2024

The role of self-efficacy beliefs in the development of jazz improvisation among secondary level instrumental music students

BOSTON UNIVERSITY

COLLEGE OF FINE ARTS

Dissertation

THE ROLE OF SELF-EFFICACY BELIEFS IN THE DEVELOPMENT OF JAZZ IMPROVISATION AMONG SECONDARY LEVEL INSTRUMENTAL MUSIC STUDENTS

by

ESTEBAN ADAME

B.A., California State University, Los Angeles, 2008
M.S., National University, 2016

Submitted in partial fulfillment of the

requirements for the degree of

Doctor of Musical Arts

2024

Approved by

First Reader

Andrew Goodrich, D.M.A.
Assistant Professor of Music, Music Education

Second Reader

Tawnya D. Smith, Ph.D.
Assistant Professor of Music, Music Education

Third Reader

Megan Lewis, D.M.A.
Adjunct Professor of Music, Music Education
Utah Valley University

“What we play is life.”

– Louis Armstrong

DEDICATION

To my mother Rosa Adame who without her love and support I would not be the man I am today. To my beautiful wife Carolina, who's unconditional love and support never wavered, I love you. To my daughters Daniela and Natalia who are my inspiration to persevere. And to the memory of my abuelos Esteban and Francisca Adame, who had the foresight to send their eldest daughter to America in hopes for a better life for her and future generations.

ACKNOWLEDGMENTS

I would like to thank the following: To my advisor Dr. Andrew Goodrich, thank you for your constant support, patience, and compassion. You made this process feel easy and never stressful. To my committee members Dr. Tawnya Smith and Megan Lewis, thank you for your feedback, advice, and support throughout this process. To Dr. Kevin Hylton, THANK YOU! Without you I would not have passed my final qualifying exam. To my good friend Frank Fontaine, who put the bug in my ear to even consider pursuing this degree. To my cohort, thank you for your wisdom, guidance, and support. To my piano teachers and musicians that sat with me to teach me the ways, I am eternally grateful to you, specifically Lazlo Cser, Dr. Jeffery Benedict, Dr. James Ford, Rafael Lopez Meneses, David Arnay, Brian Charette, and Andy Sanesi.

THE ROLE OF SELF-EFFICACY BELIEFS IN THE DEVELOPMENT OF JAZZ IMPROVISATION ABILITIES AMONG SECONDARY INSTRUMENTAL MUSIC STUDENTS

ESTEBAN ADAME

Boston University College of Fine Arts, 2024

Major Professor: Andrew Goodrich, D.M.A., Assistant Professor Music, Music Education

ABSTRACT

Many secondary level jazz ensembles are based on the big band model, where students focus on reading music (e.g., Bernard & Stringham, 2016). This focus on reading music has created learning environments where students are hesitant to improvise. Framed in self-efficacy theory (Bandura, 1977), the purpose of this study is to investigate how students' perspectives of their ability to improvise affect their ability to learn how to improvise. I sought to understand the beliefs of secondary level students in this study about their jazz improvisation abilities and how they were influenced by enactive mastery experience, vicarious experience, verbal/social persuasion, physiological and affective states, and personal and contextual factors. In addition, I investigated the role of social interactions in learning how to improvise, and how social interactions impacted the students' perspectives on their abilities as jazz improvisors.

To understand the self-efficacy beliefs of a group of secondary level students, I distributed the Jazz Improvisation Self-Efficacy Survey (adapted from Zelenak, 2011) to the students of the top big band at the high school that met the selection criteria for this study. Using data from the survey, I selected three students who reported high, medium,

and low self-efficacy belief toward their ability to improvise. The participants completed the initial interview based on a priori themes (four sources of self-efficacy) and then I conducted a follow up interview to explore personal and contextual factors such as gender, environment, and teacher-student relationships. Finally, the participants completed a journal entry with three prompts that documented performance experiences in three different settings (lessons, practice, and performance) and how these experiences may have influenced their self-efficacy beliefs about improvising.

Participants reported an increase in self-efficacy belief with every performance (enactive mastery experience). Furthermore, participants described practicing improvisation during classroom rehearsals as helpful, and that these rehearsals gave them a boost in their jazz improvisation self-efficacy belief. Students also reported learning from more experienced student players in their ensemble (vicarious experience) and described how interactions with these players helped in their development as jazz improvisors. Feedback from their teacher (verbal/social persuasion), and in some cases from peers, was reported to have a positive influence upon participants' perceptions of their jazz improvisation abilities. Participants reported detractors to self-efficacy belief, including feeling overwhelmed, feeling tense during performances, and an inability to mentally recover from mistakes during performances (physiological and affective states). Participants reported, however, that positive learning environments and good teacher rapport resulted in an increase in learning and in student self-efficacy belief. Finally, I offer recommendations for music educators on how they might support students to improve their self-efficacy beliefs as they develop as jazz soloists.

TABLE OF CONTENTS

CHAPTER ONE

Pedal on the V7

Many secondary level jazz ensembles are based on the big band model, where students focus on reading music and learning how to interpret jazz repertoire, such as articulations and swing feel (Bernard & Stringham, 2016), rather than focusing on improvisation (Madura Ward-Steinman, 2014). From its inception in the early 20th century, however, learning in jazz was primarily based in an aural tradition where performance practices were passed on from musician to musician either on the bandstand (Goodrich, 2005), in informal jam sessions (Griffin, 2020), or by listening to and transcribing recordings (Goodrich, 2008). As jazz moved from brothels, bars, and dance halls to a more formal academic setting in the mid-20th century, the emphasis on learning to perform jazz shifted from its improvisatory nature to a focus on reading notation, similar to learning to perform in a concert band (Goodrich, 2005, 2008). This shift caused learning improvisation to go from primarily aural learning to one where student musicians relied on reading written solos instead of developing their ear through aural practice (Goodrich, 2008). As a result, students were unprepared in the area of improvisation, and this lack of preparation often resulted in low levels of improvisation fluency (Regier, 2019). Although this shift created learning environments where students were hesitant to improvise in jazz, researchers have found that with proper teacher guidance, secondary level music students can learn to improvise at high levels in their school jazz ensembles (Madura Ward-Steinman, 2014). Furthermore, researchers have found that higher levels of improvisation achievement can lead to higher levels of

engagement and prolonged participation in jazz performance ensembles (Griffin, 2020; Palmer, 2016; Varvarigou, 2017; Watson, 2010). Therefore, a study that involves the exploration of students' perspectives of their abilities and their comfort levels toward improvising in jazz may provide pedagogical insights for teaching jazz improvisation language from an aural standpoint.

Theoretical Framework: Self-Efficacy

In order to explore the perspectives of students and their comfort levels toward improvising in a school jazz ensemble, I used Bandura's (1977) self-efficacy theory to examine this phenomenon. A person's self-efficacy belief is the perception that one possesses the necessary skills to perform a given task. A person with an elevated sense of self-efficacy belief has been found to have a strong sense of motivation, persistence, and eventual task-based achievement (Bandura, 1997; Pajares & Urdan, 2006; Zimmerman, 2000). The theory of self-efficacy is central to Bandura's social cognitive theory, which states that observational learning and social experiences are central to a person's cognitive development (Bandura 1977). This idea of learning through observation and social experience aligns with common practices for learning jazz improvisation and more generally, jazz performance (Goodrich, 2008; Palmer, 2016). Additionally, Bandura found that a person's self-efficacy belief is informed by four sources of self-efficacy: mastery experience, vicarious experience, verbal/social persuasion, and physiological and affective states. Historically, learning how to improvise in jazz shares many similarities with all four sources of self-efficacy. For example, in jam sessions, musicians may feel nervous prior to taking the stage (physiological and affective states), compare one's skills

to other musicians (vicarious experience), believe they are successful with their improvisation (enactive mastery experience) and reinforce their beliefs about how well they improvised based on the applause (verbal/social persuasion). I will describe how improvisation and the four sources share similarities in greater detail in the next section. I also describe how researchers have investigated the four sources of self-efficacy in greater detail in Chapter 2.

Enactive Mastery Experience

The most powerful influence of a person's self-efficacy belief is enactive mastery experience (Bandura, 1977, 1997). According to Bandura, enactive mastery experience provides the learner with *authentic evidence* of their ability to succeed (1997). Developing jazz musicians and experienced players alike can achieve mastery experience through interactions with musicians in private lessons, jam sessions, and formal performances (Goodrich, 2008). The inherent social nature of jazz performance and jazz's aural tradition of learning through imitation provides students with opportunities to learn from peers and mentors alike (Goodrich, 2008). These interactions can facilitate opportunities for enactive mastery experience as students imitate both their teachers in private lessons, other players in their section (e.g., saxophone section, trumpet sections), or other musicians at jam sessions (de Bruin, 2019). Because observational learning is an important part of Bandura's social cognitive theory, and because enactive mastery experience are the strongest source of self-efficacy belief, in this study I examine how observational learning, as well as learning from mentors, can influence learner's perceptions of their ability to improvise.

Vicarious Experience

Social comparison provides sources of information for a young jazz musician (Kelly, 2013), in order to assess personal ability in relation to peer ability (Hendricks, 2016). In the jazz community, jam sessions are places for musicians to come together, interact, perform, and learn from one another (de Bruin, 2019). A jazz musician who participates at a jam session will often sit in the audience and observe other musicians as they wait for their turn on the band stand (Campbell, 2009; de Bruin, 2019). During observation, the musician may assess personal ability as compared to that of other musicians. This assessment can serve as a diagnostic of personal capabilities and can be used to help inform people about their self-efficacy beliefs related their ability to improvise or perform in general (Lewis & Hendricks, 2022).

Another common practice for learning in the jazz community is to study with experienced mentors during private lessons. As mentors model concepts in improvisation when performing for their peers, the student may benefit from imitating their mentor. This imitation may have a positive effect on learning and can boost self-efficacy beliefs (Lewis & Hendricks, 2022).

Although vicarious experience are not considered to be a strong source of self-efficacy, the social nature of jazz performance and common practices in jazz learning communities can allow for learners to observe more experienced musicians and learn from those observations. In examining the social components of jazz performance and learning, I aim to investigate how vicarious experience might affect jazz improvisation students' self-efficacy beliefs.

Verbal/Social Persuasion

According to Bandura (1997), verbal/social persuasion does not have the same influence on a learner's self-efficacy as enactive mastery experience. Substantiated affirmations from colleagues, teachers, and others (e.g., audience), however, can increase a learner's self-efficacy beliefs and can lead to enactive mastery experience (Lewis & Hendricks, 2022; Hendricks, 2016). Verbal affirmations during an improvised solo, in the form of reactions from the audience or encouragement from the other musicians, can serve as positive reinforcement for the soloist (verbal/social persuasion). Such affirmations can create a sense of excitement and euphoria for the performer (e.g., physiological and affective states), which may enhance the influence of the mastery experience upon self-efficacy perceptions (Hendricks, 2016). This result may be especially the case after a successfully perceived performance, as Bandura (1977) suggested that verbal affirmations can be a meaningful source of increased self-efficacy perceptions.

Physiological and Affective States

A performer's self-efficacy perception can be influenced by their body's reaction to a certain situation and external stimuli (Bandura, 1997). According to Bandura (1997), physiological and affective states are physical and emotional sensations that provide the learner with information regarding their performance. These sensations (e.g., sweating, shortness of breath, excitement) might be interpreted positively or negatively by the learner and might impact their self-efficacy beliefs toward the given task. In jazz, a jazz musician who reports feeling relaxed while executing controlled body movements during

pieces with frantic tempos could be interpreted as a reduction of stress by the body (Hendricks, 2016). This reduction of stress could signal to the learner that they are showing signs of growth as an improvisor, and this experience can enhance the learner's sense of self-efficacy beliefs (Hendricks, 2016). Jazz musician Kenny Werner described a *space* where musicians can tap into their inner voice and access endless ideas for improvisation (Werner, 1996). According to Werner, while in the space, the musician experiences a feeling of stillness that at times feels as if someone else is moving the soloist's hands for them. Even at fast tempos, musicians in this space calmly navigate the chord changes and seem to execute their solos effortlessly. As stated above, this effortless execution could be interpreted as reduction of stress by the body and may serve as an indication of mastery for the musician. The performer's reaction to this physiological state can therefore enhance their self-efficacy perceptions through "improved mental interpretation of bodily states" (Hendricks, 2016, p. 35).

Personal and Contextual Factors

Although studies have shown that the four sources of self-efficacy have a strong influence on a learner's self-efficacy perceptions, their relative influence on individual learner self-efficacy belief varies according to gender, ethnicity, culture, and values, (Hendricks, 2016; Schunk & Usher, 2012; Usher & Pajares, 2008). Gender is one such factor that has shown to influence a student's self-efficacy perception of their ability to improvise and their participation in jazz activities in general (Wehr-Flowers, 2006). Despite the fact that more females are participating in school jazz ensembles than in the past, female students continue to be severely underrepresented in jazz education and

professional jazz settings (Wehr-Flowers, 2006). For example, McKeage, (2004) found that more female student musicians disclosed that they had never played in a jazz ensemble, and women had a higher rate of attrition than men. Of the 628 undergraduate participants in the McKeage study, only 26% of women continued to play jazz beyond high school, while 62% of men continued beyond secondary school. According to McKeage, potential reasons for the lack of female participation in jazz was lack of female role models, pressure to perform both classical and jazz, female preference for performance in traditional ensembles (e.g., concert band, orchestra), and failure to connect jazz ensemble performance with future career possibilities.

Gender has also been found to be a variable of student self-efficacy perception in jazz education. For example, Wehr-Flowers (2006) found that female students reported feeling less confident in their ability to improvise than male students when it comes to improvising. Although Wehr-Flowers examined the differences between male and female students and their perceptions related to jazz improvisation, there are a scarcity of studies in which researchers have examined the reasons for a lack of Latina jazz musicians and Latina jazz students in jazz education programs and professional jazz settings. Through this study, I hope to examine the contextual factors that might contribute to this phenomenon.

Rationale for the Study

Researchers have found that secondary level music students rarely engage in improvisation activities based in aural learning (Goodrich, 2008; Mickolajak, 2003; Palmer, 2016). This lack is due, in part, to improvisation being absent from many

preservice music teacher preparation programs; music teachers are often ill-prepared to teach jazz improvisation (Palmer, 2016; Watson, 2010). Although many students are capable performers, music students may feel unprepared to improvise (Alexander, 2012; Madura Ward-Steinman, 2014). As a result, many secondary level instrumental music students feel anxious and apprehensive about engaging in improvisation activities (Madura Ward-Steinman, 2014).

Furthermore, the four sources of self-efficacy: enactive mastery experience, vicarious experience, verbal/social persuasion, and physiological and affective states may provide a means to investigate students' perspectives regarding their jazz improvisation skills, as well as the belief in their ability to execute an improvised solo (Bandura, 1997). Other contextual factors such as culture, race, ethnicity, and gender have also been shown to affect jazz improvisation outcomes (Wehr-Flowers, 2006). Although researchers have examined jazz improvisation pedagogy outcomes at various levels (e.g., middle school, high school, college, professional), studies about how the four sources of self-efficacy and personal and contextual factors influence jazz improvisation learning for secondary level instrumental music students are lacking in the literature. A study that explores secondary level music student perspectives of their ability to improvise and how their perspectives are influenced by the four sources of self-efficacy as well personal and contextual factors is needed to fully understand this phenomenon. Such a study may provide insights for music teachers who wish to understand how to more effectively use aural learning when teaching jazz improvisation at the secondary level.

Purpose of the Study

The purpose of this study is to investigate how students' perspectives of their ability to improvise affect their ability to learn how to improvise. To guide this investigation, I used the four sources of self-efficacy theory: enactive mastery experience, vicarious experience, verbal/social persuasion, and physiological and affective states to explore how students engage in aural learning when developing their improvisation skills in jazz. I sought to explore the comfort level of students to improvise in school jazz ensembles, and how level of comfort impacted their capacity to persevere beyond obstacles during the learning process. Notably, if students' beliefs in their ability to improvise are fostered through teacher guidance, positive learning environments, and performance accomplishments, they are more likely to engage in activities that increase their confidence and ultimately their sense of self-efficacy for improvisation (Davison, 2010). In addition, I investigated the role of social interactions in learning how to improvise, and how social interactions impacted the students' perspectives of their abilities as jazz improvisors. I also sought to explore personal and contextual factors (e.g., gender and culture) to understand how they mediated, if at all, the influences of the sources of self-efficacy upon the student's beliefs in their abilities to improvise.

Research Questions:

1. How are secondary level students' beliefs about their jazz improvisation abilities influenced by enactive mastery experience?
2. How are secondary level students' beliefs about their jazz improvisation abilities influenced by vicarious experience?

3. How are secondary level students' beliefs about their jazz improvisation abilities influenced by verbal/social persuasion?
4. How are secondary level students' beliefs about their jazz improvisation abilities influenced by physiological and affective states?
5. In what ways do personal and contextual factors (e.g., gender and culture) mediate the influences of the four sources of self-efficacy upon students' beliefs in their abilities to improvise jazz?

Orientation of the Study

In this chapter, I sought to describe the phenomenon of interest of my study and establish the theoretical framework that I used to examine self-efficacy belief and jazz improvisation. I described the four sources of self-efficacy and how they might inform student self-efficacy beliefs as they relate to jazz improvisation. In the next chapter, I present a review of literature to contextualize the self-efficacy research that I used to support the investigation of high school students and their self-efficacy beliefs about improvising in jazz. In Chapter 3, I describe the methods used to examine this phenomenon. Then, Chapter 4 is a presentation of findings and in Chapter 5, I discuss those findings, offer pedagogical suggestions that may support jazz improvisation learning, and offer recommendations for future research.

CHAPTER TWO

Review of Literature

As discussed in Chapter 1, I used self-efficacy theory to explain how students' perceptions of their jazz improvisation abilities may be influenced by enactive mastery experience, vicarious experience, verbal/social persuasion, physiological and affective states, and personal and contextual factors (e.g., gender, environment). A significant body of research on self-efficacy belief and its impact on performance achievement exists within the fields of education and music education (e.g., Davison, 2010; McPherson & McCormick, 2006). As such, in this chapter I discuss findings regarding self-efficacy belief and jazz improvisation achievement among secondary level music students. In the following section, I provide an overview of self-efficacy theory and the four sources of self-efficacy to contextualize and support how I use these terms in this review of literature and throughout the study. I then review literature on self-efficacy and organize this chapter based on four themes I developed through the process of conducting this review: (a) Self-efficacy in Music Education, (b) Self-efficacy Beliefs and Achievement, (c) Self-efficacy Beliefs and Motivation, (d) Self-efficacy Beliefs and Music Performance Anxiety, (e) Music Improvisation, (f) Self-efficacy, Improvisation, and Music Education, (g) Self-efficacy and Jazz Improvisation Pedagogy, (h) Teacher Self-efficacy Beliefs and Jazz Improvisation, and (i) Self-efficacy, Gender, and Improvisation.

Self-Efficacy Theory

This study is guided by Bandura's (1997) self-efficacy theory. Bandura originally proposed the concept of self-efficacy belief perception as personal belief in one's ability

to achieve a goal or execute a task. Bandura believed that a person's sense of their ability to execute a task can play a major role in how they approach the task. Self-efficacy theory is central to Bandura's social cognitive theory, which states that observational learning and social experience are central to a person's cognitive development (Bandura, 1977). According to Bandura (1977), there are four key factors that inform and influence a person's self-efficacy, namely: (1) enactive mastery experience, (2) vicarious experience, (3) verbal/social persuasion, and (4) physiological and affective states. In the next section, I discuss what researchers have found in regard to the four sources of self-efficacy and how they might predict music performance outcomes.

Sources of Self-Efficacy

A person's perception of their ability to perform a given task is informed by the four sources of self-efficacy (Bandura, 1977). Despite possessing the ability to carry out a task, if a person does not have the belief in their own abilities, their self-perception of their inability to succeed might negatively affect their performance (Lewis, 2018). Therefore, an individual's efficacy beliefs "not only promote behavioral accomplishments but also extinguish fear arousal, thus authenticating self-efficacy through enactive and arousal sources of information" (Bandura, 1977, p. 195).

Enactive Mastery Experience

An enactive mastery experience is the most influential factor in influencing a person's sense of self-efficacy belief (Bandura, 1977; Zelenak, 2015). According to Bandura (1977), each positive performance outcome reinforces a person's belief in their ability to succeed while failures undermine these beliefs. Additionally, learners tend to be

motivated to learn and perform behaviors that they believe will have a positive performance outcome (Schunk & Usher, 2012).

Students, in general, experienced an increase of task-based belief in their ability the more mastery experience they encountered. For example, Hendricks (2009) found that young orchestra musicians reported that enactive mastery experience had the most influence on their self-efficacy perceptions over a prolonged period. Furthermore, students who performed alongside their peers were able to positively perceive their accomplishments, which suggests that this awareness may be attributed to a combination of vicarious and enactive mastery experience. Hendricks (2014) reported that student musicians who participated in a string orchestra festival experienced an increase of self-efficacy belief over the course of the festival. Concurrent with that author's previous research, enactive mastery experience had the strongest source influence over time. Additionally, students reported increased mastery experience as they became more familiar with the repertoire. Additionally, Zelenak (2015, 2019, 2024) found similar results and reported that enactive mastery experience had the strongest effect on participant music performance self-efficacy belief. However, in regard to achievement outcomes, verbal and social persuasion were stronger followed by enactive mastery experience.

Lewis (2018) reported that out of nine vocal student participants, eight claimed to have an increased sense of performance ability, which resulted from positive performance experience. The degree to which the performance outcomes affected each student was dependent on their individual self-efficacy perceptions. Students with high self-efficacy

belief were quick to recover from negatively perceived performances, while students with low self-efficacy belief were negatively affected by poor performances.

Teacher Guidance

Teachers play an important role in providing students with enactive mastery experience opportunities (Hendricks, 2016, 2014). Therefore, it is important for music teachers to facilitate these experiences by guiding students through smaller and more manageable tasks on their way to an overarching goal. Bandura (1997) stated that mastery experience has a greater impact on student learning when large tasks (e.g., jazz improvisation) are broken into several tasks that are more manageable for the learner. Similarly, Hendricks (2016) stated that musicians not only learn when given smaller more manageable tasks to master, but that tasks should be of increasing difficulty over time; setting short-term goals while working toward long-term outcomes. The difficulty of tasks and the amount of effort spent on those tasks may influence the learner's self-efficacy belief. Successful completion of less challenging tasks was found not to increase a learner's self-efficacy belief in the same way that a more challenging task might (Hendricks, 2015).

Performance

Successful musical performances are linked to enactive mastery experience (Marshall, 2010). Bandura (1977) stated that positive mastery experience increases self-efficacy belief while repeated failures undermine self-efficacy belief. It is important for the music teacher to provide opportunities for students to have successful performances.

Successful performances play an important role in how learners perceive themselves (Marshall, 2010). When a student experiences success as a performer, their self-efficacy belief as a music maker increases. Furthermore, with a higher sense of self-efficacy belief, students can recover much more quickly from setbacks and "the negative impact of occasional failures is likely to be reduced" (Bandura, 1977, p. 195).

Vicarious Experience

Although successful musical performance plays an important role in developing students' self-efficacy belief, vicarious experience play an important role as well (Bandura, 1997; Lewis, 2018). Bandura (1977) stated that people do not rely on mastery experience alone as a source of information regarding their self-efficacy belief. Vicarious experience is most effective when students observe successful models of actions by other learners whom they perceive to possess similar performance abilities (Bandura, 1997; Usher & Pajares, 2008). In a study that examined college vocal students, Lewis (2018) reported positive source influence from participants who were grouped with others with similar ability levels. Hendricks (2014) found that orchestra students that participated in a three-day festival and were seated by ability level and gender also reported an increase in self-efficacy belief. In a study that examined teaching practices of four graduate vocal teachers, Clemmons (2007) reported that teachers who encouraged their students to observe their peers' weekly voice lessons reported a positive influence on their learning. Learning through imitation has also shown to have positive outcomes for learners (Bandura, 1997). Zhou (2014) reported a positive effect on learning outcomes by undergraduate students who worked and imitated role models during weekly sessions.

Coping Models

To aid with self-efficacy belief, a person, or observer, might benefit more from watching models that overcome adversity and succeed at a task (Bandura, 1997). If a model overcomes adversity and is optimistic in their perception of their abilities, the observer might be influenced by the model and might be inspired to adopt similar behaviors (Hendricks, 2016). In a study that examined the learning achievements of adolescent girls that were paired with female mentors, Mann et al. (2015) found that young participants learned vicariously through their interactions with their mentors and reported an increase in their academic self-efficacy belief. Rosenthal (1984) tested the impact of four learning conditions on 44 college woodwind and brass students performing a violin etude. Each musician was assigned one of four modeling conditions: (a) guided model; (b) model only; (c) guide only; and (d) practice only. Of the four modeling conditions, only the students in the model only group reported significantly higher scores in a performance post-test. Lewis and Hendricks (2022) investigated the influence of the four sources of self-efficacy on performance abilities. Notably, their study with nine classical vocal music majors found that participants reported benefiting from observing peers work through challenges and overcome difficulties. Conversely, master modeling provided a glimpse of a skill level students might achieve, as well as artistic insight at the higher level.

Competition

Although learner self-efficacy belief can increase through observation of models, learner self-efficacy belief can be diminished in competitive settings (Hendricks, 2009). Through comparisons, student observers might experience feelings of incompetence and ultimately feel discouraged and have a decreased sense of belief in their ability (Lewis & Hendricks, 2022). Gavin (2010) explored the reasons that undergraduate students withdrew from their music degree courses. Participants reported their reason for dropping out of their music studies was due to comparisons they made with other students in their cohort. Some participants reported feeling like they were the worst player in their studio and were overwhelmed by the amount of talent they encountered when they reached the university level. Despite the clear positive impact that vicarious experience might have on a learners' self-efficacy perceptions, vicarious experience within competitive settings should be used with caution (Lewis, 2018). Similarly, Hendricks et al. (2016), found that students regularly compare themselves to other students, often in a "self-defeating" manner. Suggesting that vicarious experience often affected student self-efficacy belief in a negative way. Additionally, Hendricks and Smith (2018) found that social comparisons lowered student morale during a study of students at two summer camps for classical and eclectic styles. The study revealed that students in the classical camp often compared their abilities to that of other students while students at the eclectic camp did so less frequently. Therefore, there is sufficient evidence to suggest that vicarious experience in the form of social comparisons often negatively affect student self-efficacy perceptions.

Verbal/Social Persuasion

Another source of self-efficacy information is verbal/social persuasion. According to Bandura (1977), verbal/social persuasion is used quite often due to its accessibility. Bandura stated that through verbal suggestions, the learner can be led to believe they can contend with a task that might otherwise feel overwhelming. Bandura (1997), stated that through words of encouragement from people perceived to be credible and knowledgeable, verbal/social persuasion can increase a person's self-efficacy perceptions. Lewis and Hendricks (2022), reported that participants benefitted from positive instructor feedback, especially in the early stages of development. However, some participants reported specific negative feedback that diminished their belief in their vocal ability. In another study, Lewis et al. (2022) reported that student self-efficacy improved when teachers exhibited a belief in student potential. Students also reported benefiting from collaborative support strategies which included opportunities for enactive mastery experience integrated with verbal/social persuasion, repertoire selection, self-assessment, and strategies for efficient practicing. Hendricks (2016) noted that positive feedback is best received when it is direct, authentic, specific, and correlates with the learner's ability level. In a study that examined the self-efficacy perceptions of string orchestra students at a statewide music festival, Hendricks (2009) highlighted that verbal/social persuasion before a performance was a strong predictor of positive self-efficacy perceptions. Zelenak (2019) found that self-efficacy perceptions of secondary level instrumental music students were impacted more by verbal/social persuasion than enactive mastery leading up to a performance. Zelenak stated that feedback, critiques,

and praise from teachers and peers leading up to performance can enhance student self-efficacy perception. Although a strong correlation between enactive mastery experience and self-efficacy belief has been found, Zelenak (2019) reported that verbal/social persuasion was a greater predictor of music performance outcomes and emphasized the influence of verbal feedback on music performance achievement.

Physiological and Affective States

The fourth factor affecting self-efficacy belief is physiological and affective states (Bandura, 1997). Physiological and affective states encompass both physical arousal (e.g., sweating, increased respiration) and emotional experiences (e.g., stress, anxiety). These states, and how learners interpret them, influence self-efficacy beliefs (Bandura, 1997). As noted by Bandura, if a learner experiences a physical sensation that causes them discomfort, they may interpret these sensations as part of a stressful situation, and in turn interpret them as anxiety. Conversely, the learner may interpret these sensations as excitement and may instead experience an increased sense of self-efficacy belief. From an emotional perspective, if a learner feels confident or optimistic they might have a boost in self-efficacy belief. However, feelings of fear or frustration might adversely affect their self-efficacy belief. Additionally, the learner may then associate these negative emotional sensations with their inability to perform (e.g., failure) and as a result of these sensations, the learner may experience a decrease of self-efficacy belief.

Music Performance Anxiety

In music education settings, performances are not only based around community events and holidays (e.g., football games, dances, Veterans Day events, tree lighting

ceremonies), they are also used by music educators as summative assessments of a student's ability and progress. Unlike the formal exams or college jury performances (jury performance refers to formal graded performances in front of music faculty for music students), several studies have shown that when students are aware of being graded for a performance, they may experience an increase in music performance anxiety (MPA) (Boucher & Ryan, 2011; Dempsey & Comeau, 2019).

Inhibiting States. Musicians with MPA have exhibited a variety of physical, mental, and cognitive symptoms such as: "worry, disruptions in concentration, memory problems, interfering negative thoughts, increased heartbeat, sweating, shaking, numbness, dry mouth, shortness of breath or changes in breathing, muscle tension, and avoidance behaviors" (Dempsey & Comeau, 2019, p. 61). In a study of young musicians who ranged in ages from 7-17, Dempsey and Comeau (2019) sought to find the extent to which MPA moderates the relationship between age and gender. They found a negative correlation between MPA and self-efficacy belief, that is, as self-efficacy belief decreases, MPA increases. Dempsey and Comeau (2019) stated that these results are in line with Bandura's (1977) self-efficacy theory in that along with enactive mastery experience, verbal/social persuasion, and vicarious experience, physiological and affective states such as anxiety affect a person's task efficacy. In meta-analysis of 46 self-efficacy studies, Zelenak (2024) also reported a negative correlation between self-efficacy belief and music performance anxiety. Furthermore, according to Hendricks (2009), orchestra students who participated in the aforementioned three-day string orchestra festival reported negative physiological and affective states as having an

adverse effect on music performance outcomes. Hendricks suggested that these negative physiological and affective states might be attributed to self-doubt and comparisons to other musicians during their festival participation. In another study that examined musician thoughts and perceptions during performance, Clark et al. (2014) discovered that negatively perceived performances were linked to negative self-perception, inadequate preparation, and frustration. Positively perceived performances were connected with sufficient preparation, positive mindsets, and an overall enjoyment of the performance experience. Robson and Kenny (2017) found that the setting of the performance affected performance anxiety experiences. For example, they found that students experienced higher levels of MPA during concerts or graded competitive performances than in rehearsal or casual performances.

Personal and Contextual Factors

In addition to the four sources of self-efficacy, personal and contextual factors such as classroom environment, student teacher relationship, culture and gender have been found to influence self-efficacy beliefs, music performance achievement, and music ensemble participation (Kelly-McHale & Abril, 2015; McKeage, 2004; Niehaus et al., 2012; Wehr-Flowers, 2016). According to Bandura (1997) the principle of triadic reciprocal causation states that behaviors, intrapersonal factors (cognitive, affective, and biological events), and environment influence each other bidirectionally. Therefore, when examining learner self-efficacy beliefs, such determinants must be considered.

Environment

Music teachers can create environments for learning improvisation that are safe spaces for exploration (Shevock, 2018). Hickey (2009) stated that successfully teaching improvisation is more a product of environment rather than a product of learning a skill. Hickey et al. (2016) posited that successful student improvisation outcomes are more dependent on a combination of student personality and environment rather than "some inherent musical skill or teacher technique" (p. 4). Larsson and Georgii-Hemming (2019) stated that creating safe spaces for students to make mistakes during their learning journey is a student-centered approach that allows for mistakes to be seen as opportunities and possibilities rather than failures. This, in turn, creates an environment that "promotes positive reinforcement of each student attempt" (Alexander, 2012, p. 30). In another study, de Bruin (2017), examined the effect that four conservatory teachers had on their students using a pedagogical approach that he called cognitive apprenticeship. de Bruin found that through cognitive apprenticeship teachers and students exchange ideas, goals, and aspirations while fostering a positive learning environment that supports student learning. Hendricks et al. (2014) stated that creating a safe space for students begins with the music educator. The music educator must reflect upon the practices that do not benefit the student and modify those practices in order accommodate the diverse needs of their students.

Student Teacher Relationship

The dynamic that exists between a student and a teacher can influence student learning outcomes (de Bruin, 2017). Positive student teacher relationships can create

environments based on trust and mutual understanding that help students in their jazz improvisation learning journey (de Bruin, et al., 2020). Conversely, negative relationships can inhibit learning and stifle positive student learning outcomes (Gaunt, 2008). In a study of collegiate vocal students, participants highlighted the importance of having open communication with their studio vocal instructor (Lewis, 2018). For example, although one student felt uncomfortable sharing her feelings with her teacher, she was able to communicate freely and openly with her teacher because of the rapport they had with each other. In a study that examined 12 university jazz students and the impact of studying with professional jazz musicians, de Bruin and Williamson (2020) found that positive social interaction between students and their jazz improvisation teachers resulted in positive learning outcomes that included the adopting of beliefs, orientations, and values that mirrored their teacher's. These findings, in turn, resulted in "enhanced persistence, goal striving and regulation" (p. 214) of learning and are supported by Bandura's (1977) self-efficacy theory.

Gender

Although female students do participate in jazz ensembles, very few improvise during jazz performances (Wehr-Flowers, 2016). This may be due, in part, because female students feel more anxious and have less confidence in their ability to improvise than male students, and thus tend to avoid opportunities to improvise (Hendricks, 2014; Wehr-Flowers, 2006). Higher levels of female attrition in school jazz ensembles have been attributed to the fact that female students report feeling less comfortable in jazz ensembles and more comfortable in orchestra and wind bands (McKeage, 2004; Wehr-

Flowers, 2006). This lack of participation has led to fewer females, in comparison to males, seeking a career in jazz performance and has contributed to young female musicians not connecting jazz performance to their personal career goals (McKeage, 2004).

Culture

Cultural factors might also influence female participation in jazz ensembles, in improvisation activities, and in seeking a career in jazz (McKeage, 2004; Niehaus et al., 2015; Wehr-Flowers, 2006). Although very little literature exists on Latina jazz musicians and their lack of participation in jazz, some cultural factors might be attributed to this phenomenon (Kelly-McHale & Abril, 2015; Wehr-Flowers, 2006). Latina musicians might not connect jazz performance career goals due to inherent differences in the Latino culture that might prevent them from seeing value in jazz performance (Kelly-McHale & Abril, 2015). Some of these differences may be attributed to the need for working-age students to hold a job to financially help the family, the need to care for younger siblings, a lack of practice space due to multigenerational living conditions, a lack of relevance to their social circles, and a lack of approval from parental figures (Kelly-McHale & Abril, 2015).

Self-Efficacy Beliefs and Music Education

Researchers have used self-efficacy theory to understand student performance outcomes (e.g., McPherson & McCormick, 2006; Zelenak, 2015). One such study is McPherson and McCormick's (2006) seminal study that examined how student self-efficacy beliefs impacted graded music examination results among instrumental music

students. The authors found that self-efficacy belief was a strong predictor of student achievement and that self-efficacy belief also influenced student goals and long-term learning outcomes. In the following sections I examine how achievement, motivation, and music performance anxiety affect student performance outcomes as it relates to music education.

Self-Efficacy Beliefs and Achievement

Music performance achievement outcomes of individual students and the collective efficacy belief of ensembles have been linked to music performance achievement (Hewitt, 2015; Ray & Hendricks, 2019). Researchers have found that self-efficacy belief was a strong predictor of music performance achievement and that self-efficacy belief also influenced student goals and long-term learning outcomes. Zelenak (2024) found that there was a positive correlation between self-efficacy belief and performance achievement. Findings also revealed that a strong sense of self-efficacy belief led to less instances of music performance anxiety. Additionally, research has shown that a relationship exists between the four sources of self-efficacy and music performance achievement (Ray & Hendricks, 2019; Zelenak, 2019). Studies conducted by Zelenak (2019) as well as Ray and Hendricks (2019) found that enactive mastery experience and verbal/social persuasion had a strong positive affect on student music performance, such that the better the experience, the stronger the student's self-efficacy beliefs in their ability to perform.

Self-Efficacy Beliefs and Motivation

Self-efficacy belief has also been linked to student motivation and its impact on student learning and achievement. Researchers in music education have examined these links, thereby providing valuable insights for music educators and their practice (Clark, 2013; Davidson, 2010; McPherson & McCormick, 2006; Schmidt, 2007). Most notably, a study by Ritchie and Williamon (2011) showed that students who participated in private music lessons had significantly higher self-efficacy scores than students who did not participate in private lessons. Furthermore, students with higher levels of self-efficacy belief were found to show higher levels of motivation to engage in regular practice sessions and set long-term learning goals (Ritchie & Williamson, 2011). Clark (2013) found that access to private tutors' ownership of high-quality instruments, and access to a practice space resulted in higher levels of student motivation which ultimately led to higher levels of self-efficacy beliefs in music performance achievement. Although access to private lessons, owning a personal instrument, and a practice space is linked to socioeconomic status (SES), the above studies show the important role these factors play in student motivation and overall achievement. Because student motivation is predicated on the belief of their own abilities to succeed, when students have the tools that they need to be successful, they might be motivated to work diligently and set goals in pursuit of achieving the given task.

Self-Efficacy Belief and Music Performance Anxiety

In the same way that self-efficacy belief influences motivation, it can also impact music performance anxiety (Bandura, 1997, 1997). Dempsey and Comeau (2019)

examined the relationship between music performance anxiety (MPA) and self-efficacy belief in student musicians. They found a strong negative relationship between self-efficacy belief and MPA, such that the lower a student's self-efficacy belief the higher their MPA. The participants were 7–18 years old and the results showed that the older students experienced higher levels of MPA than younger students. In a similar study, Gonzalez et al. (2018) examined music performance self-efficacy belief as a predictor of MPA. Gonzalez and colleagues found that students with higher levels of MPA showed lower levels of self-efficacy belief and ultimately student performance achievement.

As the previously examined studies have indicated, student self-efficacy beliefs have been shown to directly impact student development and achievement in music performance (Clark, 2013; Hewitt, 2015; McPherson & McCormick, 2006; Ray & Hendricks, 2019; Ritchie and Williamon, 2011; Zelenak, 2019). Additionally, student self-efficacy beliefs have also shown to impact student music performance anxiety as well as student motivation (Dempsey & Comeau, 2019; Gonzalez et al., 2018).

Music Improvisation

With the goal of examining how self-efficacy belief influences student improvisation achievement, it is important to understand improvisation, both as it exists in music more broadly and within the context of jazz. Music improvisation refers to music that is performed extemporaneously—without prior preparation (Hickey et al., 2015; Palmer, 2016). Music improvisation provides students with opportunities for self-expression, improves overall performance skills, and engages the student in higher-order thinking in music (Alexander, 2012). Music improvisation has been described as a

transcendent act that helps musicians experience self-liberation, confidence in one's abilities, and freedom of expression (Shevock, 2018), and this is the case for jazz and jazz improvisation (de Bruin, 2019; Palmer, 2016).

Although many music traditions use improvisation as a central component of performance, very few genres utilize music improvisation more than jazz (Palmer, 2016). The ability to spontaneously execute idiomatic phrases within harmonic and structural frameworks is an essential skill for any jazz musician (de Bruin, 2019). Additionally, technical facility is a necessary skill that has been found to have a strong correlation with jazz improvisation achievement (Palmer, 2016). Although previous definitions of improvisation use the word extemporaneous to describe the spontaneous unrehearsed nature of improvisation, improvising musicians, both in jazz and classical traditions, must prepare and competently execute harmonic sequences and melodic phrases for use in improvisation (Aebersold, 2017; Després et al., 2017). This prepared material is then combined spontaneously, often within the harmonic framework of a piece of music.

Self-efficacy Beliefs, Improvisation, and Music Education

The ability to improvise requires a deep understanding of the structural, harmonic, and melodic aspects of music, as well as the ability to combine these parts spontaneously (Czerny & Mitchell, 1983, Després et al., 2017). According to Després et al. (2017), improvisation in Western classical music was prevalent until the middle of the 19th century. The decline in the use of improvisation is attributed to a greater emphasis on notated music, the increasing level of difficulty in the music literature, and the expectation from the audience for a perfect performance (Després et al., 2017). The

absence of improvisation in Western classical music is also mirrored in music education (e.g., chorus, orchestra, and band). Notably, the absence of improvisation in instrumental music curricula is often attributed to a lack of teacher preparation or the preference of music educators to focus on rehearsing existing repertoire (Bernard & Stringham, 2016; Goodrich & Icenogle, 2019; Madura Ward-Steinman, 2014; Regier, 2019; Shevock, 2018). Without their teacher's guidance, students will likely not have high efficacy beliefs in their ability to improvise, and therefore will likely not engage in such activities (Madura Ward-Steinman, 2014; Regier, 2019).

In the following studies, researchers examined the relationship between improvisation pedagogy and the effects on student self-efficacy belief for improvisation, within music education but outside the jazz spectrum. Studies have shown that different pedagogical approaches (e.g., aural versus notated instruction) can be an effective way to help students improvise (Palmer, 2016; Varvarigou, 2017; Watson, 2010). Davison (2010) examined the impact of aural and notated instruction on improvisation achievement, and the effects of theory-based instruction on student self-efficacy belief relative to improvisation. The study revealed that aural instruction had a positive impact on student improvisation achievement. Students reported an elevated sense of self-efficacy belief in improvisation after having received aural improvisation instruction. In another study, Hickey et al. (2015) used a sample of non-music majors to examine if group free improvisation instruction had an effect on improvisation achievement, and if this instruction would make the participants more confident improvisors. Initially, Hickey et al. found no difference between group free improvisation on improvisation

achievement at the time of the data collection. However, in a follow up study by the researchers, participants reported an improved sense of belief in their improvisation abilities.

Aural instruction has been shown to support improvisation achievement among students and adult musicians (Watson, 2010). Several researchers have examined the effects of aural instruction on student improvisation achievement and self-efficacy (Palmer, 2016; Varvarigou, 2017; Watson, 2010). For example, Varvarigou (2017) examined the effects that playing by ear and imitating may have on group improvisation achievement of undergraduate classical music students. Study findings indicated that some students reported feeling comfortable participating in improvisation activities while others reported feeling outside their comfort zone. Additionally, the inclusion of these group improvisation activities was found to have a positive effect on students' overall group improvisation achievement.

Although improvisation is generally associated with jazz, studies related to self-efficacy belief, improvisation and music education have shown that there is an absence of improvisation in traditional ensembles (Bernard & Stringham, 2016; Madura Ward-Steinman, 2014; Regier, 2019; Shevock, 2018). Studies on different pedagogical approaches to improvisation indicated that the inclusion of improvisation activities, relative to traditional ensembles, can provide students exposure to improvisation, and ultimately provide students with some foundational experience in improvisation (Davidson, 2010; Hickey et al., 2015; Varvarigou, 2017). Furthermore, students may carry these experiences into higher levels of their music learning, where it may serve as

the prior knowledge needed for learning more complex concepts in improvisation.

Self-efficacy Beliefs and Jazz Improvisation Pedagogy

Self-efficacy belief is a major predictor of motivation and music performance achievement (Gonzalez et al., 2018; McPherson & McCormick, 2006; Zelenak, 2019). The preparation needed to become a competent jazz soloist (learning scales, chords, licks in all 12 keys) requires significant dedication and prolonged effort (Aebersold, 2017; Snell & Azzara, 2015). A strong sense of self-efficacy belief can help a student remain motivated, set long term goals, and develop plans of action in order to attain their goals as jazz musicians (Bandura, 1997). Music educators play a major role in facilitating instruction that fosters positive self-efficacy perceptions and provides students with opportunities for success (Coss, 2018).

Studies have shown that different types of instruction, such as aural versus notated, theory-versus practice-based, and imitative approaches to jazz improvisation pedagogy can have a positive impact on a student's self-efficacy belief and achievement in jazz improvisation (Brumbach, 2020; Palmer, 2016). Watson (2010), for example, studied the effects of aural versus notated learning materials on student self-efficacy belief in instrumental jazz improvisation and found that student self-efficacy belief increased through guided aural improvisation instruction. The results revealed an improvement in jazz improvisation achievement with only three hours of instruction. Furthermore, Watson noted the importance of aural instruction materials in jazz improvisation pedagogy, where people learn best by observing and modeling after their peers. These findings align with the second source of self-efficacy belief information—

vicarious experience (Bandura, 1997).

In jazz improvisation pedagogy there are two schools of thought to learning how to improvise that include theory-based or practice-based (aural) approaches (Brumbach, 2020). Brumbach (2020) examined how two types of jazz instruction (theory or practice-based) impacted improvisation learning in high school jazz musicians. The theory-based approach was defined as instruction centered on chord, scale relationships, and the use of the correct scales to the piece's harmony as material for improvisation. In contrast, the practice-based approach encouraged learning through recordings, imitation, individuality of expression, and apprenticeships with experienced jazz mentors. The results revealed that practice-based instruction had a greater impact on participant improvisation achievement and learning than the theory-based approach.

Historically, jazz musicians have learned to play the music aurally. Palmer (2016) examined how aural imitation ability, jazz theory knowledge, and personal background is associated with the development of jazz improvisation achievement among high school and college music students. The researcher found that imitation and technical facility of the instrument were significant factors in student jazz improvisation achievement. In other words, students with technical facility and the ability to play what they hear will likely have greater success in improvisation activities than students that have difficulties in these areas (e.g., technical ability and aural skills). The findings also revealed that through observational learning (imitation of modeled behavior), interactions with experienced jazz mentors can have a profound impact on students' improvisation achievement (Bandura, 1977, 1997; Davison, 2010).

The studies reviewed, related to self-efficacy belief and jazz improvisation pedagogy, indicate that through guided, aural, and practice-based pedagogical approaches, students may experience positive improvements in jazz improvisation achievement (Brumbach, 2020; Palmer, 2016; Watson, 2010). The aforementioned guided, aural, and practice-based pedagogical approaches may facilitate the internalization of musical material through rote learning (learning technique based on repetition) or imitative learning, rather than learning from printed music. Students can then imitate recordings or examples modeled by their teacher, which can yield positive learning experiences for the student. Through these positive learning experiences, students can also experience an increased sense of self-efficacy belief in jazz improvisation, which can lead to long-term goal setting, and prolonged engagement in jazz improvisation activities (Bandura, 1997).

Teacher Self-efficacy Belief and Jazz Improvisation

Band director self-efficacy belief has been documented to be low in the area of jazz improvisation pedagogy (Madura Ward-Steinman, 2014). A study by Regier (2019) examined the self-efficacy belief of secondary level band directors toward teaching concert band, marching band, and jazz band. The study also assessed the potential relationships between band director self-efficacy belief and previous pre-service experience teaching concert, marching, and jazz bands. The majority of band directors reported a higher level of self-efficacy belief in teaching marching and concert bands, while few directors reported high levels of efficacy belief in teaching jazz. In a similar study with pre-service music educators, Madura Ward-Steinman (2014), examined the

effects of a vocal jazz improvisation workshop, for choral music majors, on their confidence and level of achievement in vocal improvisation. The participants, all of which had no previous improvisation experience, engaged in a total of eight, 50-minute jazz improvisation workshops in an effort to improve their overall skill and confidence in jazz improvisation. The results indicated that participation in jazz improvisation workshops can make a significant difference in participant's (e.g., pre-service music educator) confidence for teaching jazz improvisation. Madura Ward-Steinman posited that if eight sessions can make such an impact on a music educator's confidence level, then administrators of pre-service music education programs should make efforts to provide jazz improvisation pedagogy training to their students. Bernard and Stringham (2016) conducted a comparable study to Madura Ward-Steinman, using a sample of undergraduate music majors, to examine undergraduate music education majors' confidence in teaching improvisation according to National Association of Music Education (NAfME) K–12 Achievement Standards. The research findings showed that as grade level increased, confidence in teaching improvisation decreased. The results also showed that upperclassmen students (e.g., junior, senior) had higher levels of confidence than their underclassmen counterparts (e.g., freshman, sophomore). With respect to teacher self-efficacy belief and jazz improvisation, teachers reported having lower self-efficacy beliefs in their ability to teach jazz improvisation as compared to marching band, concert band, orchestra, and choir (Bernard & Stringham, 2016; Regier, 2019). Madura Ward-Steinman (2014) indicated that teacher self-efficacy belief can improve with a few jazz improvisation lessons.

Self-efficacy Beliefs, Gender and Improvisation

Jazz has been called "*America's Classical Music*," and while many view jazz as an example of America's diversity, women have largely been excluded from enjoying the same successes as performers, when compared to their male counterparts (McKeage, 2004). The accessibility of jazz education is as high as it has ever been, yet there are proportionally less females who participate in jazz courses, both at the secondary and collegiate level, and of the female students that do participate, only a fraction of them feel confident enough to improvise (Wehr-Flowers, 2006).

Wehr-Flowers (2006) investigated the differences between male and female music students' (ages ranged from middle school to college) levels of confidence versus their anxiety related to jazz improvisation participation and found that female jazz students reported feeling less efficacious than their male counterparts in jazz improvisation activities. A similar study by McKeage's (2004) revealed that female students did not have positive feelings toward improvisation, when compared to their male counterparts. Additional findings revealed that other factors such as primary instrument selection (playing an instrument not common in jazz big band), feeling more comfortable in traditional ensembles (e.g., band, orchestra, choir), and an inability to connect jazz participation to career aspirations influenced the lower rates of female participation.

Overall, research suggests that female performers report lower self-efficacy beliefs and higher levels of anxiety related to improvisation activities compared to their male counterparts (Wehr-Flowers, 2006). Alexander (2012) investigated the confidence,

anxiety, and attitude of secondary string students toward improvisation, after they completed a course on improvisation. Results revealed that female students were significantly more anxious during improvisation activities than male students. In a similar study, Hendricks et al. (2016) sought to observe instrumental music performance self-efficacy belief among high school music students who participated in a three-day orchestra festival. As supported by past research, male students exhibited higher levels of self-efficacy belief than female students, and female students had lower levels of self-efficacy belief before the audition and the first rehearsal, but at the time of the performance it equaled their male peers.

As the previously examined studies have indicated, with respect to gender, self-efficacy belief, and music performance, female students tend to feel more anxious and have lower levels of self-efficacy belief in ensemble settings compared to their male counterparts (McKeage, 2004; Wehr-Flowers, 2006). Additionally, because female students have reported higher levels of anxiety and lower self-efficacy beliefs relative to jazz improvisation, female students generally participate less in jazz improvisation activities (Wehr-Flowers, 2006). In the context of music education, these findings suggest that there is a need to create safe spaces for female students to explore improvisation, where female students can have positive learning experiences.

Summary

In this review of literature, I examined research centered on self-efficacy belief and its impact on jazz improvisation development among music students. Researchers have suggested that the development of music improvisation skills can have profound

benefits, such as cognitive growth and social emotional well-being for students (de Bruin et al., 2020; Palmer, 2016). Researchers have also found that learning how to improvise can allow students to form stronger intrapersonal relationships with peers and teachers, which in turn can result in supportive learning and motivation, not only in music but in other areas including academics (de Bruin et al., 2020; Ritchie & Williamon, 2011). In the next chapter, I describe the methods I used in this study to explore self-efficacy belief and jazz improvisation. I include details about the research design, criteria for participant selection, data collection, and analysis.

CHAPTER THREE

Methods

In this chapter, I outline the methodological procedures I used to conduct this study. The methodological procedures include the research design, how I selected participants, how I collected and analyzed data, and how I established the trustworthiness of the methods. The methods and procedures described in this chapter allowed me to realize the aims of this study, which were to examine how students' perspectives of their ability to improvise affected their ability to learn how to improvise. Through this study, I sought to answer the following research questions:

1. How are secondary level students' beliefs about their jazz improvisation abilities influenced by enactive mastery experience?
2. How are secondary level students' beliefs about their jazz improvisation abilities influenced by vicarious experience?
3. How are secondary level students' beliefs about their jazz improvisation abilities influenced by verbal/social persuasion?
4. How are secondary level students' beliefs about their jazz improvisation abilities influenced by physiological and affective states?
5. In what ways do personal and contextual factors (e.g., gender, environment, and culture) mediate the influences of the four sources of self-efficacy upon students' beliefs in their abilities to improvise jazz.

Research Design

Through an interview approach (Usher, 2009), I explored how secondary level music students perceived their ability to improvise. The current study aimed to gain a deeper understanding of participants' lived experiences with jazz improvisation (Usher, 2009). Additionally, the interview approach facilitated the exploration of various conditions potentially influencing participants' self-efficacy beliefs regarding jazz improvisation (Stake, 1995). The current study was adapted from Lewis (2018), who investigated university students' self-efficacy beliefs regarding their vocal performance abilities. I replicated the research design of Lewis (2018), including the four phases of data collection described below. However, this study differs from Lewis (2018) in the following ways: I investigated secondary level students, whereas Lewis (2018) studied university level students; participants in this current study were secondary level students who were not majoring in music, and Lewis (2018) studied vocal performance majors; and I explored a different aspect of music making, instrumental jazz improvisation, instead of vocal performance.

Criteria for Selecting Participants

My first step in conducting this study was to select a site in which the music program had a reputation for having an exemplary jazz program. I assumed that condition would likely provide data that was information rich with respect to my phenomenon of interest (Gall et al., 2007). Sites considered for selection included high schools in the metro Los Angeles area with active jazz programs, frequent performances, and reputations for superior performance levels.

As part of the site selection process, I also sought a music program in which student participants met the following criteria: students must have participated in a concert band for a minimum of two years and were enrolled in a secondary level school jazz ensemble. I chose to focus on this population, because according to researchers like Bernard and Stringham (2016) and Goodrich and Icenogle (2019), secondary level concert band students that are in jazz ensembles tend to have the greatest reservations about improvising. After obtaining approval from Boston University's Institutional Review Board, local school band directors actively leading jazz ensembles at the time of the study were contacted via email**.** After reviewing the responses from the various band directors, I chose the school that had the best reputation for having outstanding jazz bands. After establishing communication with the band director, I emailed a Google consent form which they forwarded to their students (see Appendix A).

Once the site was selected, I administered the Music Performance Self-Efficacy Survey (described below). This survey provided me with an opportunity to select participants for the next stages of data collection: the initial interview, journal, and follow up interview phases. The participant responses were collected and the sum total of each of the four sources of self-efficacy were calculated. An overall source score for each participant was also calculated.

Internal consistency of the four sources of self-efficacy scale was assessed using Cronbach's alpha in SPSS. As noted by Gall et al. (2007), alpha coefficients between .70 and .80 indicate an acceptable reliability. To select participants, I used purposeful sampling methods to achieve an in-depth understanding of the selected participants and

how their responses might relate to self-efficacy belief and jazz improvisation. Survey data was analyzed to identify responses suggesting unusually high or low influence from self-efficacy sources. These sources include mastery experience, verbal and social persuasion, vicarious experience, and physiological and affective states. In addition to identifying outliers in the survey data, I also sought a participant with a medium score. In addition, student participants could indicate whether they wanted to continue in the study or not. For the student participants who indicated a desire to continue in the study, I reviewed their responses to help me get a sense of who would likely provide "information rich" responses (Gall et al., 2007, p. 178). After reviewing all the survey data, I found three participants, Diego, Julia, and Daniela (all names are pseudonyms), each of whom met the criteria for high score, medium score, and low score. Focusing on three participants allowed me to explore their self-efficacy beliefs in greater detail. I present their musical backgrounds in Chapter 4.

Data Collection

In order to provide a more holistic portrait of the self-efficacy beliefs of these participants, I used several sources of data that included a survey, initial interview, journal prompts, and a follow-up interview. I collected and analyzed portions of the data in the following order:

> Phase 1: I administered the "Jazz Improvisation Self-Efficacy Survey" based on Zelenak's "Music Performance Self-Efficacy Survey" (Weeks 1-3). During this phase I also analyzed results to help select participants for the interview and journal phases of the study (Weeks 3-5).

Phase 2: In this phase I conducted the initial interview with the participants (Weeks 5 & 6).

Phase 3: I provided three prompts via journal entries for participants to respond about their positive and negative self-efficacy beliefs in spaces where jazz improvisation occurred. These spaces included band rehearsals, practice sessions, and performance settings (Weeks 6-8).

Phase 4: I conducted a follow-up interview to explore personal and contextual factors related to their self-efficacy beliefs, in addition to asking additional questions based upon initial analyses of interview and journal data (Weeks 8-10).

Self-Efficacy Survey

As mentioned in the purpose of this study, I sought to understand the participants' jazz improvisation self-efficacy beliefs. To begin understanding self-efficacy beliefs among the participants, I adapted the Zelenak Music Performance Self-Efficacy Scale (Zelenak, 2011; see Appendix B) for use in this current study. I adapted the Zelenak scale to assess self-efficacy source influence specific to jazz improvisation performance. I renamed the adapted instrument to the "Jazz Improvisation Self-Efficacy Survey" to better reflect the focus of this study. I used this survey to measure participant levels of self-efficacy belief as they related to the four sources of self-efficacy. The questions were grouped according to the four sources of self-efficacy. Each group included ten questions for mastery experience, five questions for vicarious experience, five questions relating to verbal/social persuasion, and four questions for physiological and affective states. Lewis (2018) stated that since the Zelenak (2011) survey did not measure the actual strength of

participant self-efficacy belief, at the start of each interview I asked participants to describe how they perceived their performance abilities in jazz improvisation. To measure the strength of each participants' jazz improvisation self-efficacy beliefs, the participants were asked to describe how they felt about their ability to improvise in a jazz context. In this inquiry I wanted to assess the strength of participants' jazz improvisation self-efficacy beliefs, which the Zelenak (2011) scale does not measure.

Consistent with Lewis (2018), who reworded some of Zelenak's (2011) original survey questions in order to align more with their study, I also reworded some questions so that they related specifically to jazz improvisation. One example is the first question that read, "I have had positive experiences performing music in the past," which was modified to read, "I have had positive jazz improvisation performance experiences in the past." I also included demographic questions (e.g., academic standing, major, gender, ethnicity, years of study, education goals) to gather information which informed the contextual component of this study.

Once I received the Google form responses from the initial email which I had sent to the band director, I scheduled a day to visit the school site during the jazz class. I printed out the surveys and handed them to the students. I returned the following week and collected the survey responses and prepared them for review.

Initial Interview

For the initial interviews, I used a semi-structured interview protocol to help provide me with an opportunity to engage in in-depth interviewing (Stake, 1995) with the participants. I used a semi-structured interview protocol because it allowed me to ask

follow-up questions that could lead to new lines of questioning (Stake, 1995). The use of follow-up questions allowed respondents to speak freely and openly about their abilities to improvise (Glesne, 2016). To guide the initial interview, questions were structured based on the four sources of self-efficacy (see Appendix C). These interview questions were then categorized according to the sources of self-efficacy. The resulting interview protocol included 15 open-ended questions which allowed me to inquire about students' experiences with improvisation in and outside of band classes. The interviews lasted between 45-60 minutes.

Interviews of selected participants took place at the selected school site. Interviews took place in the band room or sometimes in a quiet space outside the band room during the participant's band class period. The interviews were recorded using a Tascam DR 07x recording device to assure a clear recording of participant interview responses. The interviews were transcribed within a week of the interview using the Go transcript transcribing service. I reviewed the transcribed manuscript for accuracy and corrected errors that might have occurred during transcription.

Journals

To gain additional insight into students' perceptions of their self-efficacy beliefs about jazz improvisation, I designed a journal entry with three prompts that I sent to participants after the initial interview. These entries prompted students to reflect on a particularly positive or negative improvisational experience they had in a jazz ensemble setting (see Appendix D Reflection Prompt). The journals provided another source of data to help me gain additional insight to the participants' self-efficacy perceptions

during jazz improvisation rehearsals, practice sessions, and performances. The journal entry forms were uploaded to a Dropbox folder. Students had access to these entries which were completed and submitted between the initial interview and follow-up interview at the participants convenience**.** In order to provide the students with ample time to complete the journal entry, I allowed the students approximately three-weeks for their completion.

Follow Up Interview

Within one week of the final journal entry, I interviewed the participants using a follow-up interview protocol (see Appendix E). The follow up interview questions were based on my analysis of data from the initial interview and journal prompts, and for these interviews I also used a semi-structured interview protocol (Stake, 1995). The questions in this interview included ten questions related to personal and contextual factors (e.g., gender and culture). The purpose of these questions was to gain additional insights into participant's self-efficacy beliefs about jazz improvisation. Similar to the initial interview, the follow up interview took place at the students' school site and lasted approximately 30 minutes.

Data Analysis

In this study, the data was analyzed in two phases. In phase one, I examined the survey responses to determine the participants' self-efficacy beliefs about their ability to improvise and if the participant would be an ideal candidate to interview. As mentioned earlier, I sought candidates that exhibited unusually high or low belief influence from one or more self-efficacy sources (mastery experience, verbal/social persuasion, vicarious

experience, physiological and affective states). In phase two of the data analysis, I examined the data from the initial interview and journal entries, which were based on a priori themes (e.g., four sources of self-efficacy). I used these data sources to look for confirming and disconfirming examples in the data record. With the initial read-through for analysis, I was able to develop questions for my follow up interview. These follow up questions were related to personal and contextual factors (e.g., cognitive self-regulation, student/teacher relationship, environment, gender).

Once interviews and journal entries were completed, the material was transcribed within one week of its completion and was analyzed using steps as identified by Braun and Clarke (2006). The six steps were as follows:

- Becoming familiar with the data by transcribing, reading, and rereading the data.
- Coding the data by systematically identifying noteworthy features all across the data set.
- Collating codes and searching for emergent themes and gathering all data relevant to each potential theme.
- Checking for the validity and reliability of themes in relation to the codes. Additionally, a thematic map was generated to ensure the relevance of the themes.
- An ongoing analysis of the themes provided specific details of the themes and ultimately clear definitions and names for each theme.
- A report detailing the findings of study as they relate to the research questions and literature.

As part of the data analysis process, I used a system of coding. Codes were based on

categories that emerged from the data (Creswell & Creswell, 2018). A master code list was compiled that included categories and subcategories (Creswell & Creswell, 2018). From the codes, themes emerged and served as findings and headings in Chapter 4 for portraying the participants' beliefs about self-efficacy this study (Stake, 1995).

Trustworthiness and Reliability

The trustworthiness of a study refers to the quality and rigor of the study, in order to assess how well the research was conducted (Creswell & Creswell, 2018). To ensure trustworthiness of the final report, I employed strategies described by Glesne (2016)—four constructs to ensure trustworthiness: credibility, dependability, and confirmability. Korstjens and Moser (2018) stated that credibility can be achieved through prolonged engagement with the study participants, triangulation (incorporation of multiple data sources), and member checks to verify interview response accuracy. The dependability of the data was ensured through an audit trail that organized the data collected throughout the research process as well as through triangulation. Finally, confirmability was achieved through reflexivity and triangulation of data (Gall et al., 2007).

Summary

In this chapter, I described the methods I used to conduct this study to investigate self-efficacy beliefs and jazz improvisation. I described in detail the research design, the survey instrument, criteria for selecting participants as well as the interview process and analysis of data. Finally, I described the process by which I established the trustworthiness of the findings. In the next chapter, I present the findings.

CHAPTER FOUR

Diego, Julia, Daniela

In this chapter, I present findings from the survey, interviews, and journal entries. For this study I used the Zelenak (2011) self-efficacy survey, which was designed to measure self-efficacy source influence. In addition, the survey provided an opportunity to select participants for the interview stage of the study. To select participants, I strove to select participants across a spectrum of self-efficacy beliefs ranging from strongest to lowest. Three participants opted to be interviewed, and they included Diego, Julia, and Daniela (all name and places used are pseudonyms). For the interviews, I used an open-ended protocol that allowed for the participants to recall positive or negative performance experiences when improvising. Additionally, because self-efficacy belief is task based, I wanted to know how Diego, Julia, and Daniela determined they were successful or not with improvising. The interviews were conducted in-person during the spring of 2023 at the participants' school site. The participants also completed three journal prompts to provide additional insights into their self-efficacy beliefs about jazz improvisation.

In this chapter, I portray how Diego, Julia, and Daniela perceived their self-efficacy beliefs. I begin each portrait with their musical background to orient the reader about their musical experiences and to provide context for their self-efficacy beliefs about jazz improvisation. I then follow with a presentation of their self-efficacy beliefs from the survey data, and then I merge the interview and journal data together and organize this data using the four sources of self-efficacy: Enactive Mastery Experience, Vicarious Experience, Verbal/Social Persuasion, and Physiological/ and Affective States. By doing

so, I aimed to provide a portrait of the participants' jazz improvisation experiences. The participant profiles throughout this chapter provide a glimpse into the experiences of three musicians as they navigated positive and negative jazz improvisation experiences.

Diego

I know I had a good solo when everything feels right. It's hard to explain. But everything just feels right. The crowd might applaud, but I don't need their applause to know that I did good.

-Diego

Diego's Musical Background

Diego, a senior and bassist, played bass since his first year of high school. At the time of this study, he was in his fourth year and had played in the jazz ensemble all four years of high school. His father was a guitarist in rock bands and like his father, he focused on playing guitar in heavy metal bands, which he continued to do until just prior to this study. Diego began his journey in music in middle school, playing guitar, but switched to bass once he entered high school. According to Diego, "I don't know, I just thought it would be cool to play bass." He joined the school jazz ensemble because a student at his church encouraged him to join the class, since they would be attending the same high school. His interest in jazz grew even more once he joined the class and at the time of the study played upright bass in the advanced jazz ensemble. In addition to playing upright bass, he began composing and arranging music for a quintet he led with students from the local community college. Diego stated:

> I started writing tunes for a band that I put together with some musicians from the college. It was a little rough putting it together, they can be really opinionated when it comes to showing them my arrangements. But overall, it's really fun. I started writing tunes because I saw Andres doing it last year and it seemed really fun. It's super cool to hear your music when other musicians play it.

He shared that the group is currently only rehearsing, but they hope to perform once they have enough material. Overall, Diego was confident in his ability to improvise in the jazz style, especially on what he described as easy pieces of music, such as a ballad that is slow in tempo, or a 12-bar Blues song. He indicated, however, that he got nervous with jazz pieces at fast tempos and with several chord changes, including those in a Bebop style, such as the Charlie Parker composition "Confirmation" and "Blues for Alice." He shared, "if it's like taking a solo on "Blue monk," no problem, it's only like at 130 bpm, but "Confirmation" is at 180 and it's got two chord changes per measure for most of the song. That freaks me out." He continued, "I believe that I could improvise on songs that aren't super complex, like a blues like "Blue Monk." Bebop is kind of scary because there are so many chord changes at fast tempos, like 'Confirmation.' But I feel that I can do it if I work on it, I just need time."

Jazz Improvisation Survey

Diego's overall survey score was 85 (out of 100). The totals for each of the sources of self-efficacy were the following: Enactive Mastery Experience (90), Vicarious Experience (80), Verbal/Social Persuasion (76), and Physiological/ and Affective States (90). Diego was selected because his responses suggested high positive source influence.

Mastery experience (EME) related to past performances, guided practices sessions, performing in large ensembles, and private lessons had a positive influence in Diego's performance belief. Diego reported not feeling discouraged from receiving negative feedback (VP) from his friends or family, and he shared he is confident as an improvisor and in his ability to improve over time. Master modeling (VE) had a low rating, however, peer modeling positively impacted his improvisation ability belief.

Sources of Self-Efficacy

Enactive Mastery Experience

In this next section I highlight Diego's Enactive Mastery Experience in various settings (e.g., practice room, rehearsal, performance) and how they contributed to his belief in his ability to improvise. Diego commented that he prefers to practice at school as opposed to practicing at home and that he reported that performances have had a positive impact on this performance ability. I also highlight how competition outcomes factor into his overall belief as a performer and improvisor.

Practice

For Diego, his beliefs in his bass playing abilities depended upon whether he was playing music in a practice room, the rehearsal space, or a performance. For example, when practicing at home Diego often made little progress because there was no one to guide him on the pieces or passages that he needed to practice. Diego stated, "I feel like playing at home is very limiting, I get distracted easily and it's hard to know what I can improve on, it's a little discouraging." In jazz band rehearsals, however, his band director was there to guide him and point out what he needed to improve. He stated, "It's easier to

make progress on my music and my soloing when I am in rehearsal. My teacher is there to help with things I might miss at home." Diego shared a similar viewpoint when he was in a private lesson with his bass coach. He remarked, "I feel like one-on-one, like, when I'm with Memo (bass coach), it's very easy to understand what I'm doing wrong. He can just point it out to me and show me how to improve on that."

Performance

Diego shared that, in general, performing in his high school jazz ensemble had a positive impact on his performance ability, and that he even learned from what he perceived as a poor performance. He remarked that, "Even if we did bad, I feel like I could still learn from that. I feel like I can learn more from a bad performance than a good performance." He further stated that in general, performing in jazz ensembles had increased his overall confidence in performing. As a result of his ability on the upright bass, Diego was asked by the band director of a local community college to join the college jazz big band. He recalled a recent performance with the college jazz band where he was nervous to play with a band at a higher level. He shared, "Yeah, I was nervous at my first concert with the college big band. Especially because I had that solo at the beginning of 'Haitian Fight Song,' but it worked out in the end, I felt good about it." Despite being nervous, he communicated that he learned from the experience, and that the experience increased his overall confidence as a performer and improvisor. Furthermore, he shared that performance experiences, in general, proved to positively influence his overall belief in his abilities as a performer.

Competition

Diego had varying levels of confidence in his improvising abilities, depending upon the situation: practicing at home, rehearsing with the jazz band, or being inspired by his peers. Another facet of performing in the jazz band involved competition. Diego's school jazz band competed in local jazz festivals held at local high schools, local community colleges, and universities. These festivals were usually adjudicated, and bands were given rankings from first to third. Additional recognition was given to outstanding soloists and for each instrument. Diego mentioned he gets excited about competing. He asserted that he does not care too much about the band earning first place, and instead looks forward to the feedback from the judges, rather than winning the festival. But he mentioned that he appreciated whenever the band earns high rankings. He stated, "It's, like, 'Oh, sweet. We did that.' You know what I mean? I like getting recognized for it, but I also don't really let it beat me down if the band does not earn first place."

Diego shared how, in general, his performance and improvisation self-efficacy belief was impacted by performance outcomes in various settings. He shared that he learned more and progressed faster when an educator, such as his bass teacher or band director, was there to guide him. He also shared how performance outcomes at competitions were not as important as the feedback that festival judges might provide. Overall, Diego's self-efficacy beliefs about his own abilities as an improvisor benefited from having performance mastery experience.

Vicarious Experience

In the following section, I highlight how vicarious experience contributed to Diego's self-efficacy belief. Diego disclosed that he had bandmates he looked to as role models. He also shared that he preferred to watch his peers over a professional perform, and stated that it was more helpful for him to watch his peers work through challenges than to watch a seasoned professional perform.

Diego had confidence in his abilities to improvise that were, in part, aided by how he viewed some of his peers in the jazz band. He disclosed that there were several students he looked up to as role models—specifically, a trumpet player, a trombonist, and especially a guitarist named Andres. The guitarist, Andres, was someone that Diego looked up to and admired, for he considered Andres to be on a higher level of improvising ability. When Diego listened to Andres improvise, he was inspired by what he heard. Diego recalled what it is like when he heard Andres play the guitar: He went on to describe an interaction with the guitarist in the ensemble. He stated:

> Andres is always going to play something cool. It's like we talk and so he'll explain something to me, and I'll have no idea what he's talking about. I want to be able to understand him to be able to use those ideas.

He added that although he might not understand the theory Andres shared with him, he appreciated watching him play and tried to emulate what Andres played on the bass. "Sometimes I'll record our rehearsals and I'll try to transcribe what Andres played during his solo. I can't always play what he plays but I try." Diego expressed that he learned a substantial amount from watching his peers play. However, as I highlight in the next

section, he expressed that he would rather watch his peers play instead of a professional jazz musician.

Peer vs Pro. Diego was inspired by Andres as well as other peers in the jazz band. According to Diego, he learned more from watching his peers work through challenges when improvising. Although Diego enjoyed listening and watching professional jazz musicians improvise, he stated that he learned more from watching his peers work through challenges when improvising, rather than watching a professional. He remarked:

> I would rather hear a peer improvise than a pro. I feel like it's good to see a pro play but, it's better to see my classmates work through a solo and see them grow as soloists. That's way more inspiring.

Diego shared that he learned more from watching his peers than he did watching professionals perform. He was also inspired by watching various students in his ensemble improvise, and this inspiration boosted his belief in his ability to improvise. Diego stated that his self-efficacy beliefs about his own abilities as an improvisor increased from watching others perform.

Verbal/Social Persuasion

The following section highlights how feedback from various sources (e.g., peers, family, teachers) affected Diego's beliefs in his ability to improvise. He shared how he valued teacher feedback over peer and family feedback, and how negative feedback has no effect on his belief in his ability to improvise.

Feedback

Part of Diego's beliefs in his jazz improvisation abilities was based on the feedback he received about his bass playing. Diego received feedback about his bass playing from a variety of sources: teachers, parents, family, and his peers. Diego disclosed that although he appreciated the feedback he received from parents and teachers, he shared that their comments would not affect his confidence in his ability to improvise. He commented that he still had the capacity to grow and improve over time through hard work. Diego remarked, "I think it's good to get feedback, but I feel like I could keep growing and still play good even if nobody said anything." He also described how he would rank feedback from family, peers, and his teacher. Diego said that he would rank his teachers' feedback the highest, followed by his peers, and lastly his family's feedback. He communicated that family feedback would be supportive regardless of the performance outcome. For Diego, however, student and teacher feedback would be more constructive because they were more informed about jazz improvisation than his family members.

Negative Feedback. Diego valued the feedback he received, especially from his teacher and peers. He shared that negative feedback had no real effect on his confidence. Diego was confident in his abilities and knew that negative feedback was part of the learning experience. He stated, "I'll take the feedback and talk about it with a peer or my band director to see how I might work on what they suggested." He continued:

> My band director one time told me not to depend on pentatonic and blues scales to improvise and instead suggested I combine the blues scale with bebop scales

> and arpeggios to outline the harmony. Then I talked about it with Andres to see if he could help. He really helped me understand that.

He further remarked that even feedback from a jazz festival judge did not affect his confidence. “I don’t really care what they say, sometimes their feedback is useless. If they have something negative to say that doesn’t affect me, I know eventually I’ll get it.”

Diego’s belief in his ability to improvise benefited greatly from feedback from teachers (e.g., band director, and bass coach) and peers. He also benefitted from interactions with peer role models that helped him understand unfamiliar concepts in music theory and improvisation. Overall, Diego’s self-efficacy beliefs about his own abilities as an improvisor benefited from feedback he received, especially feedback from his teachers and coaches.

Physiological and Affective States

In the following section, Diego describes how nervousness and anxiousness affected his ability to execute his music and his ability to improvise fluidly. Furthermore, he shared that his ability to perform was affected when there might be more experienced musicians in the audience, especially other bass players.

Technique

Diego shared that, in general, he was confident with his technique on the bass, however, he confided that sometimes he got tense, and it might be difficult to play musical passages at the level he would like to. He stated:

> Usually, I’m fluid. Sometimes, I get a little tense, I won’t do as good if I’m tired, my hands are tired, or if I realize I’m doing something that doesn’t fit. The last

> time I soloed, I was playing real fast. I think it was just because I was nervous. I didn't like that I was playing so fast. I wanted to take it slow a little. If I'm nervous, I think it affects me. I get nervous if I know that there are really good bass players listening, I think they might be a little judgy and that makes me nervous.

As stated above, if there is another bass player in the audience and Diego thought they might be better than he was, he got nervous when he performed. In that situation, he stated that he got nervous to improvise in front of them. Diego's responses suggest that his self-efficacy beliefs about his own abilities as an improvisor were sometimes affected by various physiological and affective states, namely tension and nerves.

Personal and Contextual Factors

In the next section, Diego shares personal and contextual factors that impacted his belief in his ability to improvise. He mentioned how factors such as the gender of his teachers, the general culture of his jazz band, and judgmental audiences might influence his belief in his improvisation abilities.

Gender

Diego disclosed that the gender of his teachers did not have an impact on his learning. He shared that initially he thought it may, but upon further reflection he shared it did not. He stated:

> I thought before that I wouldn't really care for the feedback if it was from a female teacher or coach. Mostly because just the way I grew up with my mom trying to be a dad and the feedback always being super harsh, you expect your

> mom to be nurturing and caring. Your dad should be like, 'Ah, why didn't you do this?' You know what I mean? I didn't really get the nurturing part from my mom, so then I grew up thinking like, 'Oh, all women are like this.' Now, I have a female percussion coach, and I notice take feedback really well from her as if she were a male coach. I guess I've come to understand that they're not all like my mom. It doesn't really make a difference. It just depends on the person, how their tone is, and their attitude.

Environment

Diego described his jazz ensemble rehearsals as positive, and that the general environment was calm. He continued by stating that he was comfortable playing in front of his classmates in his high school ensemble. "I feel good playing in class, everyone is chill, whenever anyone plays something cool people react to it. I like that I can try things out and I can do it without the pressure to be perfect." When he played with the college band, