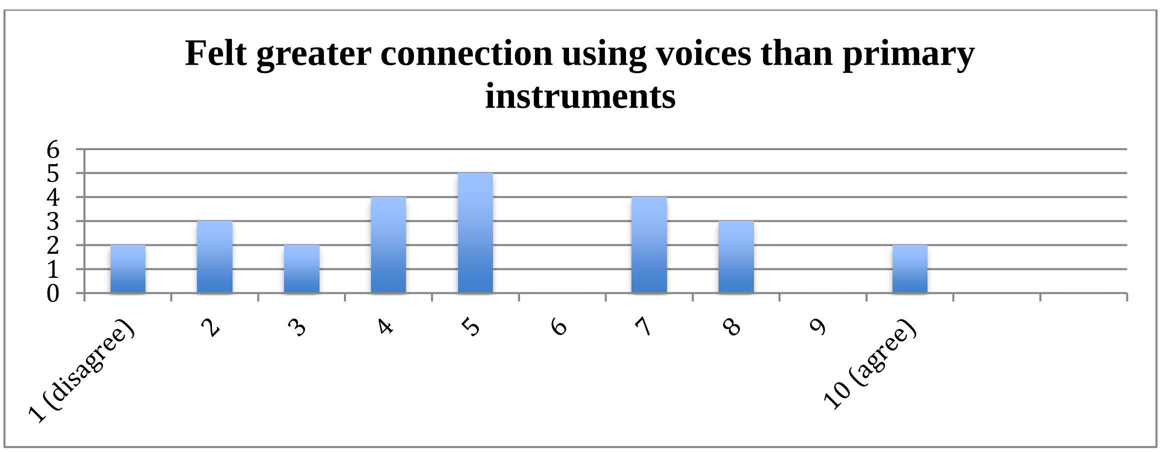

Figure 21. Voice Alone – Felt greater connection using voice than main instrument[121]

It was anticipated that when examining feelings of inhibition and security, most participants would feel more inhibited and less safe taking risks during this exercise. This

[121] This question was considered not applicable to the vocalists in the study and their responses are not included in these statistics.

turned out to be true, and what is most interesting is that it was anticipated that the vocalists in the study would feel less inhibition when everyone was using their voices; however, several of the vocalists also scored very low in both of these areas. Only 1 of 5 vocalists scored as strongly agreeing that they felt less inhibition and greater safety taking risks. It was expected that the vocalists would increase the overall average of these statements, but that was not the case.

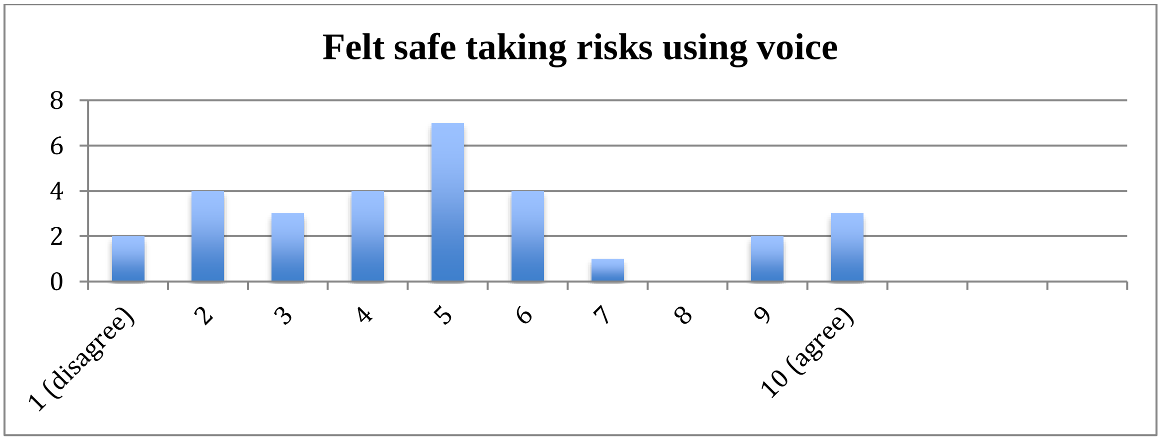

Figure 22. Voice Alone – Felt safe taking risks

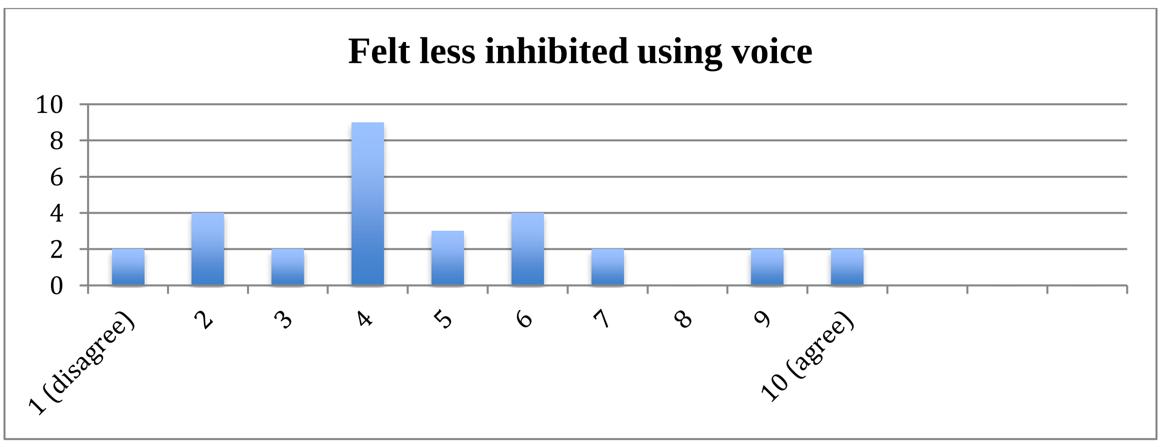

Figure 23. Voice Alone – Felt less inhibited

When asked if participants felt they could improvise just as well using their voices as they could on their primary instruments, the questionnaires revealed an average of 5.7, which was noticeably lower than the same question on the Instrument Switch questionnaire (which scored 6.6). Once again, it is interesting that, despite the fact that most people disagree with this statement, the average is higher than that of feeling inhibited using the voice, or feeling safe taking risks. This is a bit of an inconsistency as it is reasonable to assume that those that felt inhibited and did not feel safe taking risks would also feel that they could not improvise as well using their voice as they could with their primary instrument. That is unless they simply did not feel comfortable in any setting, but the results from the previous exercises do not enforce this trend. It was the results of this exercise more than any other that displayed the most inconsistencies. It is possible that those that are classically trained, who must use their voices regularly in post-secondary musical skills classes, may have inflated their answers due to the fact that they have basic training with their voices and perhaps felt that they should be able to improvise with them even if they could not do it well. Before beginning this study, a test-run session was conducted with participants who did not meet the study parameters, as they were either too old or too experienced. This was done simply to see if the flow of exercises made sense and if there was a way to improve upon the questionnaires or interviews. In this test-run, while not a part of the final research, one participant was observed as being very noticeably uncomfortable during the Voice Alone exercise. However, this individual was a classically trained professional, and despite his obvious and extreme discomfort, he would not admit to this in either the questionnaires or the interviews, stating that the only issue was that he was not a vocalist and did not have the same technical facility as his main instrument. However, this level of discomfort was not observed in the instrument switch exercise, which, given the subject's reasoning, should have elicited the same response. Likewise, one participant in the study, a classically trained female pianist with a master's degree who self-identified as being very shy, indicated on her questionnaire that she strongly agreed (with a score of 10) that she had a greater connection with the other performers using her voice than she did on her own instrument. She also indicated that she felt less inhibited (scoring 7), and could improvise just as well (scoring 8) on voice as her own instrument, and was able to communicate (scoring 10). However, when observing this student improvising with her voice, I noted that these observations did not match her questionnaire responses. She appeared reluctant to actually use her voice (deciding instead to whistle in a way that did not connect well with the musical material of the other players), and she opted to blend into the sound rather than do anything noticeable. Remarkably, the other musicians she was paired with (neither of whom were classically trained) were communicating and connecting quite well, which was apparent by their body language in that they were facing each other and making a great deal of eye contact. The female pianist, however, did not share any of these signs of connectedness. In the structured voice improvisation she began to fidget quite noticeably, something she did not do at any other time, and continued this through the entire improvisation. When giving her exit interview, this participant did admit to feeling uncomfortable, but her responses on the questionnaire were completely contrary to her interview response.

While it is not possible to prove anything that the subjects will not admit, it is suspected that for some participants in this study (particularly those classically trained), their questionnaire and interview responses to the Voice Alone exercise did not always seem authentic. The researcher believes that for some students it was difficult to admit to struggling with performance or group connectivity. As a result, it is believed that for this exercise more than any other, subject responses were not always completely accurate.

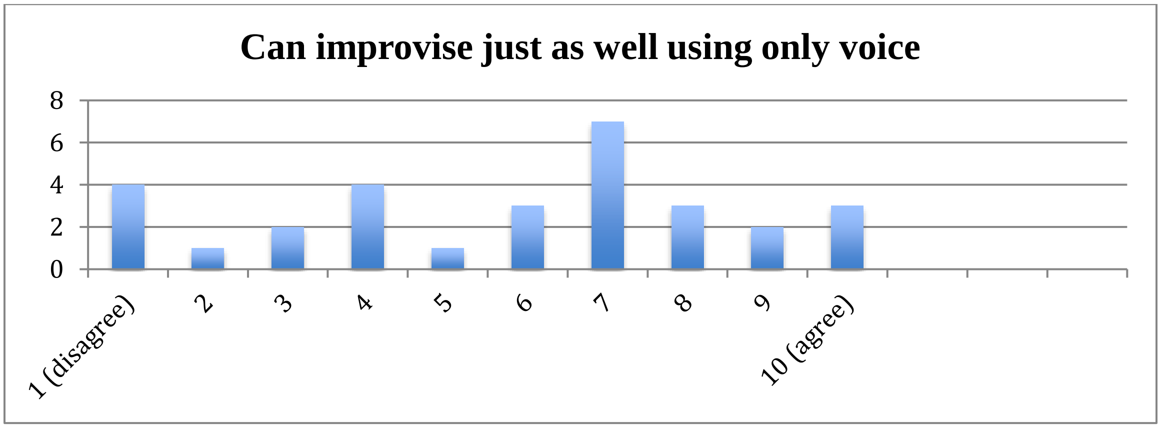

Figure 24. Voice Alone – Can improvising just as well using only voice

The Voice Alone exercise also scored quite high in terms of feelings of group communication, with an average of 7.3. It was quite surprising that this score was the highest average of all group exercises in the study with the exception of the Dark Room. It is again possible that this could be because the exercise appeared later in the study, at which point participants had already played together several times. However, if this were the case, presumably it would keep getting higher as the study progressed through all of the exercises, and this was not the case. In response to whether or not participants felt that they could get away with fewer mistakes because they were using their own bodies for sound production rather than a physical instrument, a slim majority agreed, with an average of 5.7.

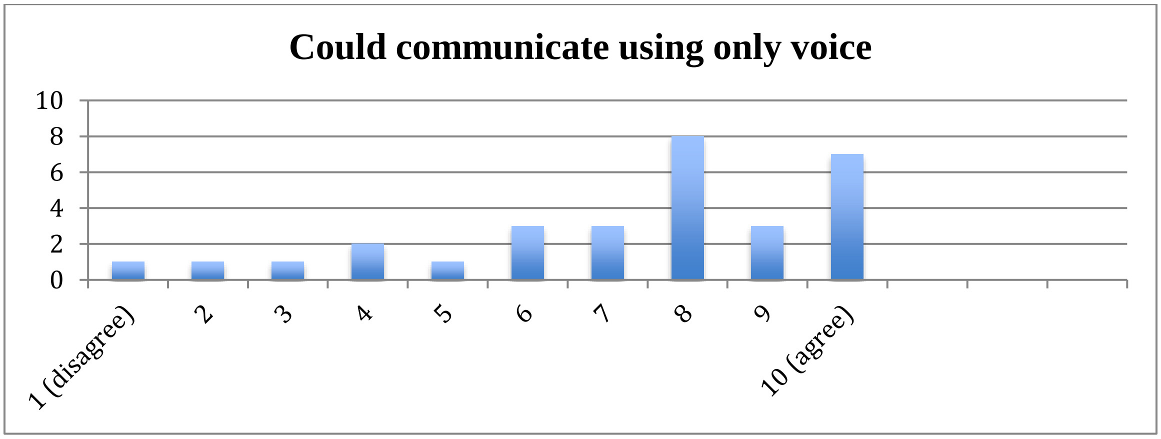

Figure 25. *Voice Alone – Could communicate*

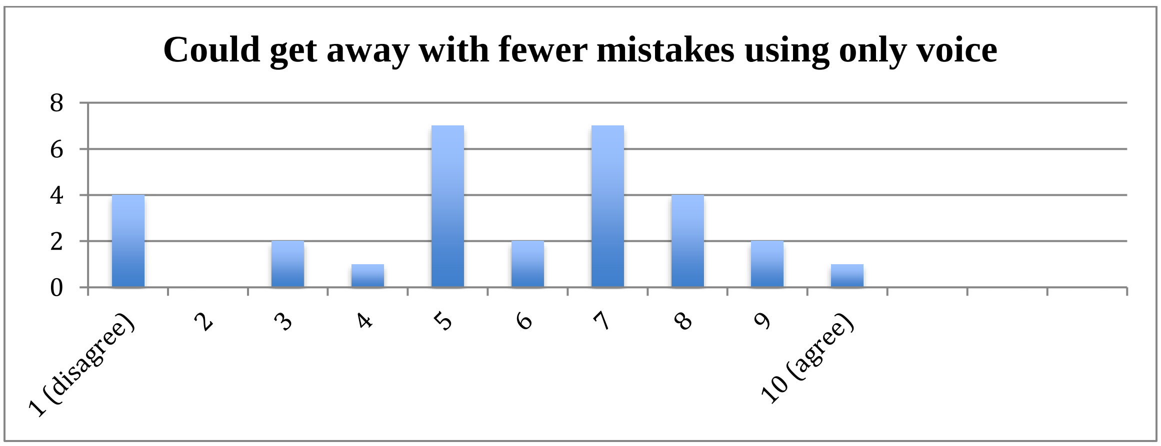

Figure 26. *Voice Alone – Could get away with fewer mistakes*

As with the warm-up exercise, the Voice Alone exercise involved two parts: a structured and an unstructured performance. The parameters for the structured exercise were identical to that of the Warm-Up, where participants entered one-by-one in a designated order and then exited in that same order. For the Voice Alone exercise, the unstructured version was performed first, giving participants an opportunity to use their voice without having to feel too exposed since most participants were dong this for the first time. Like the Warm-Up exercise, there was a negligible difference in preference between the structured and unstructured elements with an average of 5.9 for the unstructured exercise and 5.7 for the structured exercise.

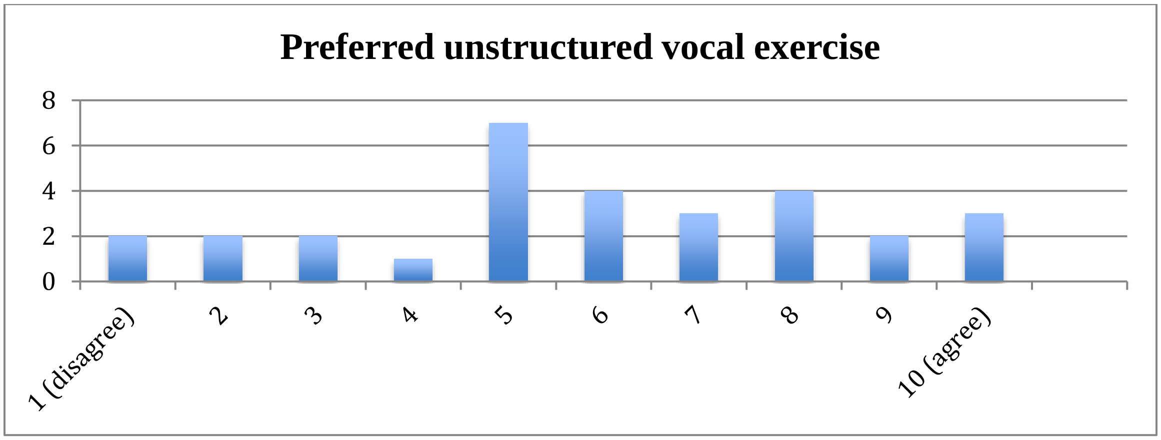

Figure 27. Voice Alone – Preferred unstructured playing

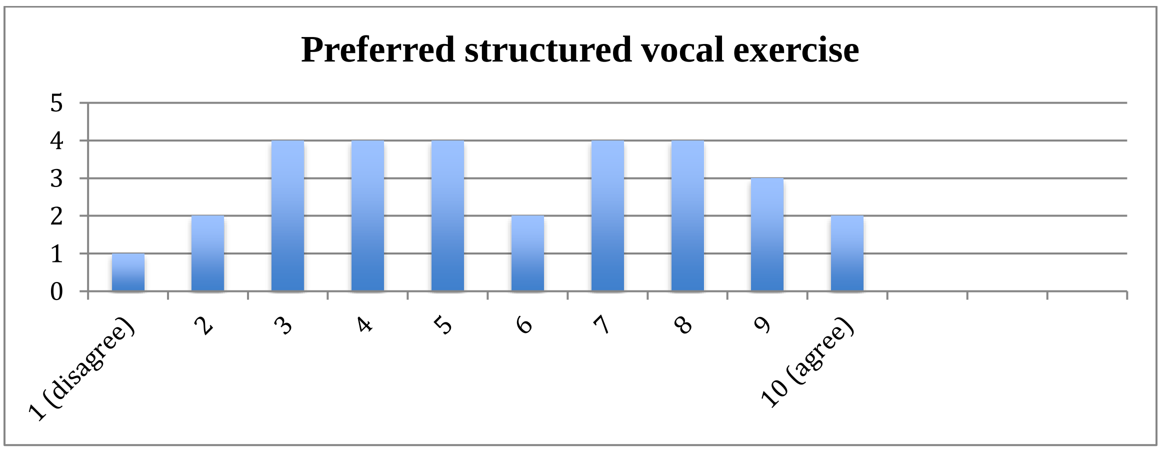

Figure 28. Voice Alone - Preferred structured playing

In the subject interviews, this exercise came across as fairly impactful, yet divisive, with subject responses evenly distributed between the positive and negative. This exercise in general was more positive for women in the study. Some general statistics about this exercise in terms of how it was discussed in subject interviews are as follows:

- 20% claimed this exercise helped them loosen up (50% of these respondents were women)
- 23.3% claimed this exercise aided their creative process (this exercise was tied with the Dark Room for the most agreement to this question)
- 16.6% felt this was the easiest exercise of the study
- 36.6% claimed this exercise made it harder for them to open up or made them feel more self-conscious (90.9% of these respondents were men)
- 13.3% found this exercise hindered their creative process

- 23.3% found this exercise to be the most difficult of the whole study (100% of these respondents were men)

This exercise was mentioned in the subject interviews very frequently, both in a positive and negative light. This was the only exercise that appeared to be completely divided in terms of male and female responses, with men finding this exercise to be the most difficult or inhibiting, and women finding it to be a more positive experience. While it would be expected that women would find it more positive because all of the vocalists in the study were female, surprisingly these participants did not rank the exercise as being as positive as was expected, so they did not skew the results in a significant way. Many of the vocalists did mention that performing with everyone singing was a better experience for them, however several of them were still very critical of the exercise and their performance within it, most often because they felt restricted or unable to perform complicated material when improvising with other players who were not vocalists and were not used to using their voices in this way.

In terms of the positive responses to this exercise, 20% of participants found the exercise helped them to loosen up. Of these respondents, 60% were women, including two vocalists, one female trumpeter, and two male guitarists. 23.3% of participants found that this exercise aided their creative process, with more women (57.1%) than men feeling this way. Respondents who felt that the exercise aided their creative process included the same respondents to the previous question as well as a female violinist and another male guitarist. It is interesting that so many guitarists identified strongly with the Voice Alone exercise. This may be simply due to chance because the number of guitarists in the study was small.

Of those that found that the exercise helped them loosen up or aided their creative process, some of their interview responses were as follows:

- "I felt like we were all on an equal playing field…I felt we were all approaching it from the same place." – Female vocalist
- "It's weird because I didn't have my trumpet in that one and I didn't have my trumpet in the other one where I felt we were all on the same page (when we switched instruments). I'd like to think I'm more comfortable on my trumpet but after today, sometimes I don't know." – Female trumpeter
- "I perform at my best when everybody's doing voice improv. I'm not exactly sure why that is, but I think it's just, I feel more comfortable because that's what I do on a regular basis and I'm not as comfortable I guess improvising with other instruments and not knowing the sounds that can be made and things like that." – Female vocalist
- "The thing I liked about that is just because when I use my voice I feel I have fewer options, so I can have more clear ideas. So it's like I have less confusion." – Male guitarist
- "All guards were let down, all thoughts of, oh you know, we're students, we're masters or masters in training on this instrument – now we're on an equal playing field and it was kind of nice to just kind of relax on that one." – Male guitarist
- "It's something that got me out of my comfort zone, but surprisingly not scary." – Male guitarist

Six participants felt that the Voice Alone exercise was the easiest of the entire study. Two respondents felt that the structured version of it was easiest; one felt that the unstructured was easiest, and two felt that both variations were equally easy. Those respondents who felt this way made the following comments:

- "I felt more in control with what I was working with." – Female vocalist
- "It was all of my default settings. It was all the stuff that comes easily. The harmonies were just everyone hopped on board – that was easy." – Female trumpeter
- "I know the inflections; I know what can be done with the voice." – Female vocalist
- "We're all on even ground here; we're all just kind of having fun with it. And it was – it was a lot of fun." – Male guitarist
- "I think that was just the one that flowed the best. It was very quick, but I thought that there was so much attention to detail going on." – Male pianist

Of the participants who found the Voice Alone exercise to be helpful in terms of opening up as a performer or aiding creative process, many felt that everyone was on an equal playing field since all were performing with the same instrument. This is an important reaction because it was the only point in the study in which this was the case. While the experience is similar to that of switching instruments, where everyone was playing instruments other than their own, in most cases participants were still performing on different types of instruments. Two of the five vocalists in the study repeatedly mentioned how much more comfortable it was when everyone was confined to using their voices, and instrumentalists mentioned this same point as well. Several participants also mentioned the fact that the vocal improvisations in which they performed were simply well connected, strong pieces in their own right. Those who made these comments were not in the same groups, so this was not a case of the music flowing particularly well in one group and all respondents feeling the same way. Other positive comments made were that the exercise was “easy” or “fun”, or that it was easy to predict. With everyone limited to his or her voice, this is an important point to consider. On traditional instruments, a multitude of un-traditional sounds could be produced by way of extended techniques and other means of unconventional playing. Participants felt that the use of extended vocal techniques was unlikely to occur during the Voice Alone exercise, so many felt more in control. In terms of the comments about the exercise being “fun”, some groups decided to take the exercise more seriously than others in terms of musical content. Some groups used humorous lyrics and tried to tell stories while still working cohesively as a group. Others used a more textural approach, relying on the overall sound and trying to use dynamics and small contrasts to move the piece forward. In terms of performances, the Voice Alone exercise displayed the most diversity in terms of musical content across all study sessions.

Not all participants had a positive response to this exercise. As was the case with the Instrument Switch exercise, responses were very divided, often with a similar number of participants feeling one extreme or the other. For example, 36.6% felt the exercise made it more difficult for them to open up (compared to 20% that felt it helped them open up). 13.3% felt that the exercise hindered their creative process (compared to 23.3% that felt it aided their process), and 23.3% found this exercise to be the most difficult of the entire study (compared to 16.6% that felt that was the easiest). While the majority of women found this exercise to be positive, a strong majority of men found this exercise to be very negative. For example, 100% of the respondents that felt the exercise was the most difficult of the entire study were men.

For those that felt the Voice Alone exercise either made it more difficult for them to open up or hindered their creative process, the following statements were made:

- "I didn't like that very much. I would have been fine with some more playing kind of singing. What it turned into was sort of horrible kind of stuff. That was fun, but I'm not really a big fan of making goofy/weird sounds which all of them were leaning into." – Male saxophonist
- "With someone's voice, it's not as predictable I find, so it comes closest to throwing me off even though I've done vocal improv before." – Male trombonist
- "I found out today that I really don't like singing in this context. I really wasn't as comfortable as I expected. I don't know why that is…I found myself wanting to use my body and not being able to do that. I felt frustrated." – Male bassist
- "That made me self-conscious. I don't know, it's just a really personal thing, more so than just on piano. Yeah, I had a hard time thinking of things to do and a hard time getting myself to loosen up." – Female pianist
- "I'm really shy…and that was really hard." – Male pianist
- "I'm not a vocalist in any way, so using my voice isn't something I'm used to doing all that much." – Male synthesizer player
- "I do things in my own music with vocals, but I've never been super confident about it, so when I was put into a thing where I had to do it – I was a little bit stressed out." – Male electric bassist
- "The one where we were all singing definitely hindered me a lot just because, for the people who weren't vocalists, they were trying to do something that was creative and stuff…you really have to back down because you have to let them have some room to improvise." – Female vocalist

Most of the individuals who felt negative about the Voice Alone exercise were men. Interestingly, several participants who felt this way about the exercise had previous experience singing (including one female vocalist participant), yet they still found the exercise quite unsatisfying. For some participants who experienced negative responses toward the exercise, it was simply because they had no real experience singing or improvising using their voices. For some, it was too personal an experience and made them very uncomfortable (such as one male pianist who specifically mentioned this as being difficult because of his shyness). Others felt that the improvisations themselves were simply not very strong and were difficult to work with. It is also interesting that while several participants mentioned the predictability of vocal improvisation being a reason why it was easy to do, one participant felt the opposite; that vocal improvisation is actually not at all predictable, creating a more difficult to manage performance space. While the majority of negative feelings appear to be due to the fact that these participants were largely uncomfortable and inexperienced with improvising with their voices, some experiences were negative simply due to the direction the music was taking in both the structured and unstructured versions of this exercise.

For those that felt the exercise was the most difficult of the entire study, 100% were men and their responses were very similar to the previous statements made:

- "I hate the sound of my own voice, I think a lot of people do and with improvs like that everyone needs to be at least a certain amount invested equally for it to be able to kind of go somewhere." – Male electric guitarist
- "One of the most difficult one was using my voice…[it] kind of put me on the spot and it was hard." – Male pianist
- "I was missing that security blanket sort of thing with my instrument and I'm not that comfortable with my voice in the first place." – Male saxophonist
- "I'm not super used to using my voice and I felt self-conscious of it. For what was happening in that exercise, it didn't really feel like a serious musical piece I guess, which kind of distracted me from it." – Male percussionist

While most of these statements echo those stated earlier, it is particularly interesting to see that one participant (a male saxophonist) specifically mentioned his instrument as being a "security blanket", so the removal of it made the exercise more difficult. This statement certainly reinforces the idea of the musical instrument as acting as a mask, which in this case provides the musician with a sense of security. While this participant specifically mentioned feeling this way, it was observed that two of the other participants (one male bassist and one male guitarist) kept holding onto their instruments and were reluctant to put them down in preparation for the Voice Alone exercise. This behaviour reinforces the feeling that the male saxophonist expressed in his exit interview, that the instrument itself could provide a sense of security, particularly when the musician is asked to do something that makes them feel uncomfortable.

Masks

The Mask exercise was intended to see how participants would respond if they were given external accessories with which to mask themselves while improvising within a group. All participants were required to wear a facial mask and could further mask themselves with other accessories such as hats and scarves. If instruments in themselves act as masks when used for improvisation, how would participants respond when additional masks were provided; ones with which they had no prior experience or association. For this exercise it was important for participants to feel comfortable customizing their masks as a way of making the exercise more personal; potentially allowing them to see the masks as less of a hindrance and making them feel more comfortable performing with them. It was expected that the results from the exercise would be similar to that of the Dark Room, in which darkness itself provided a mask for participants. It was also expected that the masks would make the participants less inhibited and more willing to take risks since their natural physical appearance was obscured from view; something that seemed to be an important element in the Dark Room exercise. However, participants found this exercise to be surprisingly uncomfortable and did not experience it in the way that was expected.

The questions on the Mask questionnaire were as follows:

1. I felt connected to the other players when performing with a mask on

2. I feel more connected to the other players wearing a mask than I do without one
3. Performing with a mask on makes me feel less inhibited
4. I feel safer taking musical risks while improvising wearing a mask
5. I don't need to wear a mask in order to improvise well with the other players
6. When wearing a mask, I feel that I'm communicating with the other players through improvisation
7. It was important for me to customize my mask/costume
8. Customizing my mask/costume made it more comfortable for me to play in the group

In terms of group connection, participants felt fairly connected during the Mask exercise, scoring an average of 7.1, which was fairly typical compared to the other exercises in this study. This ranking is lower than that of the Dark Room and Voice Alone exercises, but higher than the Warm-Up and Instrument Switch exercises. Feelings of connection were limited however; because subjects felt that wearing masks made them feel less connected than when they were not wearing them. Of those that felt a greater musical connection while wearing masks, 50% were women and 75% were wind or brass players. Despite this small amount of agreement, most responses showed that participants found the masks made little or no difference in feelings of connectedness.

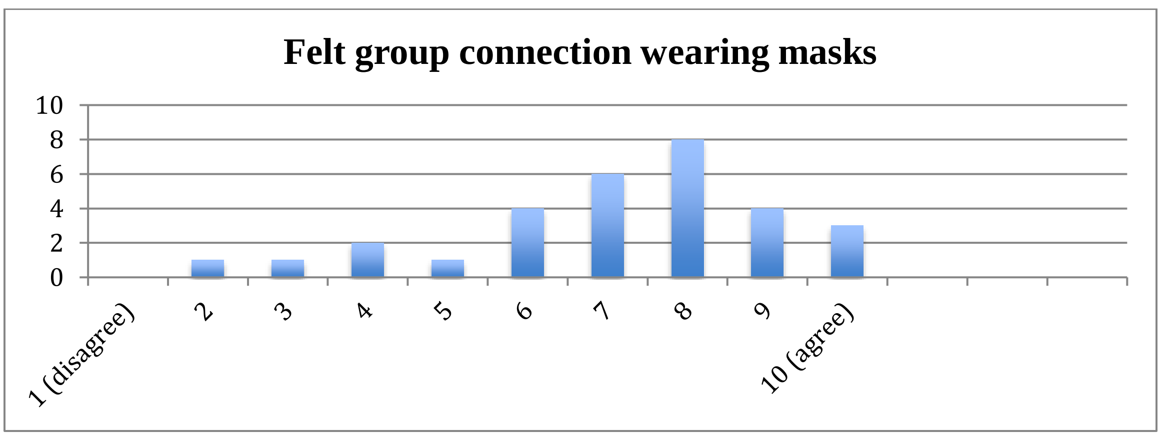

Figure 29. Masks – Felt group connection

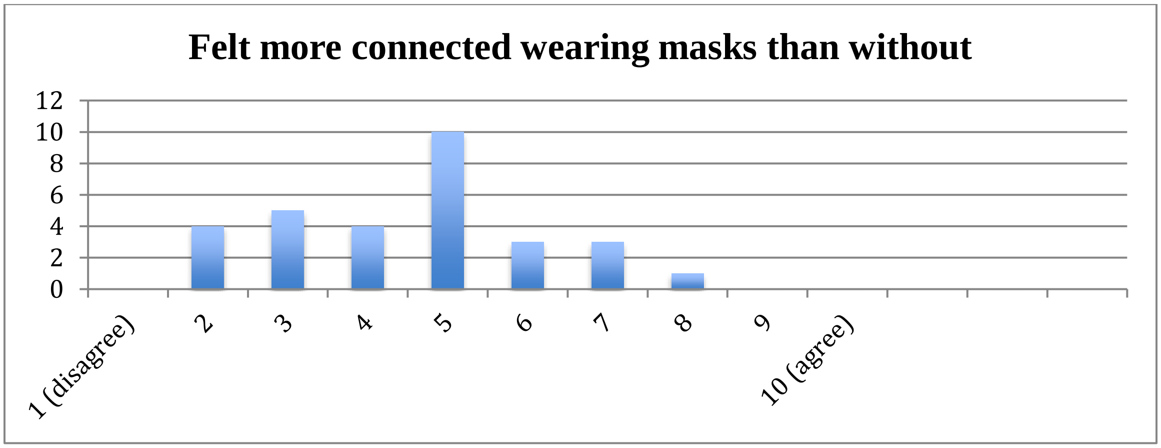

Figure 30. Masks – Felt more connected

When asked about feelings of inhibition and safety taking musical risks during the Masks exercise, it was expected that responses would be similar to that of the Dark Room because as with that exercise, participants were unable to clearly see one another's faces. Despite this expectation, results showed that participants responded quite differently in the Mask exercise than they did in the Dark Room. Responses were quite low for feeling less inhibited (5.8 averaged), and feeling safe taking musical risks (6.1 averaged). While these responses ranked lower than those of the Dark Room, they were higher than responses in the Voice Alone and Instrument Switch exercises. Of those that agreed that they felt safer taking musical risks while wearing masks in this exercise, 58% self-identified as being shy. There was also a higher percentage (53%) of shy individuals who felt greater safety in the Dark Room exercise. These individuals seem slightly more likely to feel greater security when performing in a space or context in which their physical identity is obscured in some way.

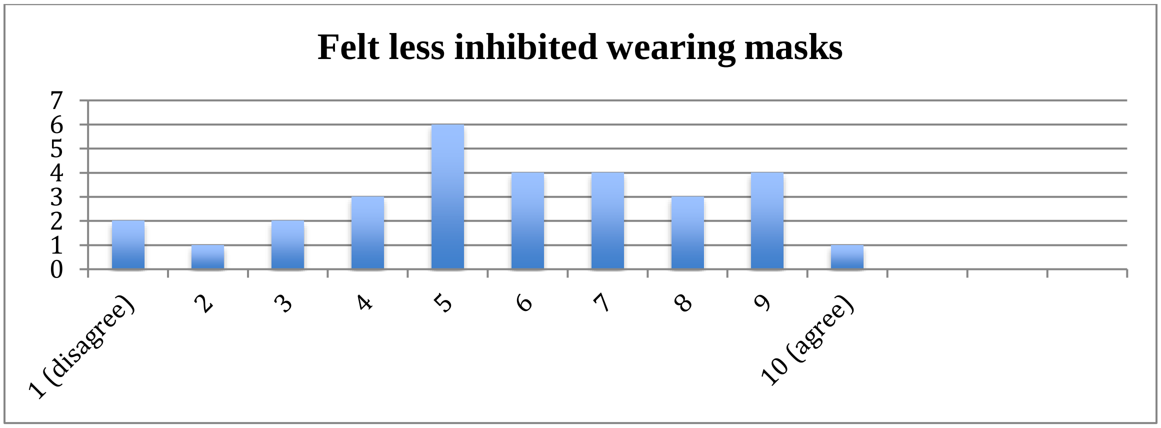

Figure 31. Masks – Felt less inhibited

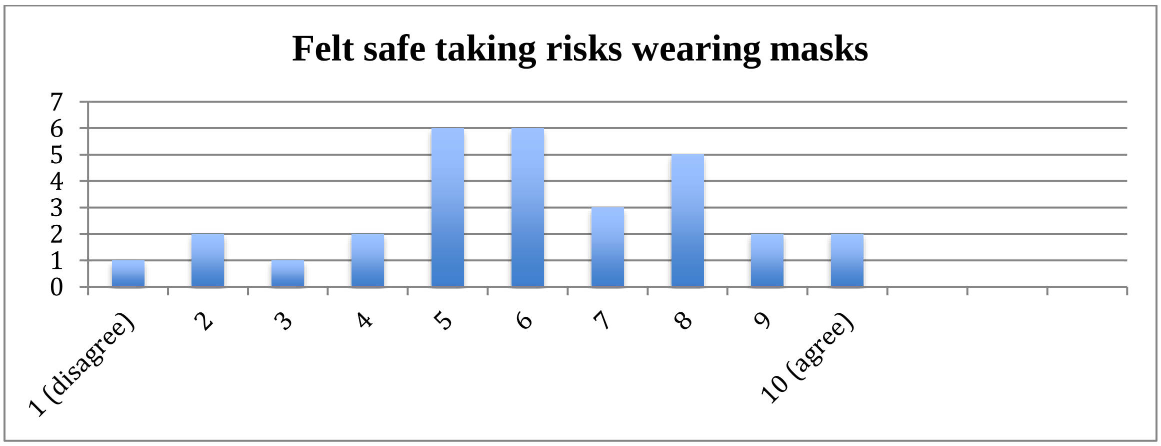

Figure 32. Masks – Felt safe taking risks

When examining how well the participants felt they communicated in this exercise, a majority (7.0 averaged) agreed. This is very consistent with the rest of the study as averages in each exercise varied between 6.9 (Warm-Up/Instrument Switch) and 8.6 (Dark Room), with an overall study average of 7.34. This result shows that subjects felt connected, to a relatively equal degree, throughout all of the exercises regardless of what parameters or limitations were put in place. The only exercise in which this number changed to any significant degree was the Dark Room. Participants also felt strongly that they did not need a mask to be able to improvise well with the other musicians in the study, ranking this statement with an average of 8.4. Of all participants, the Waterloo groups felt the strongest about not needing masks, raising the average to 9.4 when considering only those participants.

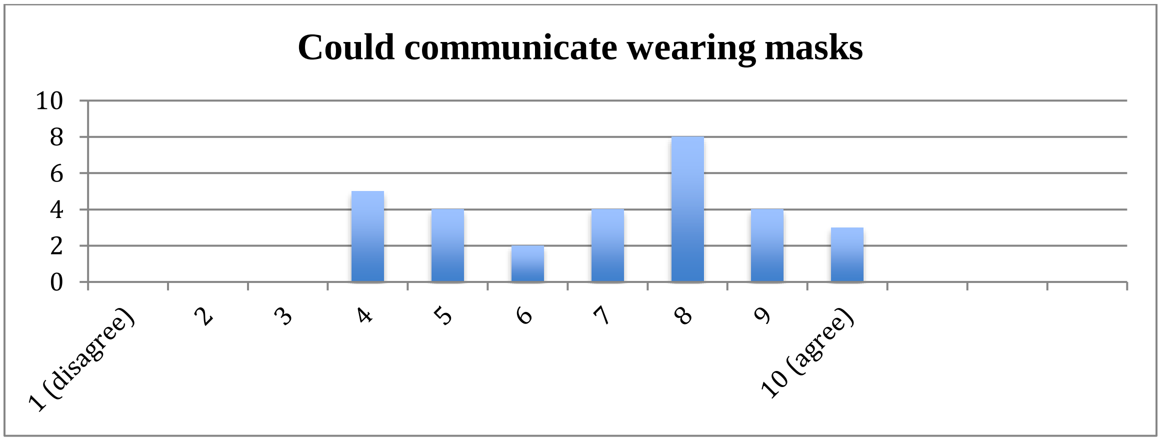

Figure 33. Masks – Could communicate

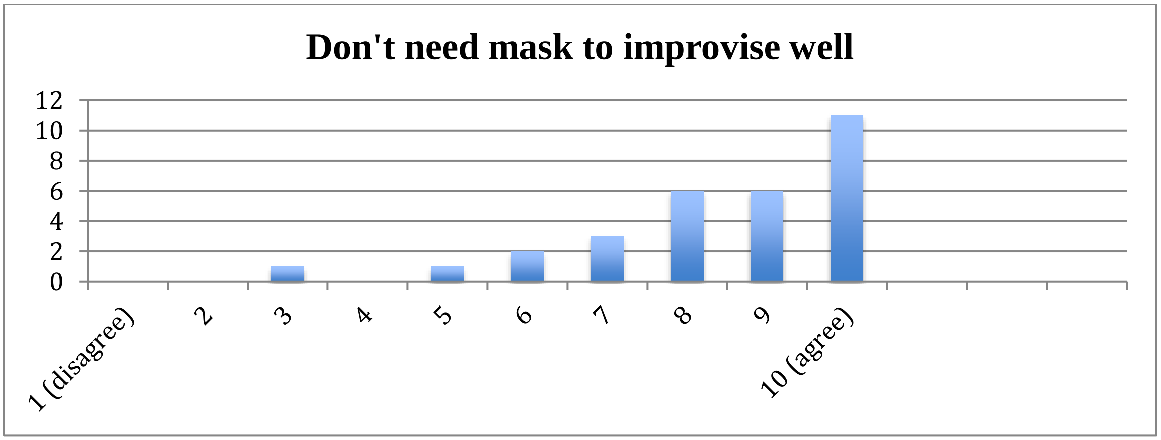

Figure 34. Masks – Don't need masks to improvise well

One of the elements that made the Mask exercise unique was that participants were allowed and encouraged to create complete facades for themselves using facial masks, hats, scarves, and leis. It was extremely rare for participants to wear only a facial mask and nothing else; customization of their overall ensemble was something that most individuals seemed to want to take advantage of. To determine the extent to which this customization resonated with participants, they were asked to rate the importance of mask customization and to what extent, if any, they felt comfort from this. While most participants agreed that customizing was important (rating it an average of 7.3), and several participants took some time and care in putting their ensemble together, fewer participants felt any comfort from their customization as the average dropped to 6.4 in response to this concept. Women received the greatest benefit from customization of masks, particularly vocalists. When looking solely at the vocalists in this study, all of whom were also women, the average was 8.2 in response to the statement, “it was important for me to customize my mask/costume.” Because vocalists have no physical instrument to act as a mask for them, it is likely that they received a greater benefit from this exercise than those that already had physical instruments to work or mask themselves with. Additionally, vocalists, particularly those that are classically trained, are very familiar with playing a character and dressing the part (as in opera performance, for example). It is very possible that the women participating in this study placed a greater importance on mask customization because it would better enable them to play or create a desired character during their performance. While a small majority of subjects felt this customization contributed to their overall comfort, there are clearly other reasons why customization was deemed to be important. Vocalists and women in general found customization to be more important for comfort than men, averaging 7.6 (vocalists) and 7.9 (women) in response to this statement.

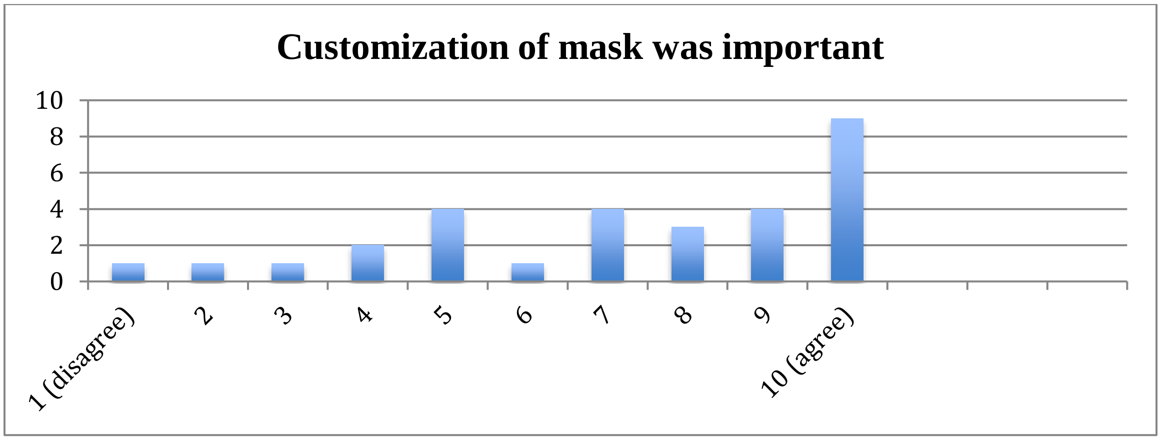

Figure 35. Masks – Importance of customization

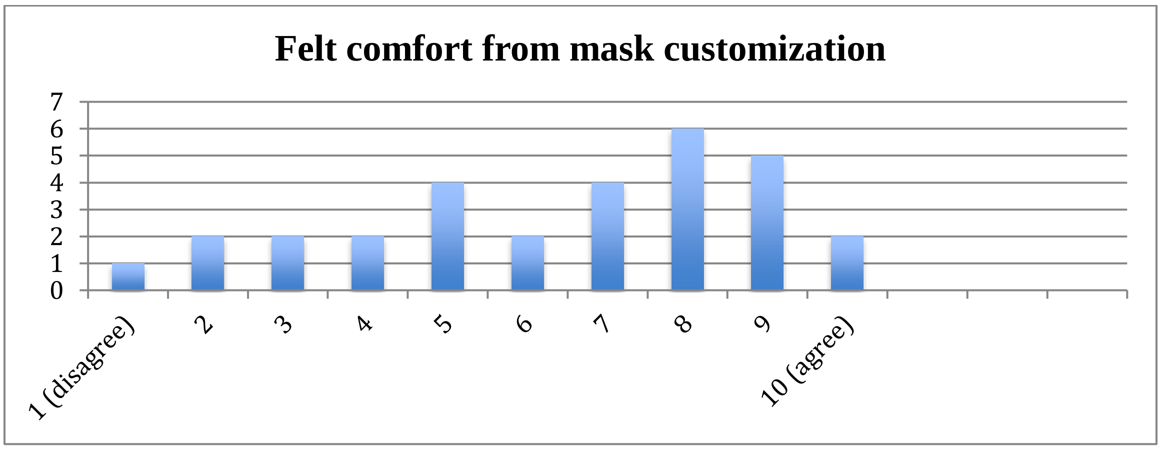

Figure 36. Masks – Felt comfort from customization

In the subject interviews, the Masks exercise did not resonate with participants to the extent that was expected. While the exercise was mentioned in subject interviews in response to several different questions, only a small number of subjects mentioned it as being impactful. Respondents found the Masks exercise to be impactful in both positive and negative ways, with a small majority finding it more negative. Some general statistics about this exercise in terms of how it was discussed in subject interviews are as follows:

- 6.6% claimed this exercise helped them loosen up (both of whom were trombonists).
- 3.3% claimed this exercise aided their creative process.
- 6.6% felt this was the easiest exercise of the study.
- 16.6% claimed this exercise made it harder for them to open up or made them feel more self-conscious.

- 16.6% found this exercise hindered their creative process
- 16.6% found this exercise to be the more difficult of the whole study

In terms of positive responses to this exercise, only five respondents felt it was the easiest of the study, helped them loosen up, or aided their creative process. Of those that felt the exercise helped them loosen up, all were trombonists. This statistic is curious, however it is not believed that there is any precise reason why trombonists specifically responded this way. It was noted, however, that wind players in general seemed to view this exercise more favorably than non-wind players. Some of the participant responses to this exercise in terms of it being particularly easy, aiding their creative process or helping them loosen up were as follows:

- "I actually felt a little bit more connected to the other players I think because, at least for me, there was that barrier of the mask that I overcompensated to kind of make up for the fact that I couldn't sort of see people's faces. As I said, I wasn't expecting it to make a big difference, but it did." – Male trombonist
- "I think the masks really helped because I guess having the mask…brings out your personality where you get to bring your hats and your mask and settle with one that fits you the best…I kind of was thinking of myself as someone else." – Female trombonist
- Having the masks and choosing something so I can cover myself with – that's less vulnerable." – Male pianist
- "I felt we all had roles in that particular improv I think. I felt myself as fire – I wrote that on the sheet, I am fire. So it was often tremolos and stuff like this. Maybe because I felt I had a role, I felt most comfortable." – Female clarinetist
- "I did like the mask one a lot because…the room seemed a little lighter with the masks on and I think that really benefited this group and I think one of our better pieces came out of that exercise… for whatever reason those masks made everybody a little less inhibited." – Male bassist

There are two clear themes that arose for participants that found the Mask exercise impactful in a positive way. The first is the idea of participants using the masks to play a character or feel like they've become someone else, and the second is the idea of the mask acting as a barrier, covering up one's face or obscuring it. Both of these themes are common when using masks in any type of art, so it is not overly surprising that some participants in this study felt this way. What is surprising is that so few participants felt this way. Like the Dark Room exercise, one participant noted that not seeing the other participant's faces actually resulted in feeling more connection, despite not being able to communicate body language or decipher one another's facial expressions. Another participant mentioned the masks as simply making the players feel less inhibited (or sound like they were playing in a less inhibited fashion). One of the participants who found that the mask allowed her to portray someone else also mentioned that the mask allowed her to bring out her personality more, which again is a common theme with mask theory; the mask does not simply disguise oneself but allows an individual to express more of themselves. Of those that found the exercise impactful in a positive way, 60% were wind or brass players. All but one of these wind players used the Mask exercise as their response to which exercise was the easiest, aided their creative process, and/or helped them loosen up. The reason why wind players gravitated to this exercise more than any other is unclear, though it may be because their relationship to their instruments is unique. Since wind players must use something from inside of their bodies (air) to create sound, it leaves them less able to use their bodies or faces as a means of further communication. Perhaps because their faces are less free to express to begin with, wearing a mask offers some kind of additional tool of expression normally unavailable to them. It would be interesting to conduct the Mask exercise again with wind and brass players exclusively.

Slightly more participants discussed the Mask exercise in their subject interviews in a more negative light. While it still did not resonate with participants on the same scale as the Dark Room or Voice Alone exercises, a small number of participants did mention it in response to questions about which exercise hindered their creative process or made it more difficult to open up. In response to these questions, the following statements were made:

- "I didn't know what to expect myself to do with a mask on, and that threw me off balance." – Male pianist
- "From a technical standpoint, I guess it's obvious, you're just not used to what you're seeing…When I put the mask on, I immediately felt like I was something else – which can make you creative in a new way, which is good – but I felt inhibited in my ability to express naturally what I would have. The first time we put on the mask I started playing kind of country bumpkin music because that's how I felt." – Male guitarist
- "I understand it's supposed to kind help you feel less inhibited, for me it actually made me feel more inhibited because it made me feel silly…I felt more self-conscious I think." – Female vocalist
- "There was that feeling of no connection going on…I was always seeing through this kind of tunnel vision and it made me feel that I was a step back from everybody…so I felt detached." – Male saxophonist
- "It wasn't something that I'm used to and it's just something about it that made me more uncomfortable than set me at ease – perhaps it was the mask I chose." – Male guitarist

For those that struggled with this exercise or found it hindering, most appeared to have difficulty getting comfortable with the mask itself. For some, it simply impeded their sense of sight and for others it made them feel different in a way they could not explain; some felt silly wearing the mask and others found it made them become a different character, and this interfered with the natural creative flow of their ideas. Several participants mentioned the lack of connection that they felt during the exercise; clearly the masks themselves were throwing participants off enough that it was interfering with their ability to respond to the natural flow of musical ideas. That being said, this exercise was only tried once, and for most participants it was the first time they had ever worn a mask while performing or performed with other people wearing masks (many of whom were struggling with a compromised visual capacity). It is possible that the responses to this exercise would be quite different if groups were given the opportunity to repeat the exercise or even bring their own masks; ones they already felt comfortable wearing. However, in order to make responses as natural and authentic as possible, it was determined that revealing the masks immediately before the exercise, and not allowing participants an opportunity to form any kind of expectation was the preferred method of conducting the exercise.

A small number of participants described the Masks exercise as being the most difficult in the entire study. Those that felt this way made the following comments:

- "I just felt like I didn't connect as well with what was going on." – Male violinist
- "I just didn't hear a lot of music that I could tune into. It was just like a fluke." – Male pianist
- "I guess I didn't feel as much of a connection to the mask as I did to my own instrument. I felt just uncomfortable with this new display that I very much did not identify with. Something that draws attention to myself where more often than not I go with the guitar being my mask than myself being at the forefront. I love when I can express myself with the guitar, but generally, I enjoy it being the focus." – Male guitarist
- "The masks, difficult I think because I felt inhibited." – Female vocalist

It is important to note that for some groups and some participants, an exercise will be rated as poor and lacking connection simply because it was a poor performance. Some, but not all, of the statements above were made by participants in the same group. Many of these comments suggest that the exercise was difficult simply because the music did not connect as well as in previous exercises. Was this because the masks themselves were getting in the way and prohibiting some individuals from playing or connecting well with one another? Or was it simply a fluke, as one participant stated, that the music simply did not flow as well. It is believed that for a number of individuals, the masks were uncomfortable to wear and threw them off because they could not see as well. This is expected in the Dark Room, but it is not necessarily expected when wearing a mask. As mentioned in the Methodology chapter, the masks did not fit everyone's face comfortably and some participants wanted to remove the masks quickly after the exercise had concluded for this reason. It is likely that this interfered in the immersion of participants into the exercise, for at least some individuals. Few participants were able to clearly articulate why the exercise was difficult; it was more of a general feeling of disconnectedness or inhibition. The statement made by the guitarist above, in which he states that for him, his guitar is his mask, is quite interesting and very relevant to this study. Wearing a mask disrupted his connection to his instrument, which is his preferred focus in performance. He does not focus on himself, his face, his facial mask, or his outward appearance, but rather what he is able to express through his instrument. While this was the only participant who was able to clearly articulate his connection to his instrument during the mask exercise, it is certainly possible that the others who could not clearly articulate why the exercise was difficult felt similarly.

The Mirror

The Mirror was the final exercise of the study and was the only one that required participants to play individually, as soloists. The intention of this exercise was to put participants on the spot, so to speak, as much as possible. The parameters involved each participant performing a 1-2 minute solo while maintaining eye contact with their reflection the entire time. When/if eye contact was broken an air horn would be sounded, indicating to the performer and other participants that a “mistake” had been made. The other participants were encouraged to watch the soloists and were expected to stay in the room during each solo performance. This was also the only exercise in which the video camera was placed very close to the participant’s face, making it very obvious to them that they were being recorded. The exercise was meant to simulate a live performance situation in which the participant is the main focus, while also increasing feelings of performance anxiety. This exercise took place in two parts in which the participant first plays a short solo with no specific directions, and then does this again wearing a mask.

Some subjects chose the same mask they wore for the Masks exercise, but many decided to try something different. The expectation was that most participants would find this to be the most difficult of the entire study but they would find it easier and feel less vulnerable when wearing a mask.

Participants were asked to rank the following statements on the Mirror questionnaire:

1. Performing while looking at myself in the mirror makes me feel more inhibited than I would without it
2. Performing while looking at myself in the mirror makes me feel more critical about myself
3. Performing a solo while looking at myself and having others listen made me feel more inhibited
4. Performing a solo while looking at myself in the mirror was easier to do while wearing a mask
5. Wearing a mask made me feel less self-conscious during this exercise
6. Looking at myself in the mirror while performing is very hard to do
7. Looking at myself in the mirror while performing is very hard to do, but is easier when wearing a mask

As expected, this exercise scored highly on the questionnaires for feelings of inhibition and feeling more critical of oneself. The average score for feeling more inhibited during this exercise was 7.6, and the average for feeling more critical was 7.0. What is interesting is that vocalists and women in general scored higher in these categories than men. For example, when looking at women alone, the average for feeling inhibited was 8.2, and when looking at vocalists, the average rose to 8.4. What is surprising is that those that self-identified as being shy actually scored slightly lower than the rest of the group, averaging 7.0 on feelings of inhibition. Scores were also higher for vocalists and women in general for feeling more critical of themselves during this exercise. For example, when looking solely at women, the average for this question rose from 7.0 to 8.1, and when looking at vocalists, the average rose to 8.4. Clearly there are much greater feelings of self-consciousness in these two groups. Because society places a much greater importance on appearance for women, it is believed that this came in to play when considering these responses since the participants were forced to look at themselves for an extended period of time. It is also believed that because vocalists do not have a physical instrument to act as a mask, they felt particularly vulnerable during this exercise.

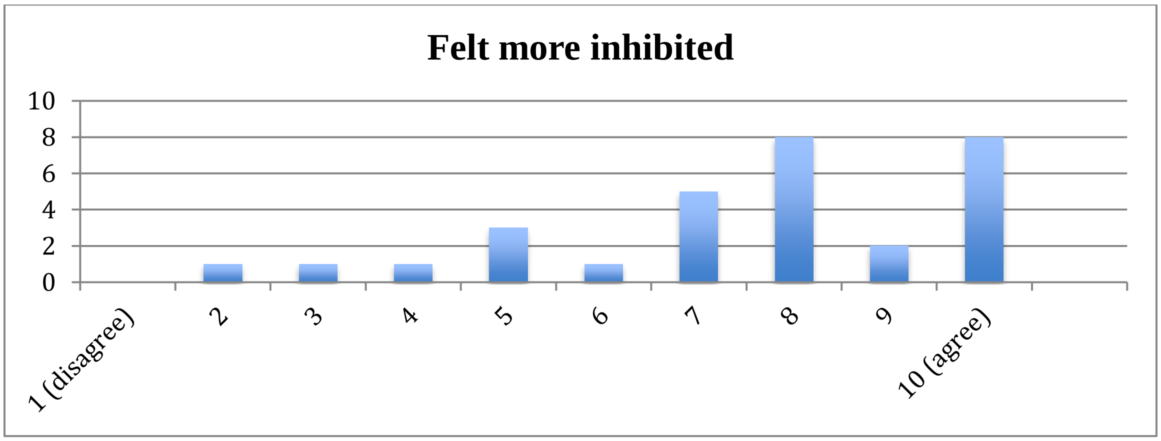

Figure 37. Mirror – Felt more inhibited

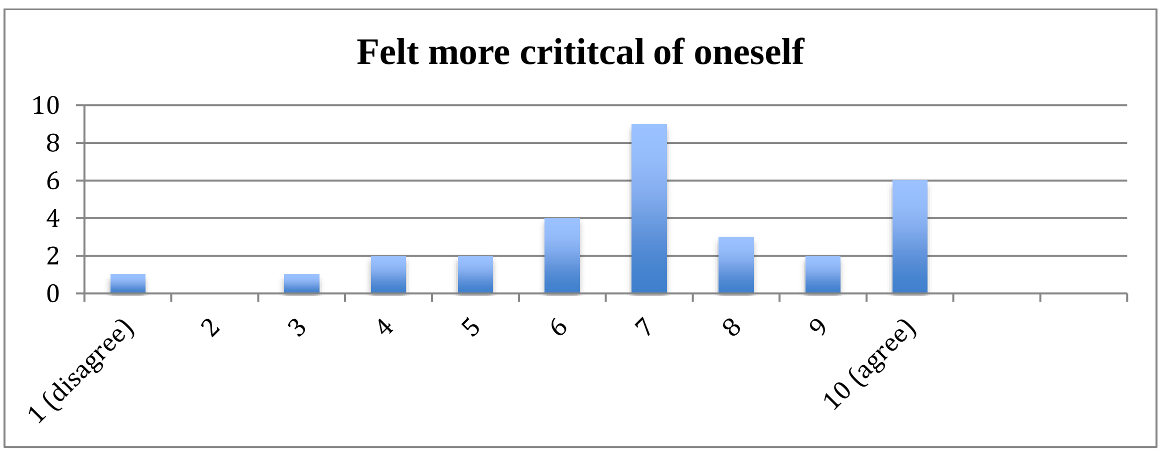

Figure 38. Mirror – Felt more critical of oneself

Because this was the only exercise in the study involving an audience component (with other participants watching and listening to each solo), subjects were asked if they felt more inhibited because of this. In other words, was the reason for their feelings of inhibition caused at least in part by the focus being on them, or was it another factor, such as the ability to make "mistakes" in this exercise or the fact that they had to continually stare at themselves. The average dropped to 6.6 in response to feeling more inhibited because of the audience, which is not surprising as there are many factors that could contribute to each individual's feeling of anxiety. It is also not surprising that once again, vocalists scored much higher in response to this statement, with an average of 8.8. The average was slightly higher for women at 7.2, but it was clear that vocalists struggled with the audience component more than any other group. Participants also scored quite highly in terms of finding looking at oneself in the mirror while performing to be difficult. The average response to this statement was 7.3, with vocalists and women scoring slightly higher overall with averages of 7.8 and 7.6, respectively.

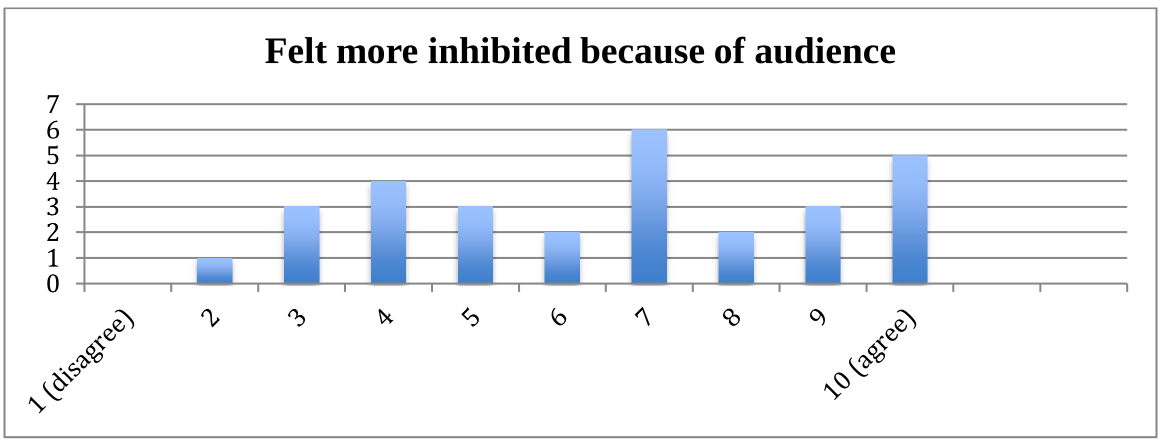

Figure 39. Mirror – Felt more inhibited because of audience

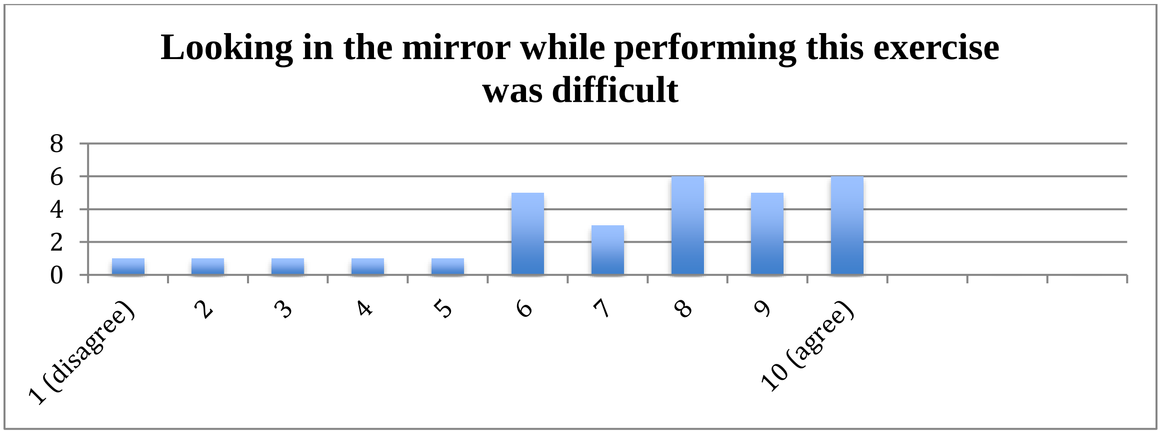

Figure 40. Mirror – Looking at oneself while performing was difficult

One of the other unique components about this exercise was that masks were incorporated. Because participants were to perform the exercise both with and without masks, it was possible to track what impact the masks, if any, had on participants. Subjects were asked on their questionnaires if they found the exercise easier when wearing a mask, and whether or not the masks made them feel less self-conscious while performing. Surprisingly, the masks generally made no difference for most people, averaging only 5.2. Once again however, vocalists were the exception, with an average of 7.4 finding that masks made the exercise easier. Women in general also found that masks made things easier, averaging 6.9. In terms of the mask's impact on feelings of self-consciousness, they again appeared to make little to no difference for most participants, averaging only 5.3. It did, however, make the vocalists feel less self-conscious as they averaged 7.2 in response to the same statement. Women in general also found the masks tended to help in this respect, averaging 6.2.

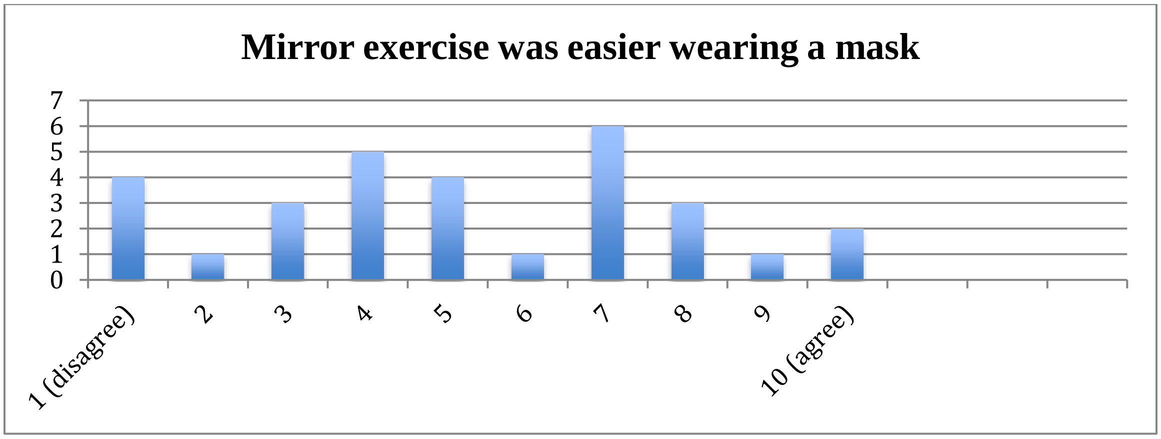

Figure 41.Mirror – Exercise was easier wearing a mask

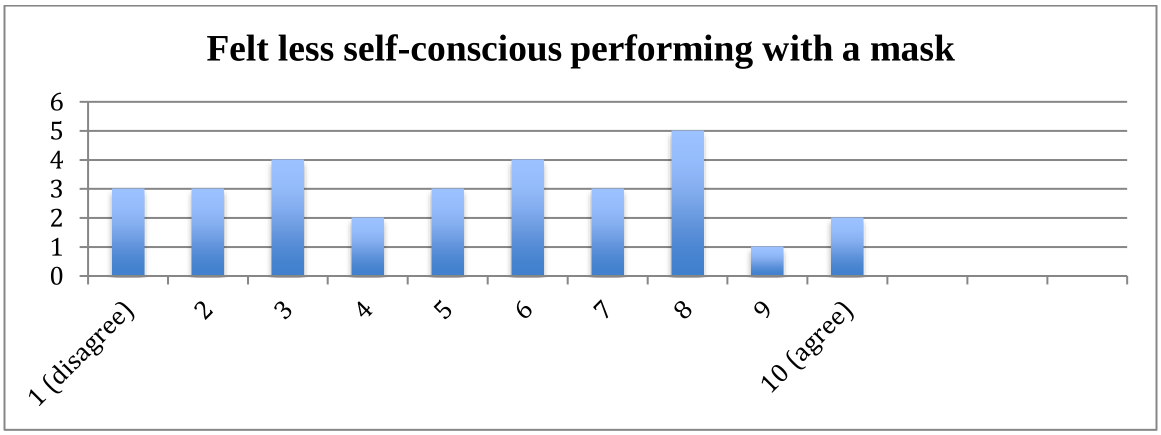

Figure 42. Mirror – Felt less self-conscious wearing a mask

In the subject interviews, the Mirror exercise resonated quite strongly with participants. What was surprising was that many participants found the exercise to be a positive experience, in some cases challenging the way they viewed solo improvisation or how they expressed themselves. While the exercise was most certainly challenging for a number of participants, it was expected that the majority of participants would find this exercise to be the most difficult, creating the most inhibition, and being the least enjoyable. Given these expectations, some of the responses to the exercise were quite surprising. Some general statistics about this exercise in terms of how it was discussed in subject interviews are as follows:

- 3.3% claimed this exercise helped them loosen up
- 16.6% claimed this exercise aided their creative process.
- 16.6% felt this was the easiest exercise of the study.
- 33.3% claimed this exercise made it harder for them to open up or made them feel more self-conscious.
- 20% found this exercise hindered their creative process
- 33.3% found this exercise to be the more difficult of the whole study

As can be seen by the statistics above, the majority of participants who found the Mirror exercise to be impactful in some way, found it to be negative. For example, only one participant (a male bassist) found that the exercise helped him to loosen up. A relatively small group of five participants felt that the exercise aided their creative process, however, all of these individuals specifically mentioned that it was the masked version of the exercise that made them feel this way. Another small group of five participants felt that the Mirror exercise was the easiest of the entire study. Half of these respondents specifically noted the masked version as being easier, with the other half not distinguishing one variation over the other.

Some of the participants who felt the exercise aided their creative process or helped them to loosen up made the following statements:

- "I was really nervous about that one and then like, I don't know, I always find I go into a kind of like a trance thing when I'm just improvising, but for some reason looking at myself – it made that feel a lot more real." – Male electric bassist
- "It was still a challenge for me, which was a great experience, and having the mask during that challenging time helped me realize how much the mask actually affects how I react when performing while looking in the mirror. I didn't expect it to have that big of an impact. I remember just using the mask, and feeling it, and knowing it was there, and that made me feel more comfortable. I feel like I was really focusing on that mask instead of focusing on me." – Female vocalist
- "It almost served as a prompt because it's like, the first time I did the mask, I picked things that I thought suited me and sort of were representative of me, and so just for my own interest, for the last mask improv I chose stuff that I thought didn't fit my personality as well. And so, when I was looking at myself wearing the mask, it's like, oh, this kind of reminds me of…sort of an older woman, so that was almost like a character that I tried to portray in that final improv." – Male trombonist

- “Wearing the masks for some reason, it felt kind of different. I sort of felt less inhibited with that.” – Female pianist
- “It made me feel like another person.” – Female vocalist

Some of the same responses that were exhibited in the Masks exercise came through again for these participants; specifically, the idea of the mask embodying an individual and it transforming oneself into a different character. As was seen in chapter 2 in the review of various Mask Theories, this concept of transformation is key in the use of masks, both culturally and artistically, so it is not surprising that these participants were affected in a similar way. Some participants simply mentioned the mask as making them feel different in a way that they could not explain. Others specifically noted that the mask made them feel as if they were someone else. One participant recalled purposely choosing a mask and garments to wear that did not match his personality; this resulted in him playing the solo as if he was a character: that of an older woman. A female vocalist who was quite apprehensive going into the exercise used the mask as a physical object, an integral part of her performance. She mentions focusing intently on it and feeling it. In the video of her performance, she can be seen tapping the mask with her fingers, using it as a percussive effect, which guided the direction of her solo as a result. She was the only participant to use a mask in such a way. While she did not specifically mention the mask transforming her or making her feel like a different person, she used the mask in a similar way, letting it completely transform how she approached her solo and ultimately the musical direction it took.

Of those who felt the Mirror exercise was the easiest of the entire study, some of the following comments were made:

- “The easiest was the mirror. With the mask or without – it didn’t matter. Mostly because I just had to rely on myself and I feel I’m pretty good with that solo stuff.” – Male saxophonist

- "The easiest was when I was looking in the mirror wearing the mask. The first thing I thought of when I put the mask on was Ariana Grande, Dangerous Woman, which is not what I wanted to think, but I thought, oh, I'm a dangerous woman and I kind of projected this little fantasy of being this sultry, strong woman who was singing of empowerment. So the mask really personified some character that I'd like to play or sing." – Female vocalist
- "Easiest I think probably, actually maybe the solo one just because I was flying solo, so just kind of did whatever I felt like was next." – Male synthesizer player
- "The solo with the mask…because I really had to concentrate and I couldn't really see myself and I couldn't see my hands, and taking that all away, you know I was just thinking about what I'm playing and how I'm developing It." – Female pianist
- "I think the solo at the end was the easiest just because I was on my own, I could do what I wanted, I could take my time with it, do my own thing." – Female vocalist

It is interesting that the focus for most of these participants was not the masks themselves (as they tended to be for participants who felt the masks aided their creative expression or helped them to open up). Those that found the exercise easiest focused instead on the fact that they were able to play alone. While one participant, a female vocalist, commented on the mask allowing her to embody a different character, and that resulting in this exercise being easy for her, most participants specifically mentioned the exercise as being easy because they could do whatever they wanted. These participants appeared to simply enjoy playing alone and not having to focus on listening to others; this was the most common reason for participants finding this exercise to be the easiest of the study.

As previously mentioned, the majority of participants who found the Mirror exercise to be impactful felt so in a negative way, feeling that the exercise hindered their creative process, made it more difficult to open up, or felt it was the most difficult exercise of the entire study. Female participants were again over-represented in the negative aspect of this exercise, making up 60% of the respondents who felt that the Mirror exercise made it more difficult to open up or made them feel self-conscious. Of those who felt the exercise hindered their creative process of made it more difficult to open up, the following statements were made:

- "The mirror one was bizarre. One thing I didn't expect was the way I looked at myself changed what I was playing. And then I played something and vice versa. So I played something and it would change the way I looked at myself… and the way I looked at myself ended up kind of creeping me out and then what I played creeped me out even more…and I felt self-conscious…these people are staring at your eyes, and you have an air horn telling you, like all these things…I felt that I couldn't open up, I just more felt self-conscious that I was opening up in this really vulnerable situation." – Male guitarist
- "Always judging yourself – you're so critical of yourself. It's very hard to let go of that and be all right with yourself…especially when you're doing that in front of other people as well…you're feeling a little self-conscious, but you're looking at yourself, and you're your own worst critic."[122] – Female vocalist
- "The mirror one was dreadful because I couldn't focus. I knew you were supposed to be looking at yourself, but that's something I don't do. Even when I talk to people I don't always do that and I have my spot (to look at)." – Female trumpeter
- "I have a dance background and especially in hip hop dancing, you're trained that you have to look at yourself in the mirror to create that attitude, but I always struggled with that too because I was so judgmental of what I look like when I'm doing something that I would prefer just closing my eyes." – Female vocalist
- "The mirror one…. not because I was staring at myself, I was actually comfortable staring at myself…but more the fact that it was three people who were just sitting around me that were staring at me – especially with you sitting right there looking at my eyes – like oh my goodness!" - Female vocalist
- "The mirror one just because I feel more confident in playing when I'm able to even glance down at my hands." – Male electric bassist

In terms of negative feeling about the Mirror exercise in terms of hindering creative processes and making it more difficult for participants to open up, two clear themes emerged in subject responses. The first was very common among pianists, percussionists, guitarists, and bassists, and that was the concept of not being able to see one's hands. Every participant who indicated that the exercise hindered their creative process more than any other in the study and also played one of these instruments noted the inability of seeing their hands as their sole reason for feeling this way. The other

[122] This participant also listed the Mirror exercise as aided her creative process, but only when wearing the mask.

theme that was extremely common among participants, particularly in response to the exercise making it more difficult for them to open up, experienced difficulty feeling comfortable either looking at themselves in the mirror or having the other participants observing (and in many cases, both). The words “self-conscious” and “vulnerable” were stated frequently in subject interviews in response to these questions. For women in particular, a large emphasis was placed on judging themselves or not feeling comfortable looking at themselves for any length of time. Of those participants who explicitly mentioned feeling as if they were judging themselves, 100% were female. This common theme amongst female participants, and particularly vocalists, explains why responses in the Mirror questionnaire were much more negative when considering women and vocalists solely.

More participants (33.3%) found the Mirror exercise to be the most difficult of all exercises within this study. Half of those who felt this way were women and half were men. Of the participants who felt this way, the following statements were made:

- “It took me about half the improvisation to get over the parameters and realize, dammit, I just have to focus on this music. Right until the end I was distracted by the parameters.” – Male guitarist
- “I’m not sure if it would have been the same if there wasn’t a camera pointing and the people weren’t in the room. I’d like to think that I’m comfortable enough with myself to not be so thrown off by it. I don’t know if that is the case. But I do think that the mirror was the most difficult and challenging.” – Female violinist
- “The mirror without the mask, from a technical standpoint but also just having to confront yourself and I think I’m going to try that exercise at home.” – Male pianist
- “The mirror without the mask and just looking at myself. I had to zone out and just stare at myself until I didn’t really realize I was staring at myself anymore to be able to keep that contact and not feel inhibited…it’s just so uncomfortable and I kind of just try to disassociate, and that’s kind of how my brain protects itself from…judgment.” – Female vocalist
- “I’m already insecure because I’m looking at my insecurity in the mirror and second of all, everybody else is watching me be that insecure, so that was tough.” – Female vocalist

Themes mentioned earlier relating to feelings of difficulty opening up or a hindered creative process were also evident for those that felt this was the most difficult exercise of the study. The difficulty of not being able to look at one's hands was evident here, but not to the extent that it was in response to hindering creative processes. Again, the idea of judgment and insecurity is still very prominent, and is only mentioned by female vocalists. Many participants mentioned this exercise as creating an environment in which one must come face to face with themselves, literally. While it was expected that participants would find looking at themselves for an extended period of time difficult, the severe feelings of judgment and confronting oneself were surprising revelations. It was also unexpected that these feelings would be so strong among not only female participants, but particularly vocalists. The difficulty of this exercise for vocalists, and the fact that many of them found the mask eased feelings of insecurity, seems logical if musical instruments do indeed act as masks, offering players security. Vocalists have no external instrument or mask; it stands to reason that a physical mask, and using it during the most vulnerable exercise, would provide a sense of security for these individuals.

Individual Exercises – Other Responses

The previous sections focused on interview questions surrounding the exercises themselves. Questions such as, which exercise increased feelings of inhibition, which exercise aided creative processes, which was the easiest exercise of the entire study, etc. were asked. While many of the answers were discussed earlier, not every participant chose a specific exercise in response to those questions. For example, when asked which exercise helped to loosen participants up, two individuals (a male saxophonist and a female clarinetist) responded that none did. When asked which exercise made it more difficult to open up or made participants feel self-conscious, one participant (a male guitarist) responded that none did. When asked which exercise hindered creative processes, 23.3%, or seven participants stated that none did. This was in fact the most common response to the question. When asked which exercise aided creative processes, two participants (a male pianist and a male percussionist) stated that none did. All respondents chose a specific exercise when asked which was the easiest or which was the most difficult of the entire study.

What is most curious about those that responded “none”, when asked which exercise affected them in a specific way, is that the majority were men. For example, of the twelve respondents that used this answer during subject interviews, 83.3% were male. Only two women in the study ever chose “none” in response to these questions; one was a clarinetist and the other a vocalist. The reasons for this discrepancy between genders is unclear, however, as was revealed earlier in this chapter, women in general appeared to be much more affected by feelings of vulnerability, self-consciousness, and judgment. It was extremely rare for the men to talk about these issues in the same way. While they too mentioned feelings of vulnerability, it happened less frequently and did not appear to be affecting them to the same extent. It is believed that because of these differences, women participants were much less likely to claim that no exercise affected them in any significant way.

What is also interesting is that the majority of subjects that responded to these questions with “none” identified as being classically trained. Of these twelve respondents, 75% were classically trained musicians. As previously mentioned in the Voice Alone section of this chapter, I believe that classically trained musicians found it more difficult to admit to weaknesses during this study. If this is indeed true, it is probable that a disproportionate number of classically trained musicians would state in their interviews that no exercises affected them in a significant way, either positively or negatively because admitting this might imply that they were not fully prepared or experienced enough to perform at their best, regardless of the exercise's parameters. Likewise, it could also indicate that they did not feel completely in control if their musical responses were strongly affected by the constantly shifting parameters of the study.

Post-Study Questionnaires

Immediately following each of the individual exercises, participants were asked to complete a longer, final questionnaire. The intention of this was to gain a broader view of the study and its participants. It included more general statements intended to get a better sense of each participant's preferred performance situations, how they viewed their relationship to their instruments, and other questions such as whether or not they have a fear of making mistakes or consider themselves to be shy. Several of the questions repeated those asked in the earlier questionnaires in an effort to gauge consistency of responses amongst participants. Some discrepancies in this respect were discovered which are discussed at the end of this section.

A sizeable number of participants stated that they had a fear of making mistakes[123] while performing, resulting in an average of 7.5. What was surprising was that women, who frequently mentioned feeling insecure during the Mirror exercise, averaged out as feeling less fearful of making mistakes than men, with an average of only 6.3. Clearly feelings of anxiety while improvising is much more complex for women. Of those that scored a 1-4 (indicating strong disagreement) for having a fear of making

[123] Making a "mistake" in the context of free improvisation generally means playing something that does not sound as intended, does not sound "good" in the context of the piece, does not allow for any kind of development, or gets a musician "stuck" and unable to move past a musical idea.

mistakes while performing, 100% were both male and classically trained. It is believed that, as discussed earlier, both men and classically trained musicians are less willing to admit to weaknesses in their performance abilities. This is believed to be another example of that phenomenon.

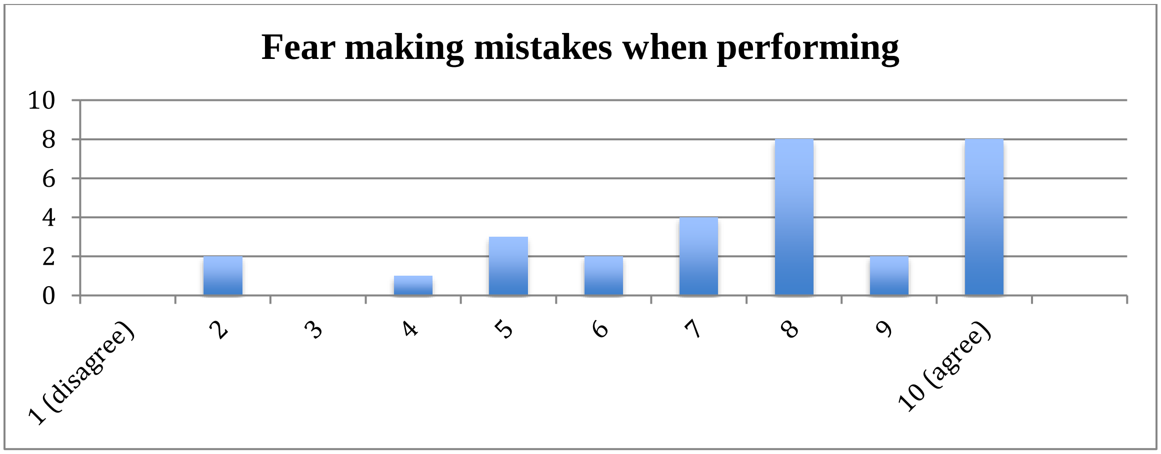

Figure 43. Post-study responses – Fear of making mistakes when performing

A large number of participants agreed that they felt a connection with the other players in their group over the course of the study. While this number varied from exercise to exercise, it averaged at 7.9 for the final questionnaire, which is a higher average than any of the individual exercises. It is interesting that when reflecting back on the entire study and all of the individual exercises, participants elevated their feelings of connectedness in their responses. No participant scored less than 5 in response to this statement. Participants scored their feelings of group communication in a very similar way. While responses varied between exercises, they scored a final average of 8.3 which, while not the highest average of the entire study (the highest was in fact the Dark Room exercise), this average is still quite high when looking at responses to the individual exercises. Once again, no participant scored less than 5 in response to this statement.

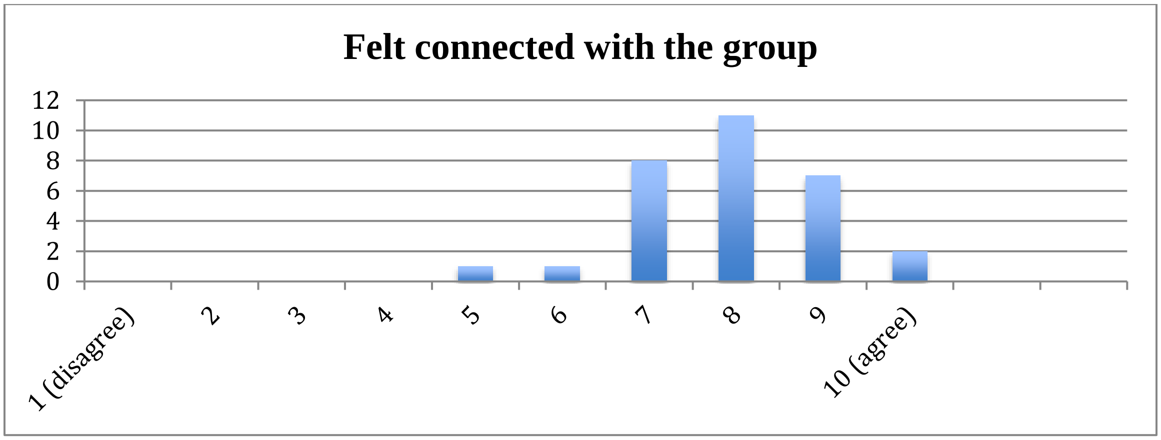

Figure 44. Post-study responses – Felt connected with the group

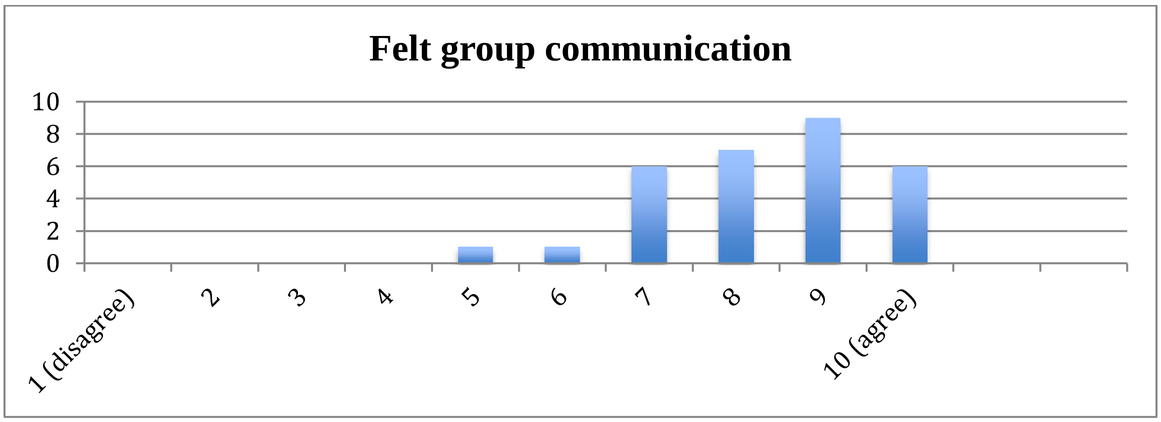

Figure 45. Post-study responses – Felt group communication

The final questionnaire began to delve deeper into how participants communicate non-verbally through improvisation and how they see their connection with others. Some of the statements they were asked to agree or disagree with included: “When I improvise in a group I can sometimes sense what the other players are going to do”, “I can communicate with my instrument in ways that I can’t verbally”, and “I would rather improvise in a group than socialize with that same group.” Participants were also asked to rate how shy they considered themselves to be in order to see if any connections existed between feelings of shyness and a preference for communicating musically or for exercises when other participants could not see each other. 40% of participants identified as being shy.[124] As previously mentioned, no connection was found between those that identified this way and a preference for exercises such as the Dark Room or Masks where the participant's faces are obscured from view.

Responses to whether or not participants felt they could anticipate or sense what other players were going to do averaged fairly highly at 7.7. Men scored higher on this question than women; when considering women alone, the average dropped to 6.5. Responses to whether or not participants felt they could communicate with their instruments in ways that they could not verbally were also quite high, averaging 8.1. This sentiment came across very clearly in subject interviews. What is curious about responses to this question was that while most responses were very high, the Lethbridge group, which contained primarily electronic musicians, scored very low, averaging only 4.6. Even vocalists, who do not have a physical instrument, scored very high with an average of 8.6. It is believed that participants feel more removed from electronic instruments and that the connection between them and their instruments is not as strong as it is for both vocalists and players of acoustic instruments. A greater number of participants would be needed to explore this idea further, though it is certainly notable that players of electronic instruments responded so vastly differently in this respect. Responses to whether or not participants would rather improvise than socialize with the same group of people were fairly high as well, but lower than the previous questions, averaging 6.5. Responses to this question were once again lowest amongst the Lethbridge group, who scored an average of only 5. This response was also attributed to the group of electronic musicians not experiencing the same kind of relationship with their instruments. It is possible that they feel they cannot communicate on as deep a level as the other participants.

[124] This was determined by considering all participants who responded to the statement about shyness with a ranking of 7 or higher.

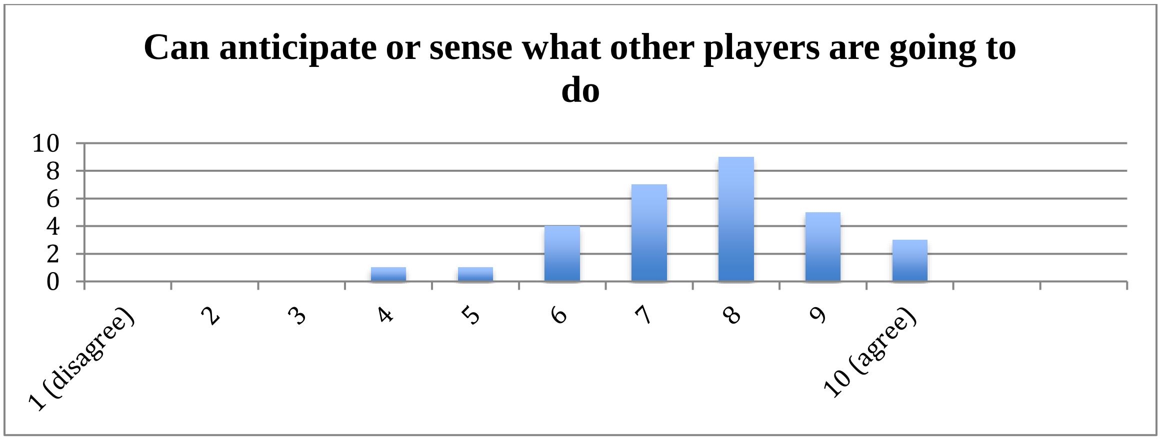

Figure 46. Post-study responses – Can anticipate what other players will do

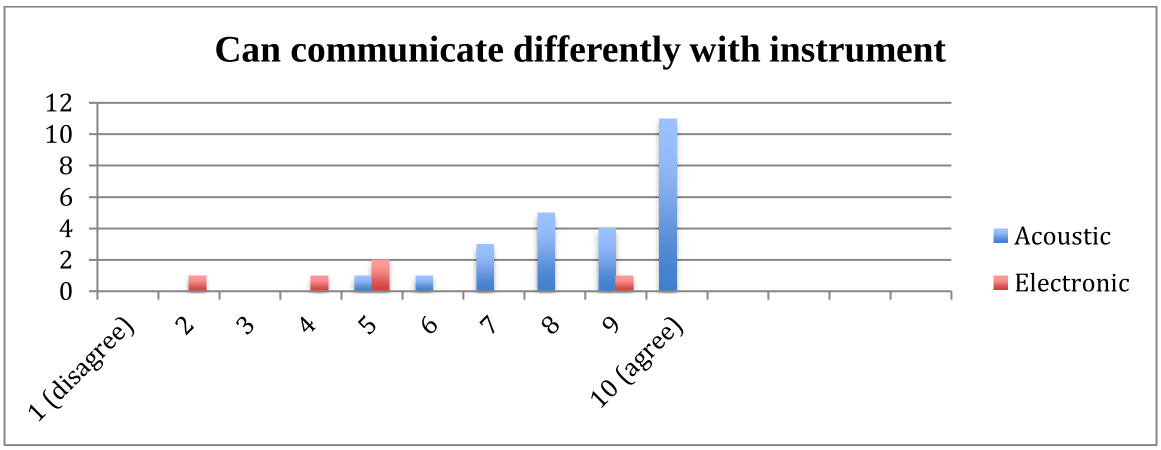

Figure 47. Post-study responses – Can communicate differently with primary instrument

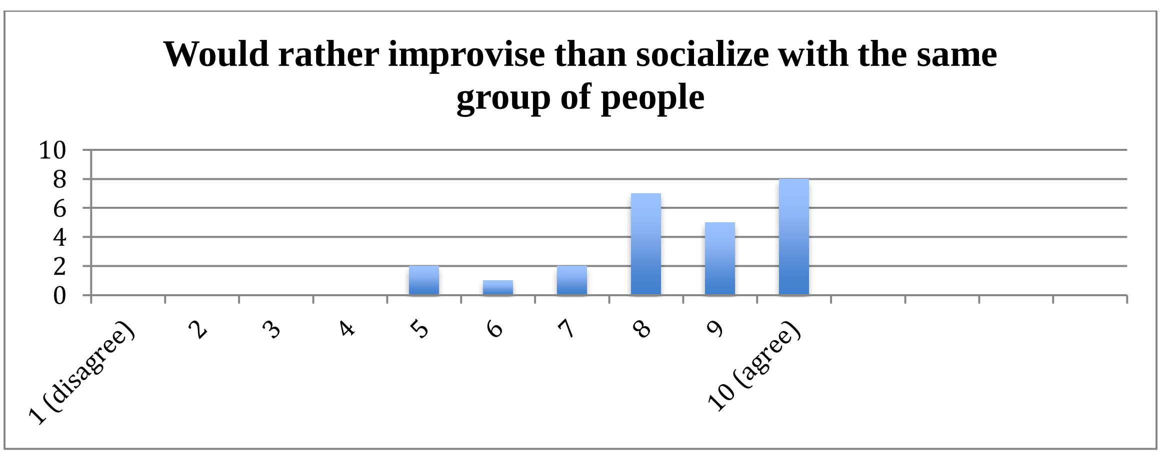

Figure 48. Post-study responses – would rather improvise than socialize

To begin to examine each participant's relationship with their instrument, they were asked if they felt that their instruments acted as extensions of themselves (this was also asked in the final interview). A majority of subjects agreed that they did see their instruments this way, averaging 7.8. Once again, the Lethbridge group scored this question significantly lower than everyone else; the only exception being the pianist in this group. As the only acoustic instrumentalist in the group, he scored this question with a 10, indicating that he strongly agreed that his instrument was an extension of himself. When considering only the Lethbridge participants, the average in response to this question dropped significantly to 5.5. When excluding the pianist in this group, the average drops to 4.6. Surprisingly, the vocalists, who have no physical instrument, gave an above average response of 8.6 collectively. Reactions to this question seem to further validate that electronic musicians do not appear to have the same connection to their instruments as acoustic players. Yet vocalists have at least the same degree of connection, perhaps even more so because their voice is literally a part of their body.

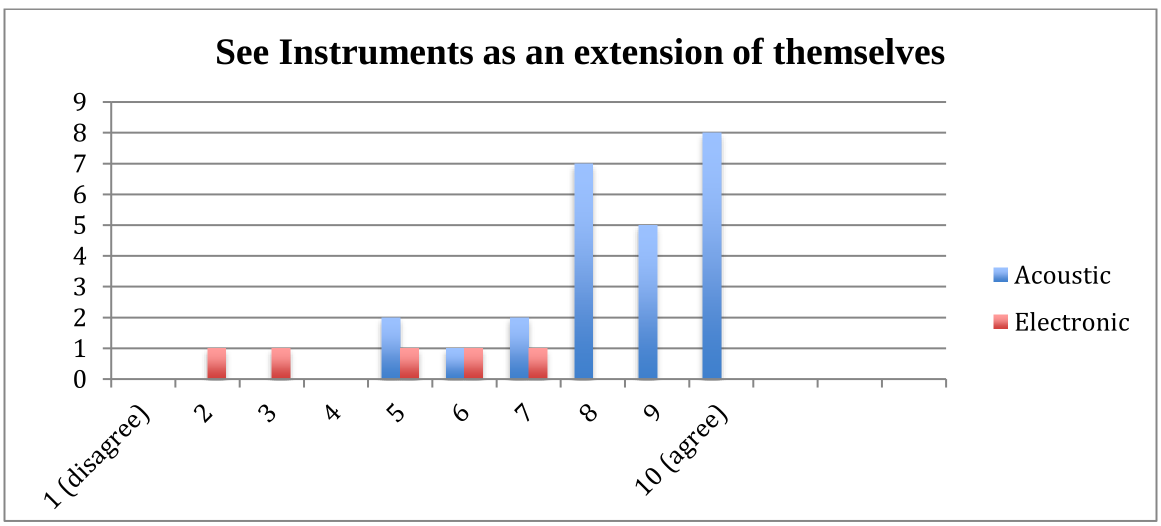

Figure 49. Post-study responses –See instruments as an extension of themselves

In the post-study questionnaire, there were a series of questions asked which repeated ones from earlier in the study. These questions were meant to re-evaluate participant feelings of inhibition in each of the individual exercises. While most of these responses stayed in the same range as when they were asked in conjunction with their corresponding exercise, there were some significant inconsistencies with a small number of participants. For example, when asked if they felt less inhibited in the Dark Room, participants averaged 7.4. This is a fairly significant increase as it averaged only 6.6 when asked immediately after the exercise, and seven participants (or 23.3% of the sample) increased their response by 3-6 points. Of those that increased their agreement that the Dark Room made them feel less inhibited, 71% were male. Participants were asked the same question regarding their feelings of inhibition in the Instrument Switch exercise. Responses here did not change very much with only a .2% increase in agreement (from 4.8 to 5), resulting in a fairly neutral response about this exercise. When the same question was asked concerning feelings of inhibition during the Voice Alone exercise, the average also only rose slightly from a 4.8 average immediately after the exercise and a 5.1 average at the end of the study. While this increase is negligible, it is surprising that even the vocalists did not feel that their inhibition was lowered when all participants were also forced to use their voices. In fact one vocalist responded to the question with a 2, and another with a 4, indicating that they in fact did not feel less inhibited at all. Responses were nearly identical for feelings of inhibition about the Masks exercise, with a change only from 5.8 to 5.9, however vocalists again seemed to feel less inhibited in masks than the other groups as they averaged 7.6. Participants were asked whether or not they felt more inhibited during the Mirror exercise, averaging 7.2 after the study. What is interesting is that this average dropped, as it scored 7.6 when it was asked immediately after the exercise. It is possible that the feelings of anxiety or inhibition had started to wane by the time the post-study questionnaire was distributed.

Participants were asked if having their faces obscured from view affected feelings of inhibition to gauge whether or not the Dark Room or Masks exercises had an impact in this respect. Results were consistent with what was revealed after the individual exercises, which is that covering or hiding the face appears to have a minimal effect on feelings of inhibition; for the Dark Room and Masks exercises, there were other factors that affected responses. In response to whether or not participants felt safer taking risks when their faces could not be seen, feelings were fairly neutral, averaging only 6.0. While most of the participants that felt strongest in response to this question (those who ranked it 10 or similar) were female, there were just as many women who also ranked their responses lower, so the average among all the women was not significantly different from the rest of the group.

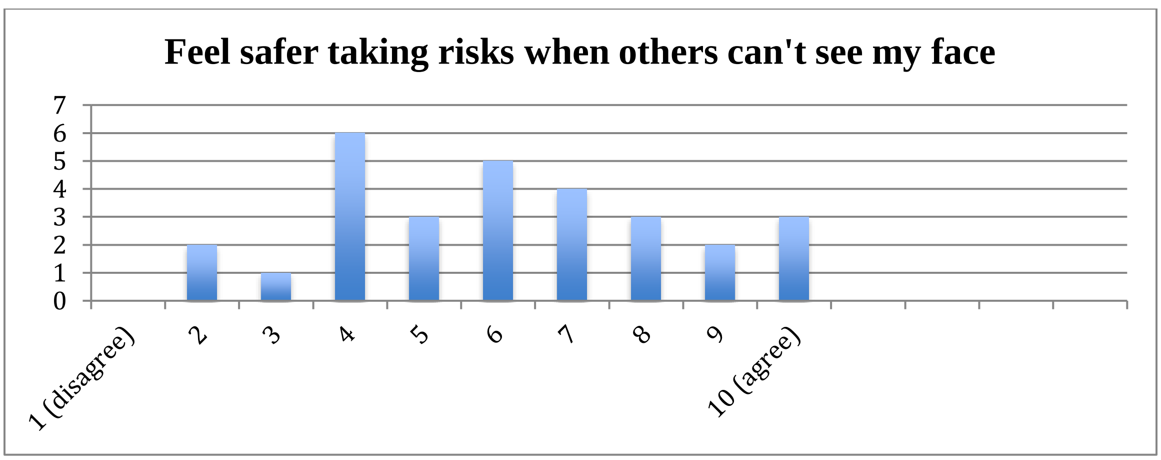

Figure 50. Post-study responses – Felt safer taking risks when others can't see face

To delve deeper into whether or not performers of improvised music have a relationship with their instrument similar to that of masks in past and present culture, participants were asked a number of questions on both the final questionnaire and interview. For example, on the final questionnaire subjects were asked whether or not they feel less "on display" when in a performance situation with a physical instrument; whether or not they feel they can express themselves through their instrument in ways that they can't without it; and whether or not they view their instrument as a kind of "security blanket", making them feel safer and less "on display".

In response to whether or not subjects feel less "on display" with their instruments, the questionnaires averaged at only 6.6, which was lower than expected despite the fact that most participants did agree. However, the subject interviews, which will be discussed later in this chapter, seem to indicate that agreement with this statement was in fact higher than the questionnaires seem to indicate. This may have simply been due to subjects getting more clarification in the interviews and being given an opportunity to expand upon the subtleties of their feelings. There appeared to be no specific pattern regarding who agreed or disagreed with the statement. A majority of participants, averaging 8.0, agreed that they could in fact express themselves with their instruments in ways they could not without. This average was lower again when only considering the electronic musicians, who averaged only 6.4 as a group. Finally, in response to whether or not instruments served as a type of "security blanket" for participants, the majority of participants agreed, but the questionnaire responses averaged out to 6.4 in terms of their level of agreement. However, some discrepancies were discovered here. For example, a male bassist scored this question with a 2, indicating strong disagreement. Yet, this individual, who also happened to find the Voice Alone exercise difficult, was observed holding his instrument long after the other participants had put theirs down after learning they would be only using their voices to perform. This kind of behaviour, holding onto the instrument after being told it would not be needed, certainly implies the opposite of what this individual scored on his questionnaire given that he was about to perform an exercise that made him feel self-conscious. The act of holding the instrument for an extended period of time when it was not necessary seems to indicate that it was in fact being used for comfort. This individual, a classically trained male, also fits the trend of those who tended to be the most reluctant to admit weaknesses during this study. A male guitarist who also found the Voice Alone exercise to be stressful was similarly observed holding his instrument for much longer than necessary, and he admitted to doing this in his interview when asked about it.

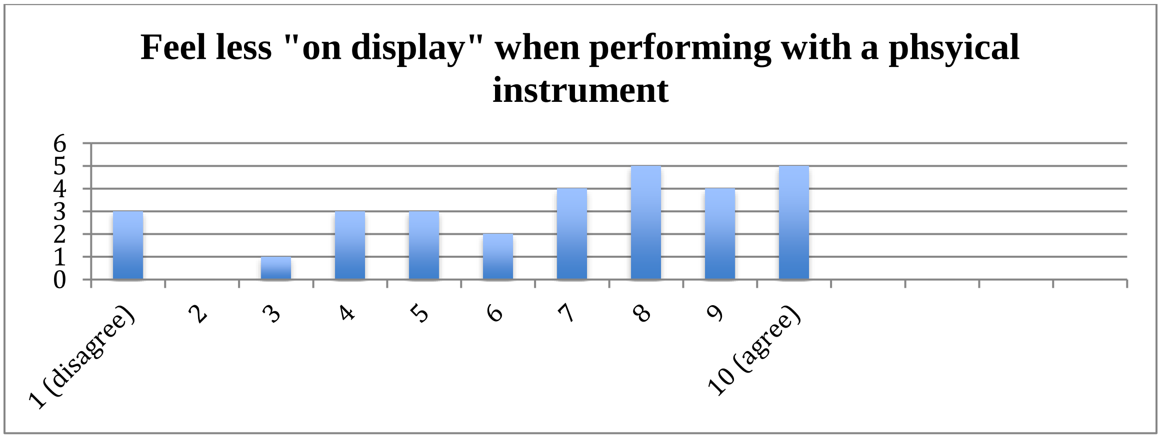

Figure 51. Post-study responses – Feel less "on display" with a physical instrument

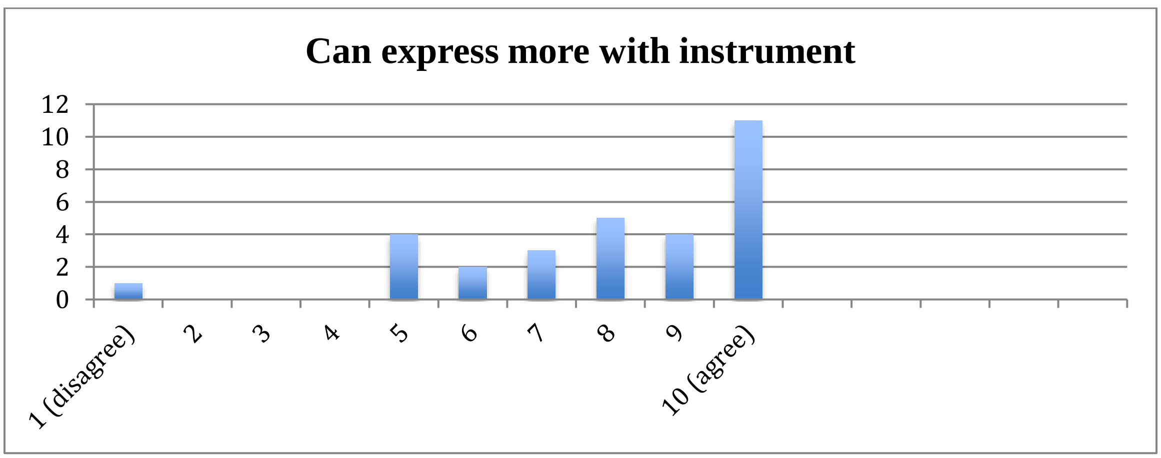

Figure 52. Post-study responses – Can express more with instrument

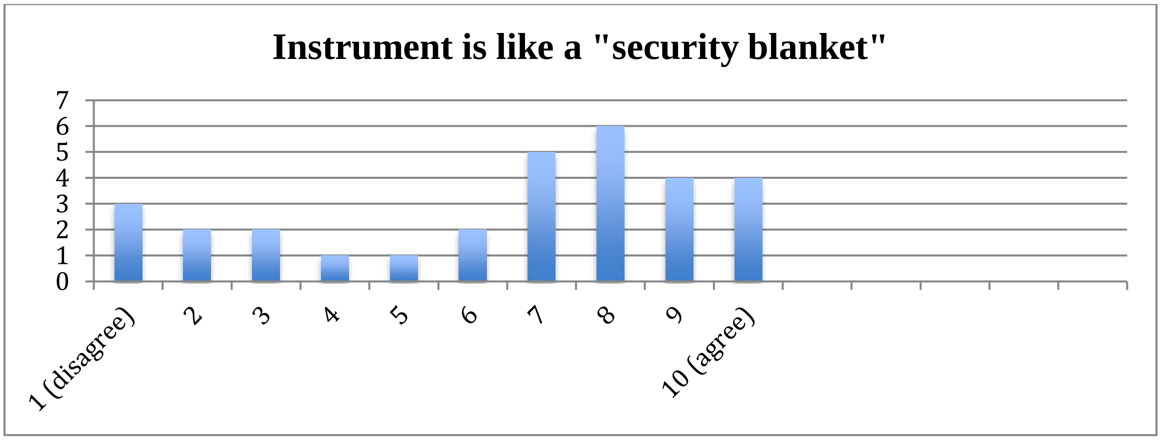

Figure 53. *Post-study responses – Instrument is like a "security blanket"*

Instruments as Masks

During the final interview, participants were asked questions intended to reveal whether or not their relationship with their instruments functioned like that of an individual and a mask in the context of group free improvisation. As previously discussed in chapter 2, there are many ways in which mask relationships work, though in the context of this study, it is believed that instruments function like masks as transformers. Essentially instruments, like masks, allow musicians to transform, revealing different parts of themselves and expressing themselves in ways that are not achievable through any other mechanism or means. To better understand this relationship and to examine how young free improvisers feel about it, participants were asked these three questions:

1. Do you feel that your instrument acts as a sort of mask, allowing you to "be" or "portray" someone different when you perform with it?
2. Do you feel that your instrument acts as a sort of mask, allowing you to be the same person, but express different parts of yourself when you perform with it?
3. Do you feel that your instrument acts as a sort of mask that allows you to feel more secure while on stage or performing with other people?

After conducting a small number of interviews, it was determined that asking questions 1 and 2 together was more effective than asking them one after the other. It was observed that after a participant answered question 1, they would often change or dismiss their previous answer when hearing question 2, usually finding it more applicable. Question 3, however, was always asked on its own. It was also asked during the final questionnaire, so the interview allowed for a deeper understanding of responses.

When asked, “Do you feel that your instrument acts as a sort of mask, allowing you to “be” or “portray” someone different when you perform with it?” 47% of participants agreed at least somewhat. Of these respondents, 27% completely agreed, and 20% agreed in certain circumstances. Of all instruments, vocalists, percussionists, and guitarists were most likely to feel that their instruments allowed them to, at times, be someone else. For vocalists, this is not surprising because they, particularly classically trained vocalists, are taught to play or portray characters and express their emotions through song, particularly when performing opera, musical theatre, or Art Song. It is more surprising that percussionists and guitarists identified with this so strongly. One theory is that these instrumentalists are more likely to perform in contexts of popular music, including rock bands, where it is more common for artists to carve out a persona or public image; something that classical musicians and free improvisers, at least in the early stages of their careers, are less likely to do.

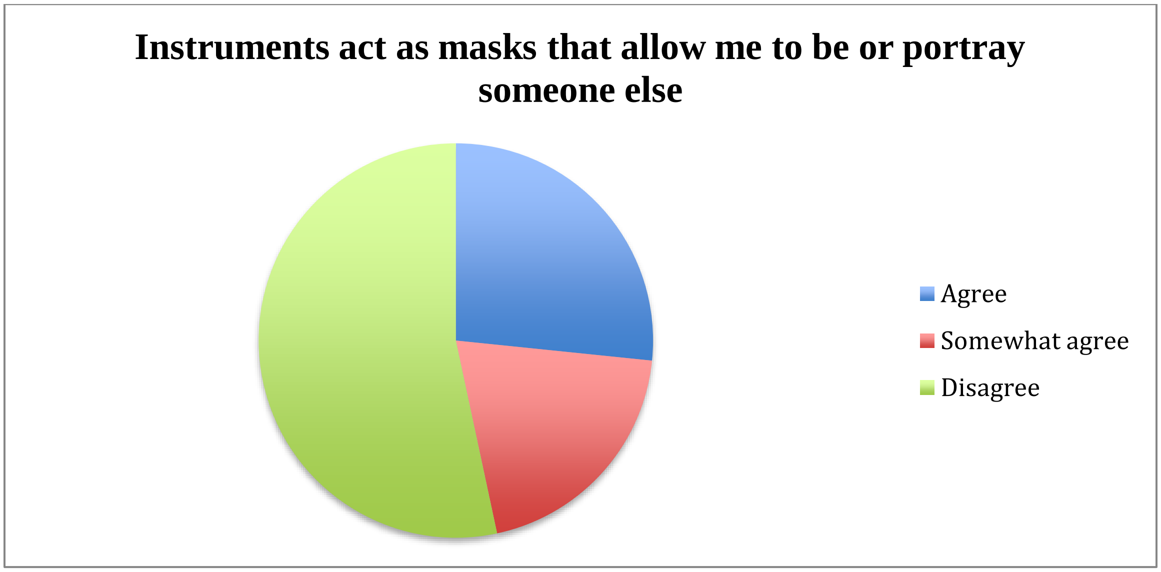

Figure 54. Instruments as masks – Instrument allows one to be or portray someone else

For the participants who felt their instruments allowed them to transform into a different person, many believed this was more valid in the context of composed music. It appeared to be far less so in the context of improvised music. For example, some of the comments made by participants who identified with this concept when playing composed classical music were as follows:

- "If I'm not improvising, then I'm usually, for the sake of the piece, trying to be someone else anyway. I'm trying to be Brahms, I'm trying to be Beethoven." – Male violinist
- "I do feel that I can jump back in history and just be some pianist, or be some musician who I'm really not…" - Male pianist

The results of the study discussed earlier indicated on multiple occasions that the vocalists appeared to struggle the most with issues of self-confidence, both during the study and in general, as people and performers. For the vocalists who felt that their voice had the power to transform them into someone else, many made comments implying that it was also a way of disguising or dealing with their own lack of self-confidence. For example, vocalists who felt this way made the following statements:

- I'm so attached to my voice, metaphorically and physically, that it can just be so difficult to get over myself and I think, don't be so stupid, it's not that big of a deal, but it's me, and it's hard to get over me… it's so much easier just to pretend." - Female vocalist
- "For me, with my voice, I know when I was in school, my voice was a way to disguise the lack of self-confidence I had." – Female vocalist
- "I don't know how others perceive me, but I perceive how they might perceive me to be a certain way…so my voice I think sometimes tries to counter my perception of how they're perceiving me. My perception of how others perceive me is like a nice, friendly, cute, smart but kind of in an emerging sense, not as a strong woman kind of thing, so when I improvise, I want that to come out." – Female vocalist

It is clear from the statements above that self-confidence is a hurdle for these musicians; however, they are able to deal with it when performing by using their singing voices as a mask. As one participant mentioned above, she has been able to successfully use her voice as a mask to disguise her lack of self-confidence and appear differently to others. Even without a physical instrument, vocalists still view their voices as separate and are effectively able to use it as a type of mask, just as instrumentalists are. Despite this, vocalists appear to have greater difficulties with self-confidence due to the fact that they lack a physical instrument. Throughout the study, wearing a physical mask had the greatest impact on the vocalists. Donning a physical mask appeared to transform them in a much more substantial way than any other instrumental group. Vocalists appear to still use their instruments as masks, but they are unable to use it to the same extent as other musicians due to the fact that their mask is not physical, it is only metaphorical.

During the individual exercises, several participants mentioned the idea of acting, playing a part, or becoming someone else when wearing a facial mask. This experience is not overly surprising given the role of masks throughout history, but also in the realm of theatre, where masks can be used to help an actor not only portray, but also embody a different character. It is interesting that for freely improvising musicians, instruments are capable of achieving this as well. Vocalists mentioned this idea throughout the study, but it also had meaning for other instrumentalists. As mentioned above, some musicians do this by trying to "be" or embody the composer whose work they are performing. However, this idea is also valid strictly within the realms of improvised music, evidenced by the following participant statements:

- "I've found also sometimes I like to take on a different persona…and it's fun to do that. It's kind of like acting I'm assuming." – Female violinist
- "Yes, my instrument is most definitely a mask in the sense that how you might act differently in public when you have a mask on. What I do when I play a guitar is very different from what I do when I play a keyboard or something like that I would say."- Male guitarist

It is interesting that the guitarist portrays a different persona not just when he has his instrument, but also when he plays different instruments. This concept was rarely mentioned by participants; however, they were also not asked questions geared towards multi-instrumentalists or how performing can be different from one instrument to the next. This study focused strictly on each participant's relationship with their primary instrument.

When participants were asked whether they felt their instruments allowed them to be or portray someone else, several participants disagreed quite strongly, at least in the context of improvised music. Many of these players felt improvising was a very personal and cathartic experience; so using it to be someone else was not considered an authentic practice. Some of the statements made by those who felt this way were as follows:

- "That idea when you're improvising, if you're using someone else's playing as a mask or some other genre or what have you as a mask, that's something I don't like very much, because it's much less cathartic." – Male guitarist
- "In order to [improvise] well you need to be uninhibited…to wear a different perspective that isn't genuine to you – it isn't doing any favours in an improvisational context." – Male pianist
- "What I feel like in being someone else – I think it's less true because if it's actually not you or not a part of you… I feel like I cannot make melodies. I cannot play if it's not in me." – Male guitarist

The concept of authenticity while improvising appears to be substantial for many of these participants. While several participants were still able to use their instruments as a way of transforming them into someone different in order to counter a lack of self-confidence or simply to play a role, the majority identified much more strongly with the idea that the instrument does not hide but rather reveals the individual.

The second interview question regarding instruments as masks was, “Do you feel that your instrument acts as a sort of mask, allowing you to be the same person, but express different parts of yourself when you perform with it?” This question resonated considerably more with the participants of this study. 77% felt that it was very true for them while an additional 13% felt that it was true in certain circumstances; a total of 90% agreed at least somewhat with this concept. There appeared to be no clear patterns regarding which participants identified the most to this idea, though there was a higher number of women who identified with both this notion and that of instruments allowing one to be or portray someone else. Participants from all instrument groups generally responded in a similar way.

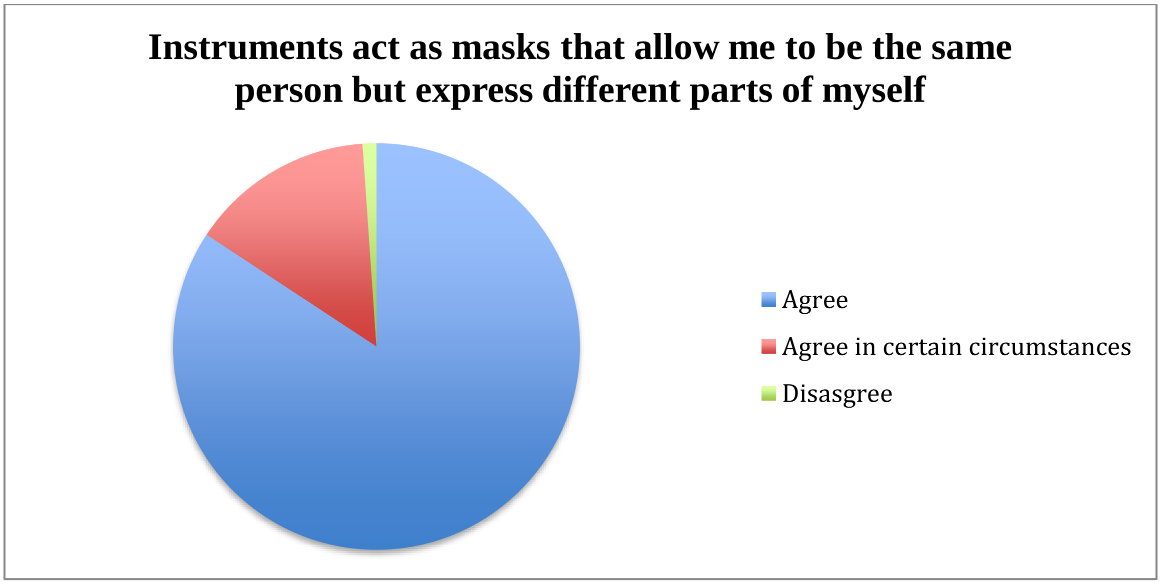

Figure 55. Instruments as masks – Instrument allows one to express different parts of themself

When answering this question, several participants expanded upon the idea of communicating differently with either an audience or other musicians and allowing themselves to utilize a different process of expressing themselves. Some of the comments made to this effect were as follows:

- "I think I'm comfortable making some statements with my instrument that I wouldn't be verbally…I can be talking about a dramatic experience without having to share the personal details." - Male violinist
- "It allows me to go further with my language than I can speaking like I am right now. If I was playing this conversation on piano it would probably go a lot smoother." - Male pianist
- "The saxophone…lets me get very aggressive and loud, in your face I guess. It's just a lot of the things I'm not… I guess it is allowing me to amplify those other parts of myself that I don't put on display so much." - Male saxophonist
- "I think there are certain aspects about my personality that I wish I could express in just sort of a personal social way that I'm far more adept at expressing with an instrument." - Male trombonist
- "It's accessing parts of me that otherwise wouldn't be accessed – giving space for them and letting them out." - Female vocalist
- "There are some things that you can't express without an instrument." Male percussionist

These comments are significant because they shed some light on the effect that instruments can have if we view them as masks within the confines of group free improvisation. Many other participants echoed the sentiments above in their interviews. Clearly for these young musicians, performing with their primary instrument allows them to channel different modes of conversation and communication. It could potentially be a very therapeutic and cathartic process given some of the ideas expressed above, such as the ability to share dramatic experiences in a way that would not be comfortably expressed in words. One of the participants mentioned accessing parts of herself through improvisation that can not be accessed any other way. It is the individual's instrument that is allowing for this process to take place; it is a transformative process resulting in the individual expressing not only more of themselves, but expressing parts of themselves that simply would not be expressed otherwise.

Other participants in the study discussed this process as being very personal and went into a little more detail about what they were trying to express as well as trying to articulate what that process was and how it unfolded through improvisation. While no one participant had a truly concrete answer regarding what specifically their process was, some of the comments made were as follows:

- "If it's coming out of you, it's definitely a part of your personality. It has to exist inside of you for you to be actually able to emulate it." – Male pianist
- "I can say things or express things that I understand in more details, and if those details were more explicit I'd be less likely to express those things" – Male guitarist
- "I align with myself a lot more with the person that I think I am in this kind of context [improvising] with my instrument than I do otherwise. And that's why I gravitate towards it I think most of all." – Male bassist

The personal nature of expression through free improvisation has always been at the core of this type of musical expression; it is more prominent with free playing than any other type of improvisation or performance practice. For the players involved in this study, this aspect of free playing was certainly felt and communicated through their interviews. Perhaps the first comment above resonates the most regarding the idea of instruments acting as masks allowing people to express themselves differently. The idea that anything a person expresses must come from within and must be part of them makes the first idea, that of instruments allowing you to be or portray someone else, less valid, at least on a regular basis. It appears that the idea of group free improvisation allowing for a deeper type of expression, and specifically a safer type of expression, was appealing to the individuals in this study. The bassist quoted above went on to compare his experiences of playing classical music to the exercises in this study and noting how through improvisation he is able to get more to the core of who he is, and that is the main reason why he gravitates to it.

Despite the strong agreement with the idea that instruments act as masks allowing a person to express different parts of themselves, there were a few subjects who felt both this idea and that of masks transforming them into someone else both carried equal weight for them, depending on the circumstances. Some of the participants that felt this way had the following to say:

- "It would display different parts of me that weren't always out on display, like the parts of me that are really confident. So when I'm out on stage being that diva – I actually do have that confidence and I really enjoy being the more dominant person out on display. So it really is both" - Female vocalist
- "I would say I would be both…in this particular exercise today I felt like it was just an extension of who I was. But there are moments when the music can take me into this other place…and this really weird, almost devilish music comes out." – Female clarinetist
- "I can totally channel the inner parts of my soul to create something musically that I think represented my thoughts and my current state of mind as well [as using it to be a different person]." – Female violinist

It is curious that women were more likely to relate to both concepts of masking through instruments; that of the instrument allowing one to be someone else and that of the instrument allowing one to access or express different parts of oneself. It is not surprising that vocalists would be able to identify with both ideas; it is more surprising that a clarinetist and violinist would also be able to identify to a similar extent. While neither goes into great detail about how the two processes are different or what makes them distinct, the clarinetist implies that she is able to create music that she does not personally identify with, that she must not think about in a conscious way, yet is able to produce confidently. Clearly this too is a transformative process. While most individuals in this study identified more with the idea that their instruments opened up new channels of expression, some were also able to achieve a different kind of transformative process that allowed them to access music they did not know was within them or portray a person or character different from themselves.

The final question relating to instruments as masks in the post-study interview was, “Do you feel that your instrument acts as a sort of mask that allows you to feel more secure while on stage or performing with other people?” This question was also asked (but worded slightly differently, asking participants if they felt less “on display” when on stage alongside their instrument) on the final questionnaire. When asked in the questionnaire, participants responded with an average of 6.6 in agreement that their instruments help them feel less on display. However, when this question came up in the final interview, 60% agreed completely and 30% agreed in certain circumstances. Only two participants completely disagreed (a male pianist and a male synthesizer player), and two participants (both vocalists) felt the question did not apply to them.

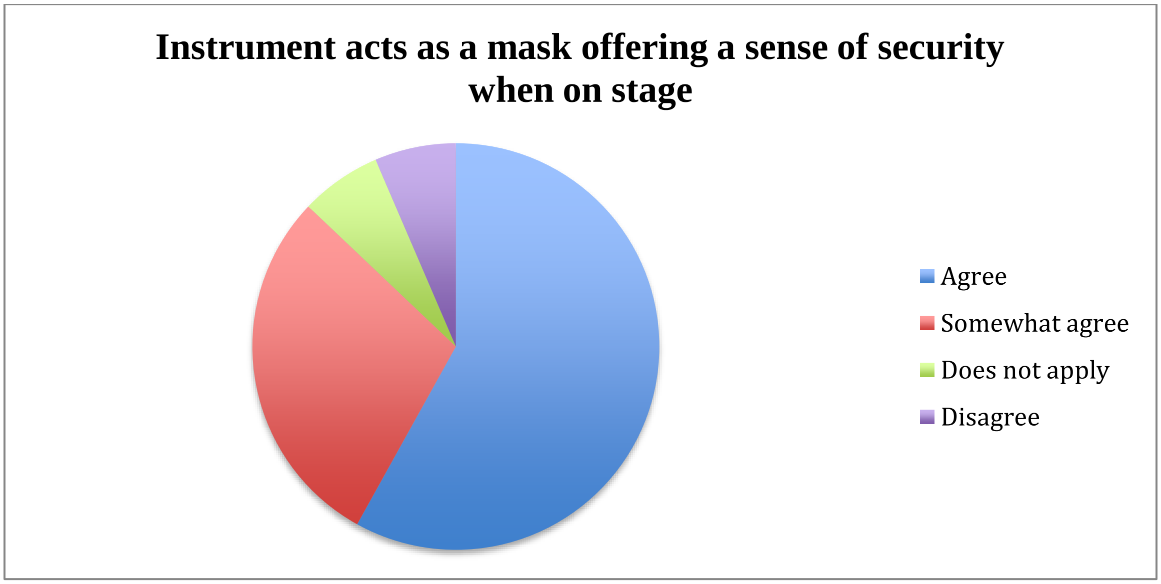

Figure 56. Instruments as masks – Instrument offers a sense of security when on stage

In addition to participants feeling that their instruments allow them to express different and deeper parts of themselves, the majority of participants appear to also find security in simply having their instruments with them. Some of the comments made to this effect were as follows:

- "When I play shows on drum-set, I don't have to look at people or anything. The kit is in front of me and I'm able to look at it and people are able to look at it, and if they're looking at me I can't tell." – Male percussionist[125]
- "I've definitely observed in myself that when I'm not standing behind an instrument and I'm in front of a lot of people, 'what do I do?' There's definitely a feeling of being exposed when I'm not sitting behind a piano" – Male pianist
- "That's my voice, you know? Even feeling it in my hands, whether playing it or not, is still safety…. [Recalls an incident in the past] We were all facing in a circle and I was across from this particular person and I was feeling attacked almost. So I had put the clarinet up as literally a shield. This is me, you know? …I do feel safe with my instrument. It protects me." – Female clarinetist
- "With my violin, it is literally, it's like a hand to me, so I do feel a lot more comfortable with that."- Male keyboardist[126]

[125] This answer was given in response to a different question, but applies more strongly to this idea of instruments acting as masks.

[126] This individual completed the study in the Lethbridge group on electronic keyboard, but he identifies acoustic violin as his primary instrument and felt the experience of performing with this instrument was very different and more intuitive.

What was expressed frequently was the idea of finding security in one's instrument. The percussionist interviewed finds that his instrument can act almost as a shield between him and his audience. The pianist has the feeling of exposure largely removed when he is in front of people with his instrument. The clarinetist echoed the idea of the instrument as a shield, stating that it not only is her own voice and is a part of her, but it also protects her; in this case, she felt the instrument acted as a shield against an individual she felt was attacking her verbally. The keyboardist, while being a violinist primarily, feels that the instrument is literally a part of him. Taking it away is like taking away an appendage.

Several participants specifically noted the difference in their relationship with their instruments in the contexts of playing classical music versus improvising. As has been noted several times already, the context of playing classical music appears to create significantly different responses in participants, affecting their ability to express themselves, their overall comfort levels, and their perceived closeness to their instrument. This also seems to apply largely to practitioners of jazz improvisation, where there are specific structures and rules to follow when improvising. While not mentioned as frequently as classical playing, some participants did mention the difference in comfort levels between jazz and free improvisation. Some of the comments made to this effect, were as follows:

- "In a 'note-y', 'expectation-y' setting [such as classical music], I feel like there is an expectation you have to follow and you're not really allowed to deviate. But I mean, you need a group of folks [like those in this study] and they want to play some music and I'm there and I can contribute, put the spotlight on me, I don't care." – Male bassist
- "As a musician, a lot of educational programs are teaching people how to, not necessarily intentionally, but teaching people how to play music 'in-genuinely', in the sense that you're often learning sounds that are being imposed upon you. I don't feel as skilled at being 'in-genuine' on my instrument as I am at being 'in-genuine' when I speak. That's a good thing. That's part of the reason why I feel it's a mask I'm secure with – it feels more genuine." – Male guitarist

- [Participant described a story where she felt very secure freely improvising with her trumpet at a house concert] – “this actually is part of my face.” [She goes on to describe another experience playing very structured jazz that she wasn’t as secure doing – where she opted to sing instead of playing trumpet because of her insecurity]. – Female trumpeter[127]
- “When I played classical piano I always got really bad nerves. It didn’t matter if it was just a few people or a concert. But when I improv, there’s just too much focus to have any of that going on.” – Male pianist

All of these quotations describe the significant difference in perception between playing free improvisation in a group versus playing a classical piece or a structured jazz piece. Many of the participants above discuss issues of insecurity and anxiety when performing classical music, implying there is an unseen force applying pressure to play all the notes right, or as one participant put it, play in an “in-genuine” fashion because the notes or sounds are being imposed. As mentioned in the literature review, a number of studies have already been conducted showing free improvisation practice can help musicians with performance anxiety. It is interesting that some of the quotations above imply this to be the case for these participants as well; subjects feel it is okay to be the focus of attention in a performance situation when improvising.

As previously mentioned, two of the five vocalists felt that this question did not apply to them. Some of the comments made by the other vocalists in this study about their instruments providing a sense of security for them when on stage were as follows:

- “If I had something physically in front of me, it would be a completely different story, but it’s from inside.” – Female vocalist
- “The music itself is kind of like a mask. Something that I’m vocalizing, its still…something for me to do.” – Female vocalist
- “I mean if I were to do anything on stage, I’d want to be singing, so it does act as a mask in that way. I think it makes me feel more confident when I’m there.” – Female vocalist

It is not surprising that vocalists would have difficultly identifying with this question, as they have no physical instrument to offer security. As the first vocalist stated, having that

[127] This story was too long and convoluted to quote in its entirety.

physical instrument would likely make their experience entirely different. However, having said this, some vocalists still felt that their voice had the ability to be separate from themselves, still operating as a type of mask. For them, singing still offered security and a sense of confidence, like a mask, despite the voice being an instrument that is more internal and less physical.

Of the two participants who felt their instruments did not provide security on stage, one was a classically trained pianist and the other was a synthesizer player in the Lethbridge group. The synthesizer player's appearance here is not surprising given the fact that this group of players appear to have a different relationship with their instruments. The pianist's response is more surprising, though this particular participant expressed throughout the study that he had an unusual relationship with his instrument, feeling less connected to it and feeling less like it was an extension of himself. When discussing this in his final interview, he had the following to say:

- "Absolutely not [my instrument does not give me security]. I think I'm doing it right when I feel a lot more exposed at the instrument…. It all depends, but for the most part I'd feel more exposed. There is sometimes a lot of baggage that comes with the instrument." – Male pianist

This is an interesting perspective and relationship to one's instrument, and one not very common at all in the confines of this study. However, it is a useful perspective to have because it shows that not all musicians (and perhaps this is more common amongst classical musicians) have a secure relationship with their instruments; they just do not appear to be the majority of improvising musicians.

Instruments as an extension the self

One of the questions asked repeatedly in this study (in the first interview, final interview, and final questionnaire), was what does it mean when people describe their instruments as extensions of themselves and do the participants feel that their instruments act as extensions of themselves. This question was asked as a means of more fully understanding participants' relationship with their instruments. If their instruments act as masks, allowing them to more fully express themselves and feel more confident, does this also mean that they feel a closeness to their instrument, as if it were a part of their bodies? The short answer to this question is yes. The majority of participants were in agreement and felt this way about their instruments. However, as previously noted, there was a significant discrepancy in responses between acoustic and electronic musicians. Even the vocalists, who have no external instrument, generally felt quite strongly that their instrument is indeed an extension of themselves. Some of the descriptions of this from subject interviews were as follows:

- "When I was improvising today, I felt like my instrument was a sort of extension of my voice, literally my voice. But that is born out of a desire to play my instrument with an approach that is singing-like." – Male pianist
- "It's me! It's me. You take it so personally. You take everything so personally because it's you. That's it." – Female vocalist
- "I find when I'm improvising that it does become an extension of myself. I find that I'm much more in tune with my singing voice than I am when I'm trying to sing classical music or even jazz – anything more structured."- Female vocalist
- "To make my instrument function, I need to breathe. And whether it's just sort of playing sort of traditional technique or if it's extended technique, it all physically – like I can feel a vibration in my body, whether its my vocal chords are actually just sort of sympathetic vibration in my body, and in that…I'm physically molded to play this instrument… it just feels like it's not a separate entity. Like as far as my brain is concerned – it's flesh, it's not brass." – Male trombonist
- "Sometimes I feel it's actually more of a handicap…especially when it comes to notes in front of me. But here [in an improvised context], that kind of gets dispelled and that's where I have a lot more fun." – Male bassist
- "It's almost like I move with it – the music. The harmonies, they disappear into it. It's easy… You just do it, you become it." – Male pianist
- "Usually I'm a very shy person, so when I play the trombone I kind of become this meme I guess is the best way to say it. So it really makes me happier and kind of opens me up...it always makes me feel like I'm at home and it makes me feel confident with myself – both towards socializing and helping me open up." – Female trombonist

Many of the same themes echoed by participants earlier in the study regarding relationships with instruments and the concept of instruments acting as masks were restated in response to questions about instruments as extensions of the self. For example, participants again brought up the idea that improvising with their instruments is a completely different experience than playing notated music. The bassist describes his instrument as actually being a handicap, not an extension, when he is playing notated music, specifically classical music. However, repeatedly throughout the study he distinguished this negative relationship with his instrument from the relationship he has when improvising. For him it feels different. He enjoys having the spotlight on him, he connects more and he has fun, creating a much more positive relationship with his instrument. One of the vocalists also made the distinction between notated or more structured forms of music (she specifically mentions classical and jazz), and how she is much more “in tune” with her voice when she is improvising in the context of this study; improvising freely. The two trombone players quoted above also describe a very interesting and profound relationship with their instruments. The male trombonist describes the nature of breathing and blowing into the instrument and feeling it inside of him; to his brain, the instrument is flesh, not an external object. The female trombonist describes being a very shy and quiet individual, and the trombone allows her to transcend this; she feels a confidence that she does not feel in other performance contexts. It allows her to open up, not only as a musician, but in a social context as well.

As previously mentioned, the Lethbridge group, which consisted primarily of electronic instruments, scored the lowest in terms of feeling like their instruments were extensions of themselves. Some of the quotations from participants who did not feel as connected to their instruments were as follows:

- "I find just like the keyboard itself [as] kind of a disconnect because I can very obviously always recognize that I'm playing keyboard, but I was playing around with some of the parameters with the synthesizer that I was using and I was just sliding my fingers along the track pad on my laptop to do that, so that was a little bit more holistic, so maybe yes and no I guess." – Male synthesizer player
- "I think that an instrument is a tool that you're putting your abilities and like your passions into. And that's carrying over…I don't like to think about the bass being a part of me, I like to think about manipulating what the bass can do." – Male electric bassist
- "I mean, for mine, there's just like lots of knobs and dials, so that sort of seems like there's just, I don't really know how to describe it, there's more things that you need to just like, do I want to do this? Do I want to do this? Maybe if I was more comfortable working with it, perhaps?" – Male synthesizer player

The quotations above describe a much more disconnected relationship between players and their instruments. While there is some lukewarm feeling that an instrument could be an extension of the self, these players clearly do not feel this way with the equipment they performed with during the study. The bassist quoted above describes manipulating the instrument rather than being connected to it. The synthesizer player seems to feel the same way though he does not specifically word it the same way. They instead describe manipulating knobs, dials, keyboards, and the track pad of a laptop describing it as a manipulation rather than a connection. They do not feel that the knobs and dials, pedals and laptops are actually a part of them; it is too far removed and there are too many external elements creating sound between themselves and the instruments they are playing. Because of this disconnection and the chain of devices between player and sound, the relationship between individual and instrument is simply not as profound. There is a very clear and distinct difference between acoustic and electronic musicians and how they perceive themselves in relation to their instrument.

Improvisation and Social Connection

While social connection through the process of group free improvisation was not the primary focus of this study, it was an issue that was explored in the exercise questionnaires and subject interviews. Much of what defines free improvisation is the connection one feels with both the other players and their audience. It therefore makes sense that if instruments act as masks, the issue of social connection through the process of group improvisation should also be explored. As was noted during the analysis of results of the individual exercises, levels of communication felt between participants varied from exercise to exercise, ranging from an average of 6.9 in the Warm-Up to 8.6 in the Dark Room. As previously noted, it is curious that levels of group communication were the highest during the one exercise in which participants could not see one another. Clearly communication can happen just as strongly, and likely more intensely, when musicians are focusing deeply on what they are hearing rather than what they are seeing.

One of the issues this study attempted to uncover was whether or not subjects who self-identified as being shy or reserved would find that group improvisation aided them in terms of self-expression and communication. During the subject interviews, many of the participants who considered themselves to be shy explained that the processes occurring through free improvisation allowed them to open up socially and connect with others in ways not possible through traditional social interaction. After one of the sessions in Toronto, participants were seen sharing contact information with one another and adding each other on Facebook because they enjoyed the experience of performing with each other so much; it made them feel closer. As noted earlier, one of the trombonists who self-identified as being very shy noted that improvising freely in a group always helps her to open up, and she specifically noted that it does this in both a musical and social way.[128] This idea was echoed by many of the other participants who self-identified as being shy or not particularly well spoken. Some of their comments to this effect were as follows:

[128] Full quotation can be seen above in the section on instruments as an extension of the self.

- "I think improv is definitely something that helps us communicate what words can't. And me being a person that's not very well spoken all the time, I definitely find it easier to connect in group settings while I'm playing." – Male percussionist
- "Because of different levels of shyness that I have or other people have, conversation, socializing in a musical context… you don't feel you're always talking to a stranger unless they're doing something that you just don't understand, musically. You can be adventurous in ways that you can't in conversation sometimes, or if you were to do it in conversation, you'd be way outside of your comfort zone." – Male pianist
- "I think it is a bit easier for me to improvise with other people as opposed to strike up a conversation and just talk for hours." – Male guitarist
- "I feel that a rapport is established in an improvisational context very fast…everybody listens, everybody knows what's up…I don't feel like I can necessarily talk to [one of the other participants] very much. Our conversation might be sort of stilted where you try to find things that you have in common. Music is common. It is a common denominator, so it is easy to form a connection very fast. I felt that today." – Male pianist
- "There are things that I'm able to do through improvising…it's connecting through that communication that you don't have on just a personal, social level. I can enter a room, like tonight, where I knew none of these people, and we were able to just, right off the bat communicate. When we were making small talk outside, it wasn't anything in depth. But in here, we were actually creating substantial music, so definitely able to connect better." – Female vocalist
- "If I'm asked to be in a social setting, I feel more comfortable if I'm just there playing guitar than I do actually conversing."- Male guitarist

The subject quotations above are significant because they show that for many individuals struggling with social communication and connection, group free improvisation offers a means to counter this. While one can obviously not expect these individuals to simply pull out their instruments any time they are struggling socially, the fact that they have found another way to connect with people, and connect on a deeper level, holds many implications for how this type of practice can benefit individuals. For example, young people lacking in self-confidence and social prowess could greatly benefit from the practice of group free improvisation. This type of practice has already proven to help individuals with other types of anxieties (such as performance anxiety); it is logical to assume that there is at least some benefit to musicians struggling with various social anxieties as well. This topic was not the main focus of this study, however it is an area of research that should be examined further.

The second theme mentioned frequently by participants when asked whether or not they felt socially connected with the other participants was that of emotional expression or music allowing them to communicate deeper ideas and feelings words could not. Some of the quotations to this effect were as follows:

- "I think that words are a fairly futile thing and are very good at explaining facts and ideas, but not emotions and other parts of your personality. " – Male pianist
- "There are a lot of emotions conveyed through music and being able to communicate that through my music, definitely… music is very spiritual and you'd be able to communicate that to other people." – Male pianist
- "You're not confined to words or social behaviours or anything – you can literally do whatever you want, and I think sometimes that communicates more to a person than making small talk with them." – Female vocalist
- "Musical communication and verbal communication are so different. Musical is very non-specific, but if I wanted to convey emotion, a lot of times you can convey that with words, but I think with any emotion there's a more visceral level you get with music." – Male violinist
- "Ideally just the act of playing is communicating thoughts or feelings within yourself to others. So every single time I play hopefully I'm doing that – when I'm improvising." – Male guitarist

Whether or not an individual struggles with social interaction, group free improvisation allows them to communicate differently and more deeply than traditional conversation. Many of the individuals above explain how music, and improvisation specifically, allows them to do more in terms of expression. This also must be distinguished from simply playing a piece of music because when improvising freely, you are expressing your own thoughts, feelings, ideas, and emotions, not that of a composer. You are also feeding off of the other players and responding to their expressions. A conversation is taking place with give and take, highs and lows, leading and following; it is simply happening with instruments or singing voices instead of words. All of the individuals above describe a process of expressing thoughts, feelings, and emotions deep inside themselves and communicating these to the other players. In many cases, they were doing this with complete strangers yet still felt comfortable in the process. It is unlikely they would feel comfortable expressing in this way to people they had just met if they were doing so with words alone. These feelings surrounding social communication and improvisation help reinforce the idea that the instrument is indeed a mask. Most of the individuals in this study describe processes unfolding, whether it is the connection to their instrument or their connection with others, that certainly imply their instruments are facilitating this process; allowing them to express differently and connect with others in ways that they simply cannot if the instrument is taken away.

CHAPTER 5: MUSICAL PERFORMANCE CONSIDERATIONS

When analyzing improvised music of any kind, traditional theoretical analysis techniques are simply inadequate as a means of uncovering the subtleties of this type of practice. Subject responses throughout chapter 4 were very clear, illustrating that participants in collective group improvisation experience this type of music in complex ways that are much more inwardly focused and are therefore difficult to fully understand and appreciate without considering a participant's internal experiences. Subjects were very clear about the different types of connection and communication they experienced with other players; often when they felt an improvisation was unsuccessful, it was because they did not feel a high level of connection or communication. In fact, many subjects described "poor" improvisations in their pre-study interviews as being characterized by feelings of not being connected with others. While the majority of this study has focused on subject responses in terms of questionnaires and interviews as a way of measuring levels of connection and communication, the music produced by participants also offers much insight into this process, as many visual and musical cues that reinforce the results in chapter 4 can be observed in the video recordings obtained throughout this study.

The following chapter will discuss the music created by participants in their various groups and how observations of music and body language show patterns of performance that match subject responses detailed in chapter 4. These recordings will be analyzed in terms of body language, effectiveness of musical decisions, chosen roles, risk taking, and levels of comfort and connectedness as they apply to the theories discussed in in chapter 2, including "coordination", "musicking", "akumenology", and the phenomenology of music.

The Warm-Up

During the Warm-Up exercise, participants were asked to perform twice; first with a structured improvisation, which simply dictated an order of entrance and exit points, and secondly with an unstructured improvisation that included no direction whatsoever. Because the structured Warm-Up exercises were the first pieces performed by the participants, they tended not to involve great risk taking and often proceeded through the various entrances and exits very quickly, with several participants appearing eager to drop out when it was their turn. The group that appeared to have the greatest difficulty with this exercise was the third Waterloo group, which was the only group to feature women exclusively. This group featured three vocalists, a clarinettist, and a trumpet player, and unlike the other ensembles, no one in this group contributed much to the overall texture of the piece. The sounds being produced were very quiet despite this group having more participants than most (five in total). Players were observed holding their heads down for the most part and not looking at one another. No smiles or positive emotions could be observed when the piece concluded. In fact, none of the participating ensembles showed obvious pleasure after performing the structured version of this exercise. Most players appeared emotionless afterwards with only a couple of exceptions; in the second Waterloo group, one participant nodded his head when they were finished, and in the third Toronto group, a couple performers smiled afterwards. These responses are not overly surprising given that this was the very first opportunity for these ensembles to play together and it was meant only as an opportunity to prepare participants for the rest of the study.

Another interesting observation about the structured warm-up pieces was that when pianists were involved in their respective groups, they nearly always played fairly conventional rhythmic material. Whether or not an improvisation tended to be more rhythmic or groovy seemed to depend on what instrument started the piece. For example, approximately half of these improvisations featured regular rhythmic elements or noticeable grooves, and non-classically trained pianists, bassists, or guitarists most often dictated those directions. The Waterloo groups were the most likely to perform abstract, textural pieces lacking a discernable tonal centre or rhythmic regularity, and they featured the greatest number of classically trained musicians. However, the Lethbridge group also exclusively performed abstract and textural improvisations which, while not containing any classically trained players, seemed indicative of the types of sounds that their electronic instruments were capable of producing.

The unstructured version of this exercise had a slight preference from participants in their questionnaires, and there were subtleties observed in the recordings that account for this. While there was not a significant change in approach from most participants, some of the groups, particularly the first two Waterloo groups, demonstrated greater confidence and a higher degree of risk taking. While the meaning of "risk taking" in general can be quite subjective in this context, for the purposes of this study, it means making musical decisions that are less conventional and "safe", such as not choosing a clear tonal centre, not playing with a clear and stable tempo or rhythmic groove, using extended techniques or non-traditional playing techniques, not using traditional melodic phrasing, or choosing to play contrasting material or lead an improvisation in a new direction. This does not mean that these are necessarily "good" decisions to make in an improvisation, but they will be viewed as examples of taking risks.

The unstructured versions of the Warm-Up exercise generally featured a slight increase in the taking of musical risks. For example, the first Waterloo group performed a very well connected free sounding piece that appeared to be more textural and sound-based than melodically based. This is a particularly interesting example because a percussionist began the piece, yet he chose not to establish a clear rhythm for the others to follow as might be expected. While this group's questionnaire results did not show consensus across the group for preferring the unstructured version of this exercise over the structured, the group was observed smiling noticeably following this performance and this was not observed in the previous piece. Likewise, the second Waterloo group also showed evidence of greater risk taking, featuring fragmented and accented staccato notes on the saxophone and a very successful building of texture in which players seemed confident in knowing when to drop out and when to thicken the texture. While taking risks does not guarantee the creation of "good" music, this group displayed an intuitive and tasteful balance of incorporating some unusual instrumental techniques that complimented the overall musical texture and material contributed by the other players. In other words, they were cognizant of the balance of the group and were careful not to overpower or show off their skills in a way that did not adequately serve the music. When players are not listening well, there is a tendency of drowning out other players or dominating the texture rather than complimenting it.

There appeared to be much communication happening between the members of this group in order to enable this kind of playing; however, all of the musicians were observed looking down and not at one another. They appeared to be guided by their ears and not their eyes. Like the previous group, this one featured much positive reaction afterwards with a number of obvious smiles and head nods.

Some groups displayed an obvious disconnect in terms of certain members of the ensemble wanting to take the music in a different direction from others. This appeared to happen most often with groups that featured a mix of classically and non-classically trained musicians, such as the three Toronto groups. The first Toronto group displayed some disconnect in the unstructured Warm-Up exercise when it was observed that the trombonist and bassist appeared to be trying to take the music into a more experimental place with less rhythmic and tonal certainty, while the violinist and guitarist appeared to be trying to do the opposite. The guitarist was observed tapping his foot throughout, as if trying to cling onto a specific tempo he felt locked into. Eventually the trombonist and bassist moved into a more conventional direction to better complement the improvisation, but the ending was quite abrupt and the players did not seem obviously satisfied.

One group that consistently had difficulties connecting was the second Toronto group, which featured one classically trained female pianist and two non-classically trained male guitarists. Throughout most of the recordings, the guitarists were observed looking at one another and trying to connect, while ignoring the pianist. One of the two guitarists usually began playing while maintaining eye contact with the other guitarist, and would later settle into a groove that the pianist often struggled fitting into. It is interesting that after completing this exercise, the pianist gave an answer of 8 (indicating strong agreement) to the statement, "I prefer to improvise alone."

In the above two examples, it should be noted that the difficulties in connection were likely due, at least in part, to the fact that some participants already knew each other. For example, in the first Toronto group, the trombonist and bassist were previously acquainted and had played together before, as had the guitarist and violinist in the same group. It is reasonable that when beginning the study, participants might choose to listen more closely to or connect more strongly with those players that they are already familiar with. This was also the case with the second Toronto group featuring the pianist and two guitarists. The guitarists were already well acquainted and the pianist was an obvious outsider. While most groups seemed very capable of getting over these kinds of disconnects, this issue plagued the second Toronto group for most of the study. While I agree with Cannone that 3-6 players is the optimal number for these types of exercises, this group likely would have responded differently if there was one or even two more players to offset the balance of power the guitarists appeared to posses. The other consideration with this group that must be examined is that of gender balance. It is possible that the two male guitarists excluded the female pianist because they simply knew each other and found it easier to connect by placing their primary focus on one another. However, this was not overly apparent in other groups in which some individuals had performed together previously. It is possibly due to a gender problem in which the two males bonded musically while paying little attention to their female colleague. It may also be because the two males were non-classically trained while the pianist was classically trained, so finding a musical connection was more difficult. It is also possible that the two guitarists were choosing what they felt to be the easiest musical choices, rather than stretching to include another player. This issue was not overly apparent in any of the other mixed groups so my belief is it was due to a mix of all three factors: gender, musical background, and the previous acquaintance of the two guitarists.

The Dark Room

Subject questionnaires and interviews clearly documented a preference for the Dark Room exercise amongst most participants. This exercise was the highest rated in terms of group communication and the second highest rated in terms of feelings of connection. As previously mentioned, this is curious since participants were not able to communicate through body language, though participants were often observed looking down throughout their various performances. What is most curious about the recordings of this exercise is that The Dark Room shows the most evidence of participants taking musical risks, yet during their questionnaires, participants rated the Warm-Up slightly higher in terms of feeling safety taking risks, even though this was not overly evident in any of the recordings.

The group displaying the most evidence of taking risks and feeling more confident and comfortable was the first Waterloo group, which consisted exclusively of classically trained musicians. This group's performance was by far the longest, at nearly 10 minutes in length. It displayed much evidence of careful listening and communication as several times the players were heard backing off or dropping out so that other sounds could come through. A frequent movement between sparse and denser textures as well as deliberate uses of silence and dynamics are also heard throughout. This is important to note because most of the pieces throughout the study did not feature much dynamic contrast and tended to feature all players playing all of the time. Approximately halfway through the improvisation, the ensemble is heard beginning to use extended techniques and more adventurous sounds not heard in any of the exercises performed with the lights on.

Another performance of note that happened in the dark was performed by the third Waterloo group, which featured only women and was noted earlier as being one of the least connected groups early on, often playing very quietly and not displaying a lot of confidence. This group featured three vocalists and one of them used this opportunity to sing lyrics describing her experience. Her lyrics were as follows: "I like to sing in the dark. No one can see the faces I make. No one can see when I make a mistake. I don't care what people think when I sing in the dark." This use of the word "mistake" in the context of a group improvisation is interesting because it implies that this participant felt there were “right” and “wrong” choices that could be made during each performance. While the concept of mistakes was not discussed in detail during subject interviews, in the context of free improvisation it is an ambiguous term often used to suggest a lack of intent. In other words, if a performer wishes to match another performer’s pitch but plays a different note by accident, that would be considered a mistake. Also, if a player is not feeling connected to the music and decides to just keep playing anyway without really considering how their music may be contributing to the overall texture, that could also be seen as a mistake. It must be noted however, that these types of “mistakes” often lead to new musical ideas or results that, while not intended, can still be effective and have the power to change the direction of an improvisation, either positively or negatively.

When the first vocalist sang about mistakes in this improvisation, the other two vocalists immediately began supporting this material via imitation and echoing of phrases while the trumpet and clarinet played long tones that offered an effective consonant harmonic support. While the piece ended abruptly and never really developed anywhere, it demonstrates how at least one of the vocalists viewed performing in the dark and showed this ensemble beginning to connect and communicate in ways they seemed unable to in the Warm-Up.

Other groups were also observed displaying musical ideas in the dark not heard elsewhere in the study. For example, the first Toronto group featured one of the performers spontaneously snapping his fingers, the first and second Waterloo groups featured performers using extended techniques not heard at any other time, and the third Toronto group also featured some experimentation with instrumental effects by the trombonist.

Instrument Switch

While the music produced in the Instrument Switch exercise was not of the highest quality, this exercise showed the greatest evidence of musicians trying to connect visually with one another through eye contact, one or two musicians taking a clear leadership role, and obvious use of communicative musical devices such as imitation and call and response. While this exercise did not rank particularly highly with participants in terms of feelings of connection, participants seemed to feel they were still communicating with one another as this exercise ranked 6.9, the same as the Warm-Up. This ranking is similar to all other exercises except the Dark Room, which was ranked the highest. Clearly participants experience communication in a variety of different ways. As previously noted, many of the previous exercises that sounded more connected and showed evidence of transference of musical ideas did not necessarily show obvious body language or visual communication. For example, in the dark room, participants could not see one another, but still felt they were able to communicate best in this scenario, and in the Warm-Up, participants were most often observed looking down and rarely at each other. However, the Instrument Switch exercise showed much greater evidence of visual communication. Because this was the first exercise in which primary instruments were removed, this is attributed to participants being less able to communicate using only their listening skills as a means of connecting with others. The connection between individuals and their primary instrument was broken, and participants were still able to communicate, but they appeared to feel a greater need to watch one another and look for body language and other visual cues, rather than focusing solely on listening.

It is important to note that not every participant in the study was observed using visual cues, but the use of such cues was observed in most groups by at least one participant. Also, while visual communication was greater in this exercise, it often meant that participants were not necessarily observing everyone but rather choosing to focus on just one or two instruments they perceived as “leading”. For example, in the third Waterloo group, all of the participants gathered around the piano, choosing to view it as the leader of musical ideas. Participants were not observed looking at one another, only the piano. Likewise, in the second Waterloo group, one participant chose to use vocals as their switched instrument and took on a leadership role throughout the exercise. Other participants were frequently seen looking at him for cues to follow.

The Lethbridge group, which was never observed using any kind of visual communication in any of the other exercises, featured several members looking around the room at one another. This happened despite the fact that they were the most spread out of all the groups, and their configuration did not allow for convenient eye contact due to the use of large unmoveable percussion instruments and the placement of participants throughout the room. Curiously, this was the only exercise of the study in which the Lethbridge participants were observed smiling afterwards. It is an interesting observation because they were also the only group that made the switch from electronic to acoustic instruments. While the questionnaire results did not show any significant deviation from the rest of the groups, the Lethbridge group appeared to experience their performance differently, displaying very different body language when forced to switch to acoustic instruments they were unfamiliar with. Their smiling faces following the exercise imply that this was in fact a positive experience for them.

Voice Alone

Like the Warm-Up, the Voice Alone exercise featured two parts: a structured and an unstructured improvisation. While the structured improvisation was performed first in the

Warm-Up, the Voice Alone exercise did the opposite, with participants performing the unstructured version first. The parameters of the structured performance were identical to that of the Warm-Up and simply indicated an order for entrances and exits within the framework of the piece.

During these exercises, participants were advised that any sound made with their voice was acceptable and they need not use traditional singing techniques. It was not difficult to determine who was and who was not comfortable during this exercise as those that appeared least comfortable with their voices opted for simple sounds such as tongue clicks, whistling, speaking words or nonsense syllables, and even coughing. Often groups would feature only one or two members that were comfortable singing loud and confidently throughout the exercise. For example, the first Waterloo group featured a violinist with a very loud and full singing voice he was not afraid to use. No one else in the group was able to match this sound, so the improvisation turned into a very silly performance in which all of the performers presumably dealt with their discomfort by starting to laugh and joke around. The other members of the group, who all appeared less comfortable, were observed crossing their arms in front of them at least once throughout the structured and unstructured vocal exercises. Throughout the improvisations, these participants would sometimes look at the researcher, often when it sounded as if they were out of ideas. No other groups were observed doing this during a performance.

What is most curious about this example is that a male pianist in the group, who was recorded saying “you can’t expect us to take this seriously” after the unstructured vocal performance, scored nearly every statement on the Voice Alone questionnaire with a 10, indicating strong agreement. This means that he felt the greatest connection with others (including greater than with his primary instrument), less inhibition, greater safety taking risks, better communication with the other players, and a feeling of being able to improvise just as well with his voice as his primary instrument. This participant appeared to be having fun, but not necessarily taking the music seriously. At no point did this piece have any kind of real unity but instead sounded like a series of silly sounds that participants were trying out and seeing how others reacted. Because of this, it is very curious that any participant would feel this strongly about connection, communication, and risk taking, since this was the only piece the first Waterloo group performed that completely lacked cohesion. What is also curious is this particular participant was also the only individual in the study who did not agree in any capacity that his musical instrument served as a type of a mask.

The most successful performance of the Voice Alone exercise was that of the third Waterloo group, which is likely because that ensemble already featured three vocalists. It is also likely because the group consisted of women, and women reported a much greater preference for the vocal exercise throughout the study. The Voice Alone exercise marked the only point in which the members of this group were observed smiling afterwards. Having said this, musically, the structured version of this exercise was much more successful for this group. Each entrance was quite effective and the piece resulted in a well-connected improvisation featuring a groove and lyrics that were harmonized and complemented throughout the ensemble. When one of the participants entered with material featuring a groove and pulse, the rest of the ensemble picked up on it quickly, and this was the point in which the piece really seemed to connect. This group and the third Toronto group (which featured two vocalists and three women) produced the most successful vocal improvisations in which the participants were obviously pleased with the results. One of the vocalists in the third Toronto group was observed saying “that worked!” when the piece was over. Most groups showed no obvious reaction when this exercise was over.

An interesting observation took place with the second Toronto group involving the two guitarists and pianist that had difficulty connecting throughout the study. During the structured version of this exercise, the pianist entered quite confidently speaking text. When she did this, the two males in her group smiled and looked at her for some time, as if they were following her for the first time of the study. However, she appeared to lose her confidence shortly after and decreased the volume of her words and then reverted to whistling, which resulted in her losing the control she briefly had over the direction of the performance. Like the male pianist referenced above, this female pianist’s responses on the questionnaire do not match what was observed in the recordings. While she did not rate this exercise quite as highly as the male pianist in the first Waterloo group, she gave a score of 10, indicting the highest agreement possible in feeling connected with the other players, feeling a greater connection than with her primary instrument, and communicating. While she was observed briefly being better connected to the other players in this exercise, it is curious that she would rank that question so highly given what was observed in her body language and musical material.

While there was not a significant difference between the structured and unstructured vocal exercises, the unstructured versions seemed somewhat more successful as players were prone to dropping out as soon as they were able to during the structured version, resulting in these pieces often ending prematurely and sounding incomplete. The questionnaires also indicated a slight preference for the unstructured version of this exercise.

Masks

While the masks exercise ranked relatively highly in terms of connection and communication, many participants did not find it to be overly comfortable. As previously mentioned in chapter 4, those that felt the greatest connection with other players during the Masks exercise tended to be women or wind or brass players.

The third Waterloo group, which featured all women and was the most timid group throughout the study, appeared fairly confident in the Masks exercise. Their Masks improvisation began like most of their improvisations did; quietly and hesitantly, without any one player willing to jump in or lead with a musical idea. While it took some time for the group to feel comfortable and for their musical ideas to start flowing, once this was achieved, the improvisation seemed well connected and balanced. One of the vocalists was observed using her mask as a percussive object, choosing to feel it and tap it while speaking text. This is interesting because it is something that this participant was not observed doing previously in the study. Others followed this musical decision, resulting in her taking a leadership role, something she was not observed doing at any other time in the study. This participant was also observed moving around significantly more during this piece, giving the impression that she was feeling more comfortable with her musical output as she was now able to feel it with her entire body. This group as a whole was obviously happy with this piece, as they were observed smiling and laughing when it concluded.

In terms of their questionnaire results, this group rated their feelings of connection, communication, and safety taking risks slightly higher than the average. They scored significantly higher, however, in terms of feeling it was importance to customize their masks and also feeling comfort from these customization choices. It is also curious that everyone in this group chose to perform with half masks except for one vocalist. The one who chose a full mask rated their feelings of connection and communication within this piece significantly lower than anyone else in the group. This is attributed to the fact that a full mask acts act as an obstruction to the voice, so any sounds she made were muffled. When this participant was asked to again choose a mask for the final exercise, she chose a half mask and her questionnaire results indicated that this was a much more positive experience for her.

The second Toronto group, which was mentioned previously as having problems with connection and communication between the two male guitarists and the one female pianist, appeared to connect much better during the Masks exercise. For example, while previously the two guitarists tended not to look at the pianist, this time one of the guitarists was observed looking at the pianist several times throughout the exercise. While musically a struggle still occurred at times, this piece ended up connecting better than the others. At one point the pianist dropped out completely, seemingly trying to listen and search for a suitable entry point. She played noticeably louder in this piece and this seemed to get the attention of the guitarists as they were heard trying to better blend with her musical ideas rather than choosing to connect only with each other. What is particularly curious about this group is that on their questionnaires, they scored significantly higher than any other group in terms of feeling safer taking musical risks and feeler less inhibition during this exercise. For example, while the average for feeling safety taking risks was 6.1, this group averaged 8.3. Likewise, while the average for feeling less inhibition during this exercise was 5.8, this group averaged 8. While there were no obvious musical risks heard, as it was defined at the start of this chapter, these participants clearly felt some kind of additional security from the masks. It is likely that this increased security, while not overly obvious musically, contributed to the pianist playing slightly more dominantly and the guitarists opening up their ears to the point of including her rather than always defaulting to complementing one another's sound.

Mirror

Mirror was the only exercise in the study that required participants to perform as soloists. It was also a two-part exercise, which simply involved participants performing once without masks, and a second time with masks while maintaining eye contact with themselves in a mirror. While these solos varied considerably from one performer to the next, many participants displayed noticeable differences in their improvisations performed with masks on and with masks off.

Nineteen (19) of the 30 participants (or 64%) were observed making musical decisions in their masked pieces that could be described as involving greater risk taking (such as using extended techniques, more dynamic contrast, using silences, and applying a looser adoption of harmonic structure and rhythm), playing more aggressively (such as louder and bolder decisions including loud fragmented motifs, detached phrases, or punchy staccato notes), experimenting with their instrument (such as incorporating devices not previously heard such as pitch bends), playing pieces featuring a darker character or mood, or playing pieces that sounded more emotional and expressive. Every group except the Lethbridge group contained at least one participant that played noticeably different in the masked piece.

Curiously, every subject in the Lethbridge group played two solo pieces that sounded virtually the same, without any significant differences noted between their masked and unmasked pieces, either musically or in terms of body language. In nearly every case, the Lethbridge participants were observed performing pieces that could best be described as textural, abstract, and static, without any significant changes in dynamics or texture. Some participants used drones with short motifs or simple melodies above and one participant (a pianist, and the only acoustic player in the group) incorporated an obvious pulse and a lot of repetition in both of his pieces. Generally speaking, these solo pieces were very similar to the static, textural, abstract pieces that this group played throughout most of the study. Because no obvious differences were observed between the masked and unmasked Mirror solos by any performers in this group, this serves only to reinforce the conclusions drawn in the previous chapters regarding electronic musicians and their relationship to their instruments. In terms of the questionnaire and interview results and musical observations, performers of electronic instruments appear to be more detached from their instruments and the concept of instruments functioning as masks applies far less to this group.

Women had the greatest difficulty with this exercise because, as mentioned in chapter 4, there was a strong feeling of judgment in having to stare at one's reflection. An interesting moment occurred during the session with the third Waterloo group in which I left the room briefly with the camera still recording. After I left, one of the participants, a female vocalist, was observed saying, "This is such a terrible angle (when looking into the mirror)", "I had to zone out to keep looking at myself. Like, disassociate", and "I had to zone out to the point where I didn't realize I was looking at my own face because otherwise I was like, this fucking sucks. I don't want to do this." Similar statements were made even when participants were in the same room as the researcher. For example, a female trumpet player in this group was observed saying, "That's the hardest thing I've ever done" immediately after completing her two solos.

What is interesting is that while this group had the most difficulty with the Mirror exercise, participants tended to find creative ways to deal with their feelings of discomfort through their performance decisions. For example, one vocalist performed lyrics in her solo, using them almost as a mantra, enabling her to feel more confident. In her first unmasked solo, she is heard singing, “You are a beautiful specimen. Look at the blond in your hair! It’s so gorgeous. Look at these glasses, they make you look so…beautiful.” She used the entire solo to speak to herself as a means of building herself up. After she was finished performing, she was observed saying, “That was the only way I could think of to make myself look at myself. That’s really hard.” Another participant in the room was observed agreeing, simply saying, “brutal.”

A second vocalist also used this strategy to get through her unmasked solo improvisation. In her piece, she was observed using the following lyrics: “Oh no, look at you again, where have you been? It’s so difficult to look at yourself in the eye. Because you, only you, know what really goes on inside my head and it’s a difficult place to be sometimes, because it’s very, very complicated.” This participant clearly felt significantly more comfortable when wearing a mask, however. Choosing a mask that looked like a cat face, her second solo was a jazzy piece featuring scatting vocals. Her body language seemed much looser as well as she was seen moving from side to side, clearly letting herself immerse into the music she was performing.

Conclusion

Most of the observations of participants performing throughout the various exercises of the study confirm the conclusions drawn in chapter 4. While it is difficult to analyze this music theoretically due to the prevalence of very free musical ideas, the theory of “Musicking” is perhaps the best method to use as it allows for the consideration of interpersonal connections between players, described in detail throughout this chapter. Likewise, the concepts of “coordination” or “flow theory” apply equally well when examining group improvisations that participants respond to in a more favourable light because they appear to “connect” better. While not abundantly prevalent in this study, “coordination” was certainly observed when participants seemed to be very well attuned to what they were listening to, effectively responding to one another, and showing obvious signs of satisfaction and delight when these pieces were over.

An analysis of the recorded improvisations in this study provides a more thorough understanding of the process of collective group improvisation under the various parameters of each exercise. While the interviews and questionnaires allow many solid conclusions to be drawn, an analysis of the music itself and how participants are able to connect and communicate, and how their musical output changed in each exercise provides a more complete picture. This analysis also allows for a clearer understanding of how classical and non-classical players differ in their responses to collective free improvisation. While non-classical musicians were often heard gravitating towards music with rhythmic and harmonic regularity, the classical musicians tended to play more abstract and free music, focusing more on texture and less on harmonic and rhythmic regularity.

The music itself also reinforces the results presented in chapter 4, which stated that despite participants feeling that they needed to see one another and communicate through body language to improvise well, this was not the case. Smith’s concept of “akumenology”, in which sound is emphasized over sight recognizes that the exchange of ideas, connecting, and being receptive to other players can result from listening alone; seeing other performers may be beneficial, but it is clearly not necessary.

In terms of diversity of musical ideas within the exercises, the electronic musicians showed the least amount of variation from one exercise to the next. The only instance in which they were observed trying to connect with others and use obvious body language to communicate was when they were forced to play acoustic instruments, further supporting the idea presented in chapter 4 that electronic musicians are more removed from their instruments and therefore do not experience the same kind of connection that was well documented amongst players of acoustic instruments. This is curious, given Ihde’s theory that our experience of music affects the entire body. Nearly every participant in the study performing on an acoustic instrument displayed some kind of movement implying they were experiencing the music with their bodies, at least to some extent. Both eye contact and obvious body movement was exceptionally rare amongst the Lethbridge group. If Ihde’s theory that music affects the body is true, it seems to be significantly more applicable to acoustic instruments.

The differences between male and female participants was also noticeable in the recordings, with the women being very open about their feelings of insecurity, particularly during the Mirror exercise, where some participants used lyrics describing their experiences. This type of response ties into Ferrara’s “eclectic theory” of music, which notes that music can have meaning when it expresses human emotions, something that existed throughout the study but was particularly obvious when observing the vocalists in the Mirror exercise. These players also displayed some obvious differences when masked and vocalizing. Many of these recordings showed evidence of groups experiencing “coordination”, such as the all female third Waterloo group during the Voice Alone exercise or the second Toronto group which finally fully connected with each other during the Masks exercise, with all members communicating, albeit briefly, as one.

CHAPTER 6: CONCLUSIONS, DISCUSSION, AND BENEFITS OF INCORPORATING COLLECTIVE FREE IMPROVISATION PRACTICE IN THE CLASSROOM

The purpose of this study was to examine the relationship between musician and instrument in the context of collective free improvisation and identify whether or not instruments act as masks for those playing them. To a lesser degree, this study also sought to explore the social side of collective improvisation and identify what types of communication, if any, participants experienced when improvising together. To answer these questions, various mask theories and writings from psychology, anthropology, and drama were consulted in order to fully understand the function of masks in diverse cultural and artistic settings. After this research was conducted, study sessions featuring human participants improvising in solo and group contexts were conducted, offering a personal view of this phenomenon from the participant's perspective. As the research results in chapter 4 identified, musical instruments do act as masks for most participants, but not everyone's experience is the same. Experiences can differ according to gender, instrument type, and musical background. The following chapter will briefly discuss how many of the study's findings fit with mask theories in both drama and anthropology, address limitations of the study and suggest future areas of research, and discuss how the study's findings could be used to benefit music education in the classroom.

Instruments as Masks

As discussed in chapter 2, masks have been known to serve a number of different functions such as acting as a frame, mirror, mediator, catalyst, or transformer. Masks as transformers is the most recognized and discussed function in literature as well as the most applicable to this study; in this theory the mask both transforms and unites an individual.[129] In the context of musical improvisation, this means instruments allow individuals to either transform themselves into someone else (such as a passive person playing extremely aggressively or a singer feeling as if they are becoming or portraying a different character when improvising), remain their authentic self (while perhaps expressing sides of oneself not normally seen), or a fusion of both concepts of transformation and unity.

The results of this study indicate that the majority of participants experienced a relationship with their instrument that matches the idea of mask as transformer. Participants were asked to examine the relationship with their instrument in three different ways: the instrument acting as a transformer allowing them to be or portray someone else; the instrument acting as a transformer allowing them to express different parts of themselves; and the instrument acting as a source of security. All but one, or 97% of participants, identified with the idea of their instrument acting as a transformer to at least some degree. While most participants were in fairly strong agreement about the concept, a small number of participants identified with the idea of instruments as masks only in certain situations or contexts.

The use of masks is commonly associated with drama, particularly classical theatre, though they are also used in improvised theatre. When used in this way, masks are meant to expand an actor's artistic palette, teaching them not only to perform better without masks, but also help them understand the self, persona, and characterization when performing.[130] In this way, the mask is again acting as a transformer, much like instruments do for improvising musicians. Through this method for actors, masks are also used to help loosen up performers and free their imaginations, essentially concealing and

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[129] Eldredge, *Mask Improvisation*, 143.
[130] Ibid., 143.

revealing different aspects of their wearers.[131] While this study did not specifically explore the idea of instruments helping individuals to better understand themselves, it did examine the idea of instruments facilitating a revealing of the self. This idea of the mask both concealing and revealing is extremely applicable to this study. Nearly every participant involved in this study identified with the idea of their instruments concealing or allowing them to be someone else, revealing or expressing different parts of themselves, or a combination of the two. As previously stated, only one participant, a classically trained male pianist, appeared to find no identification with this concept.

Another concept in theories of masking is the idea of the mask being a source of deception. More than half of the participants in this study rejected the idea of their instruments acting as masks that allowed them to be or portray someone else. Many of those who could not relate to this idea felt this way because they disagreed with the idea of their instruments concealing themselves or acting as a tool of deception. The idea of what comes out in the music is a true reflection of the performer was very strong among participants; however, several of them still felt that, at least sometimes, they could use their instruments to emulate another artist, musical style, or transform into a specific character. According to cultural theorist Efrat Tseëlon, masks have a duplicitous role. While they appear on the surface to deceive, allowing an individual to hide behind them, they also in fact reveal the diversity of one's identity.[132] This concept was the inspiration behind the question participants were asked in their final interview: "Does your instrument act as a sort of a mask, allowing you to be the same person, but express different parts of yourself when you perform with it?" As noted in the research results, 90% of subjects agreed with this concept at least in part, with 77% being in strong

[131] Ibid., 17.
[132] Tseëlon, "Introduction: Masquerade", 5.

agreement. Clearly, the idea that musical instruments can facilitate a transformation in which they have the ability to conceal an individual, these same instruments can also help individuals reveal new and diverse sides of themselves in the context of collective free improvisation.

Another concept of masking that appears regularly in writings of theatre and anthropology is that of masking as power. This entails masks, through their transformative process, holding power over both the wearer and the audience. In this theory, masks have the power to protect and defend the wearer while also providing offense and intimidation.[133] The theory also states that this power does not reside in the mask (or the instrument), but rather in the in the space between the performer and the audience.[134] This concept was behind the final question participants were asked regarding their instruments as masks: “Do you feel that your instruments acts as a sort of mask that allows you to feel more secure while on stage or performing with other people?” This concept was also examined through questions on the participant questionnaires. The assumption going into the study was that at least some musicians would find their instruments acted as a shield between themselves and the audience, which in turn would provide them with a greater sense of security than if there was nothing between them and their audience. The results of this study indicated that most participants did indeed feel security from their instruments. All but two participants agreed, at least to a certain extent, that their instruments provided them with a greater sense of security. 60% of participants were in strong agreement and 27% agreed in certain circumstances. The remaining four participants either disagreed or felt the question did not apply to them (as was the case with two vocalists). Clearly the concept of masks as power is relevant to the

[133] Eldredge, *Mask Improvisation*, 7.
[134] Ibid., 7.

idea of musical instruments serving the function of masks in collective free improvisation and applies to most individuals.

One of the more interesting aspects of masks as power is that of intimidation. One of the inspirations for this study was the observation of some improvising musicians who, when encountered socially, appeared to be quite reserved, soft-spoken, and/or shy, but when they were witnessed performing, a completely different side of them came out. The soft-spoken and shy nature was replaced by a powerful sound and a dominant musical personality. While certainly not the case with every improvising musician, the researcher's observation of several individuals (both professional and student) who matched this description warranted a closer look at this phenomenon. For this reason, the final questionnaire asked subjects to self-identify their level of shyness, and this information was then used to compare against other measurable facets of the study to look for connections. As was noted in chapter 4, this concept of masking as power for shy individuals in particular was observed and documented for some subjects. This included a female trombonist who considered herself extremely shy, yet described her instrument allowing her to transcend this, offering a confidence she has been unable to experience in any other performance context. Additionally, most of the subjects who self-identified as being shy also felt that their instruments allowed them to better connect with other individuals socially when used in the context of collective free improvisation. This too is a type of masking as power. Once again, the instrument (or mask) is not only transforming an individual, it is providing power or protection, which allows them in turn to feel more confident, both socially and in a more general sense.

Ritual studies researcher Ronald L. Grimes noted the need for much greater study on how maskers relate to their masks. He noted that not all experiences with masks are positive; some wearers do indeed find masks offer an experience of freedom, but others find masks confining.[135] While research results noted that nearly all participants experienced a relationship with their instrument that resembled that of a mask, a very small number of participants did not share this experience. This idea of confinement was strongest during the Masks exercise, where many participants found the physical masks to be ill fitting, obtrusive, and interfering with their level of comfort. In this context, many individuals found their masks to be confining, however this was far less of an issue when examining the concept of instruments as masks. Grimes also noted the discrepancy between what a masker experiences and what a viewer experiences. This concept was not specifically addressed in this study, and while the researcher acted as the audience for all performances, the research itself was based primarily on participant responses in interviews and questionnaires after completing each individual exercise. However, Grimes's concept is still very relevant to the concept of free improvisation performance where an individual's experience is absolutely different from that of the audience. Because performers are often driven by their feelings, intentions, musical process, and self-expression without specific boundaries, it can be difficult to connect that in a meaningful way to an audience. Surely this is the primary reason why historically audiences have struggled to understand and enjoy freely improvised music and

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[135] Grimes, "Life History", 66.

performers are often accused of having more fun than the audience[136]. It is the individual nature of free improvisation practice that can make it difficult for audiences to understand. In this sense, Grimes's observation of a discrepancy between what a mask wearer and mask observer experience is completely applicable to free improvisation performance.

Theories and concepts of masking taken from the fields of drama, anthropology, and cultural studies align well with the idea of musical instruments functioning as masks as proposed in this study. While the participants frequently described a relationship between themselves and their instruments that matched the idea of masks as transformers and masks as power, it is important to distinguish that this relationship does not extend to all forms of music. Participants were very clear about the relationship between their instruments when performing freely improvised music as being quite different from that of performing classical music or even jazz, where musicians are generally given much more freedom. Free improvisation provides musicians with the necessary liberty to create and express in a way that is not restrictive, allowing for the instrument (or voice) to function as a mask, transforming its wearer (or player) into a more confident and expressive being.

Instruments as Facilitating Communication

While not the primary focus of this study, several questions given to participants during interviews and questionnaires were meant to examine and better understand the process

[136] Academic literature criticizing free improvisation is not overly abundant; however, composer Kyle Gann's article "A Statement on Free Improvisation" (Kyle Gann, "A statement on free improvisation," *Contemporary Music Review* 25 no.5/6, (October/December 2006): 619-620) makes note of the fact that free improvisation is not as enjoyable from the audience's perspective and notes that just because an artist takes risks does not mean they are creating good music. This study certainly featured performances that would be considered both "good" and "bad" improvisations. The better improvisations tended to be those in which the performers felt more connected with one another, and this was heard in the performances and expressed in the questionnaires and interviews.

of communication through collective free improvisation. While authors such as Cobussen and Sawyer have researched this phenomenon, as referenced in chapter 2, it has not been specifically examined in terms of the role of musical instruments and how they may facilitate this process. If we are looking at the musical instrument operating as a mask, this must also come in to play in how musicians communicate with one another. Specifically, whether or not using instruments to improvise freely opens up new channels of communication, potentially helping those with difficulty communicating verbally.

The research results in chapter 4 discussed the fact that many participants who self-identified as being shy noted that the process of collective free improvisation allowed them to open up socially and connect with others in new ways. Several participants noted this facilitation of communication as extending beyond the performing exercises. For example, the participants experienced a stronger connection with one another and found it easier to socialize after communicating musically through group improvisation. Several participants mentioned having deeper and more meaningful conversations with one another during and after the study, after having the chance to create together as improvising musicians.

According to researcher and music philosopher Marcel Cobussen, when improvising as a group, the musical and social aspects of this type of creation are united; while the music develops, so too do the emotional bonds amongst musicians via musical risks, vulnerability and trust.[137] Cobussen believes that this interaction is more than that of personality, but is also that of instrumental interaction, which makes sense if the instrument is acting as a mask or as an extension of the individual. He supports this claim by noting musicians tend to describe their group improvisations in interpersonal rather

[137] Cobussen, “Improvisation”, 49.

than musical terms and noting that the music itself contributes to the maintenance and creation of social interactions between musicians.[138] This study also found that participants, for the most part, discussed their improvisatory work in the session in interpersonal terms. Participants regularly discussed how well they connected with the other players and how they communicated and received information while improvising collectively. While some participants discussed specific musical features of their improvisations, most focused on how they were feeling or how the experience affected them, rather than deconstructing the music itself. This makes sense if the experience of collective free improvisation is largely a social creative exercise.

In the pre-study interviews, which were conducted before any of the participants played with one another, subjects were asked to describe what it meant to feel connected to other musicians when improvising as well as how to know they were communicating with each other. Some of the words and phrases used most often describing connection when improvising included the sharing of a mood or feeling, something shared on a subconscious level, moving as a unit, being able to predict what another player is going to do, listening and interpreting, and feeling in sync with one another. None of these descriptions is particularly theoretical in terms of musical descriptions but instead describe a more elusive feeling of being able to predict what others are going to do, or sharing and understanding something that is never expressed verbally.

This idea of connection, moving as one and communicating non-verbally, could also be described as the concept of “groupmind” or “group flow”, a term Keith Sawyer coined based on psychologist Mihaly Csikszenthmihalyi’s flow theory. This theory states that a state of consciousness can be reached in which everything comes naturally, with

[138] Ibid., 49.

performers being in interactional synchrony; performers feel as if they are able to anticipate or predict what one another will do.[139] While never specifically referred to as group flow, this phenomenon was well documented and described by participants before the study even began. As mentioned in chapter 2, researchers Clément Canonne and Nicolas Garnier explored this concept further and deduced that group flow is more effective in smaller groups of musicians, specifically groups of three to six players, which is why every participant group in this study matched these size parameters.

Communication and a feeling of connection through collective free improvisation were very evident in this study. While many participants noted the importance of eye contact and body language as being important before participating in this study, it was clear from feelings of connection and communication during the Dark Room exercise that these are in fact not nearly as important as was originally thought by participants. In fact, it is a phenomenon that matches ideas of flow theory or groupmind that underlies feelings of communication and connection amongst improvising musicians, which they are able to achieve through the use of their instruments. The personality and the instrument are largely one in collective free improvisation, thus allowing individuals to transcend the limitations of verbal communication, instead expressing emotions, feelings, or musical ideas to one another through the use of their instruments.

Discussion and Future Research

The findings in this study focus predominantly on the idea of instruments functioning as masks in the context of collective free improvisation, though many other areas were uncovered that warrant further study. Some of these include the difference in responses

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[139] Sawyer, “Group creativity”, 158.

between male and female participants, particularly with the Masks and Mirror exercises, the difference in experience for performers of electronic instruments, and the issue of authenticity of responses, particularly with classically trained male participants.

As previously mentioned, this study would have ideally included an equal number of male and female participants. If this study were to be expanded upon or replicated in the future, it would be curious to see if subject responses would differ if each participant group only included one gender, rather than a mix. It would also be useful to examine some of the responses from women in this study that differed from men (such as the preference for wearing masks and the difficulty of staring into the mirror) with a larger number of test subjects.

Another aspect of the study, which is somewhat unclear, is to what extent an individual's instrument affected their response in the individual exercises. It was noted that those playing electronic instruments appeared to be farther removed from their instruments and thus did not experience the same kind of relationship as those playing acoustic instruments. It was also noted that wind and brass players experienced a more negative experience with the Instrument Switch exercise than other groups, and also experienced a greater musical connection with others in the group while wearing facial masks. Because the number of wind and brass players in the study was relatively small (five participants out of thirty), it is unclear if their responses were random or if their instrument type did indeed factor in to their experience. It is however believed that instrument type does factor in to this experience as it stands to reason that a musician who needs and uses their face and breath to create sound would experience performance differently than someone who uses only their hands. Because wind and brass players use the face, and their primary mode of sound creation is their mouth, it is reasonable that they would experience an exercise in which the face is covered with a mask differently than other musicians would. This idea would be worth exploring further and would require a larger sample of wind and brass players to do so.

It was noted in chapter 4 that the Lethbridge group, comprising primarily electronic musicians, generally scored low in terms of feeling they could communicate with their instruments in ways they could not verbally. This same group also scored much lower than any other instrument type when asked if they would rather improvise than socialize with the same group of people (averaging a score of only 5). Additionally, they scored lowest when asked if they viewed their instruments as extensions of themselves. These responses certainly indicate that performers of electronic instruments are farther removed from their instruments than players of acoustic instruments or singers. Their relationship to their instruments is not as strong and it is believed that the function of instruments as masks, while present, is not as significant for players of electronic instruments. To understand this more fully, this study would need to be replicated featuring a much larger number of electronic instruments.

All of the previous studies discussed in chapter 2, which share some similarities to this study, featured only pianists as subjects. While this approach certainly puts all participants in the same category and eliminates some of the questions asked above, it was determined that this study should include as many instrument types as possible to better understand the relationship between improvising musicians and their instruments. This however meant that when differences arose between instrument groups, such as those discussed above, there would likely not be a large enough sample to come to any definitive conclusions. Because the focus was primarily on examining whether or not instruments function as masks in the context of collective free improvisation, this was considered an acceptable way of conducting the study and would reveal trends of instrumental groups that could be later examined in more detail in future studies.

The inspiration behind this study was the researcher's theory that socially anxious or shy people might benefit from collective free improvisation as a means of enabling them to better express themselves and connect with other individuals. It was presumed that individuals who struggle in social situations might feel less anxious and better able to communicate and bond with other people when provided with an alternative means of connecting, specifically through collective free improvisation. While this study did not specifically address this area, the research results and conclusions indicate that improvisation could indeed help individuals in this way, much like they have been proven by other researchers to help individuals with performance anxiety. It was discussed earlier that those that self-identified as being shy found themselves being able to connect much better with the other participants through the act of improvising with them. This concept merits further study because it could hold significant benefits for shy or socially anxious individuals.

Benefits of Incorporating Collective Free Improvisation Practice in the Classroom

While academic sources discussing free improvisation and education are not overly abundant currently, several researchers have examined this field and there is much to indicate the important role improvisation can play in education, and how it may best be implemented. Researchers such as Keith Sawyer, Maud Hickey, Panagiotis A. Kanellopoulos, and Jared Burrows have written articles from a variety of approaches that make a strong case for bringing musical improvisation into the classroom.

Of the authors listed above, Jared Burrows makes one of the strongest and most complete cases for incorporating creative improvisation in the classroom. In his dissertation, “Exploring Improvisation and its Implications for Music Education”, he seeks to better understand improvisation, developing his own philosophical view of it, which he uses to illustrate that improvisational learning is different from all other types of music education and must be treated as such. Burrows attempts to address the fundamental differences between the goals of traditional music education and those of improvisational music making. For example, within our traditional educational system there is a focus on personal achievement and reward, leading towards careers in music, such as those of orchestral musicians; this type of reward-based model tends to ignore the non-material rewards that music can bring.[140] He also examines the communicative aspects of improvisation, stating, “improvised music provides a real opportunity for musical expression and for the sharing of expression with others in a creative dialogue.”[141]

Some of the many benefits of learning improvisation cited by Burrows include:

- Musicians can engage in performances that involve personal conviction, commitment, and an original creative vision.
- Musicians have access to a deepened experience of real creativity and artistic commitment to a goal.
- It involves the ‘opening’ of ears to different sounds and musical ideas.
- It facilitates an increased self-confidence experienced in performance.
- There is a development of personal aesthetic values around music and performance.
- There is an opportunity to collaborate with other cultures and styles of improvisation.
- There is an increased awareness of the process of musical communication among musicians and listeners.
- There are opportunities for increased interpersonal awareness and interaction within an ensemble.
- There are opportunities to build better aural skills, expanded technical resources, understanding the individual’s place in a musical structure or form, increased potential for self-guided growth, and change in music over a lifetime.[142]

[140]Burrows, “Resonances”,15.
[141] Ibid., 68.
[142] Ibid., 149-50.

While the present study did not seek to specifically examine how the practice of collective free improvisation could benefit students or prove why it should be incorporated in music education, many of the findings and conclusions support the ideas of Burrows and others, indicating that there is much to be gained by students when they participate in collective free improvisation. Some of the aspects of collective free improvisation practice revealed in this study that could be applied to improvisation in the classroom include utilizing a greater freedom of expression, social connection, employing different types of communication, and an overall sense of connection with other players.

The concept of using musical instruments as masks in collective free improvisation essentially allows individuals the freedom and comfort to express and reveal different parts of themselves through their instrument. Many participants discussed the fact that they could express thoughts and feelings with their instruments that they would never reveal verbally. Some are even able to use their instruments to portray or feel as if they have become someone else. For students who suffer with feelings of not belonging or isolation and feel that they have no one to talk to, perhaps utilizing free improvisation and using it to channel their innermost thoughts could be not only beneficial but also therapeutic. When using a form of communication that can be interpreted in a variety of different ways, students could gain the confidence necessary to express things through their instruments that they could not and would not through any other means.

Students in general struggle with feelings of being judged. While not explored in this study, the implementation of free improvisation in the classroom is typically done in a setting free from judgment (unlike conservatory training or traditional masterclasses where there are clear correct and incorrect ways to perform). In this study, participants were asked to complete each exercise as instructed with no feedback given as to how "well" they performed. During the entire process, no judgment was offered either from the researcher or the other participants, which was essential for each performer to feel more open when performing. As environments free from judgment (real or perceived) seem to become scarcer as children age, perhaps the implementation of free improvisation throughout one's education could act as a counter to this. Most young adults feel very much judged, often trying to "fit in" or avoid standing out as abnormal. If more of these students were given an opportunity to express themselves in an environment where judgment was not a factor and expressing their different musical personalities was encouraged, it could be extremely beneficial to those that do not feel that they can truly be themselves, and end up suffering from anxieties and other issues as a result.

Another important aspect of collective free improvisation explored in this study was that of social connection. Most participants revealed that they were able to connect socially with the other participants; many claimed they could predict what others were going to do throughout a performance and many also claimed they felt they could understand the thoughts and feelings of the other participants they performed with. Participants that self-identified as being shy or socially anxious noted that it was significantly easier for them to not only communicate but also connect with the other players in a more meaningful way after improvising. This included both musical and social communication. In a world where school is typically geared towards more extroverted personalities, rewarding those who "participate" or put up their hands the most, an environment in which collective free improvisation could be used to help those who are more introverted, shy, or simply need more time or are uncomfortable participating in class in traditional ways (such as putting their hand up to answer questions without adequate time to prepare). While students obviously cannot simply take out their instrument any time they are struggling socially, if there are social benefits experienced through the act of collective free improvisation, such group activity could prove to be extremely beneficial to introverted, shy, or socially anxious students. Even if the only result was that they felt more connected to those in their music classes, this could still result in an increased social confidence and the deepening of relationships that may not happen through any other means.

A strong sense of connection with other participants was well documented in this study. Throughout all of the exercises, participants consistently revealed a relatively strong sense of connection that fluctuated somewhat, being highest in Voice Alone followed by the Dark Room. Given that this study revealed connection being strongest in these exercises, pedagogical applications intended to build connection between musicians could be focused on these two types of performances: using only the voice to improvise and using darkness as a mask during collective free improvisation. This feeling of connection is likely part of the communication process experienced by participants. Surely if one feels a strong sense of connection, it is easier to communicate both verbally and musically. While connection can likely be achieved through other means of musical performance, free improvisation involves a much more personal type of expression. Musicians are able to not only express musical ideas but also deep-seated thoughts or feelings to one another in an environment that they find to be safe and free from judgment. Other types of performance, in which it is possible to make mistakes and play incorrect notes, simply do not offer this same type of security to creatively explore. Even jazz improvisation, which offers creative freedom to performers in the form of improvised solos, still comes with constrictions because it is possible for the music to sound “wrong” if chord changes are not followed properly. While these types of “mistakes” could certainly lead to interesting and even effective musical directions, they are not encouraged or celebrated, which is a significant difference between jazz and free improvisation and their respective pedagogical benefits.

While music curriculums are changing and are trying to incorporate at least some use of improvisation, most current undergraduate students lack the experience of learning and practicing improvisation, unless they are specifically registered in a course that teaches or incorporates it. These courses, however, are relatively rare and many students without prior experience in improvisation shy away from taking them, particularly if there are other students in the class that are already strong improvisers. Part of the reason for this is likely because these students must regularly complete successful auditions and juries in order to be successful in their programs. They are used to an environment in which playing correct notes is good, and playing incorrect ones is bad. When these students improvise for the first time, it can be difficult for them to fully accept the idea that their own musical ideas are valid and can inspire others in the class. This is something that can be overcome in time with the proper approach, specifically offering students a judgment-free environment where they are comfortable taking risks, expressing their thoughts and feelings through music, and exploring new ideas with one another. This environment is best achieved through the implementation of free improvisation practice, where students are not criticized for playing wrong notes (whether notated on a page or as part of a chord chart), and musical and personal exploration is encouraged.[143]

While improvisation in education is a relatively new subject of research, there is much to suggest that free improvisation, if implemented as part of a standard music education, could hold a variety of significant benefits for music students. These include an increased sense of connection with other students, unlocking new ways of communicating, increasing social confidence, and providing a means for students to comfortably express themselves, in potentially therapeutic or cathartic ways. The practice of free improvisation in a safe, accepting environment where students can express their deepest feelings and creative thoughts can only benefit young musicians facing the various anxieties and challenges that come with youth. For young adults who feel isolated and unable or unwilling to express their thoughts and feelings to others, perhaps free improvisation can offer them a different type of communication, where negative thoughts can become raw musical expression rather than aggressive acts of physical hurt or violence.[144]

Beyond the Classroom

Because all of the participants in this study were either current students or recent graduates, the concept of musical instruments acting as masks is unclear in terms of its application to professional musicians or those in an older demographic. The participants selected were very proficient on their instruments in terms of technical ability and there were no obvious differences in ability between the classical and non-classical subjects. Certainly some subjects appeared to be more confident in their skills than others; as

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[143] Kathryn Ladano, “Free Improvisation and Performance Anxiety in Musicians,” *Improvisation and Music Education* (New York: Routledge, 2016), 55.

[144] Ibid., 56-57.

previously noted, the vocalists seemed to be the only instrumental group that obviously lacked the same level of confidence as the other subjects, despite the fact that they were all very skilled and accomplished players. This matches the conclusions in this study in that even though many of the vocalists viewed their voice as separate from themselves, they were the only group of musicians without a physical instrument to mask them.

While the concept of using musical instruments as masks has obvious benefits to students and young musicians, I believe that it is equally valid in its application to more experienced players, even though that was not examined in this research. My main reason for believing this is because of my own experiences as an improvising musician. Certainly when I was younger and lacked confidence, my instrument helped me to connect with other musicians in a way that I could not when performing composed music. It allowed me to express myself in new ways and share my thoughts and feelings without having to verbally state what those were. As someone diagnosed with social anxiety disorder, I also found that improvisation opened up new channels of social connection with people. I was (and still am) able to connect with others in a deep and meaningful way, and it is my instrument (the bass clarinet) that allows for this transmission of thoughts and ideas from me to others. I have always felt more confidence on stage when my bass clarinet is there with me; it has always felt like a source of power or transformation, just like a physical mask. While it could be argued that my need for the mask has been lessened now that I'm a much more confident and accomplished musician, this does not change the fact I still feel transformed by it and it allows me to connect with both other players and audiences in ways that I simply cannot without it, and I do not believe this will ever change. Like the subjects in this study, I too feel that my instrument both reveals parts of myself that I do not express in any other way, yet I also feel that at times I can become a different person. For example, people have often used words such as aggressive, loud, bold, or dominant to describe my playing while improvising. Yet I do not believe that anyone would ever use these words to describe me in terms of how I present myself or how they interact with me socially. My instrument is the only tool I have that allows me to represent myself this way, and it is most certainly a powerful feeling that I do not experience in any other situation.

While not specifically explored in this study, the personality of the performer could be a defining factor in terms of how much they identify with the concept of their instruments acting as masks. As mentioned above, I identify very much with this idea, but I also describe myself as a shy person with social anxiety. It could be argued that people like me need the freedom and power that a musical instrument can provide, since we find it more difficult to open up to others in traditional social situations. However, everyone, regardless of whether they are an introvert or extrovert, shy or outgoing, has thoughts and feelings within them that they do not share with other people. Even people that appear socially confident can experience anxiety in specific situations and even they may find it hard to converse with certain people. Because of this, and the fact that nearly all the participants in this study, regardless of their personalities, identified with the concept of their instruments acting as masks, I believe that the concepts discussed and concluded in this study can and do apply to all musicians regardless of age or skill level.

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APPENDIX A: PRE-STUDY INTERVIEW QUESTIONS FOR PARTICIPANTS

1. What do you think it means to feel connected to the other players when improvising? What does that mean to you?

2. Do you ever feel inhibited when you improvise either with others or by yourself? What does the term "inhibited," mean to you?

3. What does it feel like when you think that you're improvising well with other musicians? What does it feel like when you're not improvising well with them?
    1. What does the music sound like when you feel that you're improvising well with other musicians? What does it sound like when you're not improvising well with other musicians?

4. How can you tell that you're communicating with other musicians when improvising?
    1. What does it feel like to communicate with others through improvisation?
    2. Is there a difference to you between musical communication and social communication through improvisation? Explain
    3. Are there certain visual cues you look for to help you communicate through improvisation, such as eye contact, body language, etc?

5. What do you think it means when people describe their instruments as extensions of themselves?

APPENDIX B: POST-STUDY INTERVIEW QUESTIONS FOR PARTICIPANTS

1. What can you tell me about your experience participating in this study today?
    1. Did you find that any one exercise helped you loosen up or feel more confident as a performer? Why?
    2. Were there any exercises you were given that made you self-conscious or made it more difficult for you to open up as a performer? Why?
    3. Of all the parameters for group improvisation given to you, were there any you felt hindered your creative process? Why?
    4. Of all the parameters for group improvisation given to you, were there any you felt aided your creative process? Why?

2. In playing today, did you feel that you connected with the other musicians on a social level? For example:
    1. Were there times that you felt you were communicating to others through your instrument in ways you couldn't without it? If so, describe
    2. Were there times that you felt you were communicating thoughts or feelings deep inside yourself to others through your instrument? If so, describe
    3. Were there times that you felt you could understand another player's thoughts or feelings through improvising with them today? If so, describe

3. Would you describe your instrument as an extension of yourself, in that it feels like it becomes a part of your body when you improvise? If so, describe
    1. When you are improvising, do you feel that you body and your instrument are or are not separate entities? Please describe
    2. Do you feel that your instrument allows you to connect with people in ways that you couldn't without it? Please describe

4. Do you feel more secure when performing with your own instrument?
    1. Do you feel that your instrument acts as a sort of mask, allowing you to "be" or "portray" someone different when you perform with it?
    2. Do you feel that your instrument acts as a sort of mask, allowing you to be the same person, but express different parts of yourself when you perform with it?
    3. Do you feel that your instrument acts as a sort of mask that allows you to feel more secure while on stage or performing with other people?

5. Did you feel that the experience of improvising with your main instrument was different from improvising with your voice or a different instrument? If so, describe
    1. Which scenario did you find the easiest to perform in today and why?
    2. Which scenario did you find the most difficult to perform in today and why?

APPENDIX C: WARM-UP QUESTIONNAIRE

Circle the best response

1. I felt connected to the other players when performing warm-up pieces or exercises today

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

2. I felt confident improvising with this group of players today

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

3. I felt safe taking musical risks improvising with this group of players today

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

4. I felt that I was able to communicate with the other players through improvisation today

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

5. I preferred performing an unstructured improvisation with this group of players today

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

6. I preferred performing a structured improvisation with this group of players today

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

7. I prefer to improvise alone and in private rather than in front of people

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

8. Improvising in a group is easier for me than improvising as a soloist

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

APPENDIX D: DARK ROOM QUESTIONNAIRE

Circle the best response

1. I felt connected to the other players when performing in a darkened space

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

2. I feel more connected to the other players in the dark than I do when everyone can see one another clearly

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

3. Performing in a darkened space makes me feel less inhibited

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

4. I feel safer taking musical risks while improvising when people can't clearly see me

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

5. I don't need to see the other performers to be able to improvise well with them

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

6. Even with the lights off I feel that I'm communicating with the other players through improvisation

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

APPENDIX E: INSTRUMENT SWITCH QUESTIONNAIRE

Circle the best response

1. I felt connected to the other players when performing on something that was not my primary instrument

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

2. I feel more connected to the other players using my primary instrument than I do when playing a different one

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

3. Performing on something other than my primary instrument makes me feel less inhibited

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

4. I feel safer taking musical risks while improvising on something that is not my primary instrument

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

5. I don’t need to play my primary instrument to be able to improvise well with the other players

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

6. Even on something that is not my primary instrument I feel that I’m communicating with the other players through improvisation

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

APPENDIX F: VOICE ALONE QUESTIONNAIRE

Circle the best response

1. I felt connected to the other players when performing using only my voice

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

2. I feel more connected to the other players using my voice than I do playing an instrument (non-vocalists)

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

3. Performing with only my voice makes me feel less inhibited

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

4. I feel safer taking musical risks while improvising with only my voice

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

5. I can improvise just as well with other players using only my voice as I can with a physical instrument

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

6. I feel that I'm communicating with the other players through improvisation when using only my voice as my instrument

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

7. When improvising using only my voice I feel that I can get away with fewer mistakes because I must rely on my own sound production rather than that of a physical instrument

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

8. When using only my voice, I preferred performing an unstructured improvisation

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

9. When using only my voice, I preferred performing an structured improvisation

	1	2	3	4	5	6	7	8	9	10	
Strongly disagree											Strongly agree

APPENDIX G: MASKS QUESTIONNAIRE

Circle the best response

1. I felt connected to the other players when performing with a mask on

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

2. I feel more connected to the other players wearing a mask than I do without one

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

3. Performing with a mask on makes me feel less inhibited

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

4. I feel safer taking musical risks while improvising wearing a mask

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

5. I don't need to wear a mask in order to improvise well with the other players

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

6. When wearing a mask, I feel that I'm communicating with the other players through improvisation

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

7. It was important for me to customize my mask/costume

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

8. Customizing my mask/costume made it more comfortable for me to play in the group

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

APPENDIX H: MIRROR QUESTIONNAIRE

Circle the best response

1. Performing while looking at myself in the mirror makes me feel more inhibited than I would without it

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

2. Performing while looking at myself in the mirror makes me feel more critical about myself

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

3. Performing a solo while looking at myself and having others listen made me feel more inhibited

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

4. Performing a solo while looking at myself in the mirror was easier to do while wearing a mask

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

5. Wearing a mask made me feel less self-conscious during this exercise

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

6. Looking at myself in the mirror while performing is very hard to do

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

7. Looking at myself in the mirror while performing is very hard to do, but is easier when wearing a mask

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

APPENDIX I: POST-STUDY QUESTIONNAIRE

Circle the best response

1. I have a fear of making mistakes when I perform

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

2. I prefer to improvise alone and in private rather than in front of people

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

3. Improvising in a group is easier for me than improvising as a soloist

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

4. When performing a group improvisation I feel connected to the other players

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

5. When performing a group improvisation I feel that I am able communicate non-verbally with the other performers

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

6. When I improvise in a group I can sometimes sense what the other players are going to do

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

7. I view my instrument as an extension of myself

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

8. I can communicate with my instrument in ways that I can't verbally

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

9. I consider myself to be a shy person

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

10. I would rather improvise in a group than socialize with that same group

1 2 3 4 5 6 7 8 9 10
Strongly disagree Strongly agree

11. Performing in a darkened space makes me feel less inhibited

1 2 3 4 5 6 7 8 9 10
Strongly disagree Strongly agree

12. Performing with an instrument other than my own makes me feel less inhibited

1 2 3 4 5 6 7 8 9 10
Strongly disagree Strongly agree

13. Improvising with my voice makes me feel more self-conscious

1 2 3 4 5 6 7 8 9 10
Strongly disagree Strongly agree

14. Improvising with my voice makes me feel less inhibited

1 2 3 4 5 6 7 8 9 10
Strongly disagree Strongly agree

15. Wearing a mask while improvising makes me feel less inhibited

1 2 3 4 5 6 7 8 9 10
Strongly disagree Strongly agree

16. I feel safer taking musical risks while improvising when people can't see my face

1 2 3 4 5 6 7 8 9 10
Strongly disagree Strongly agree

17. Improvising while looking at myself in a mirror makes me feel more inhibited

1 2 3 4 5 6 7 8 9 10
Strongly disagree Strongly agree

18. I feel less "on display" when performing with an instrument

1 2 3 4 5 6 7 8 9 10
Strongly disagree Strongly agree

19. My instrument allows me to express myself through improvisation in ways that I never could otherwise

1 2 3 4 5 6 7 8 9 10
Strongly disagree Strongly agree

20. I view my instrument as a sort of "security blanket" that makes me feel safer and less on display

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree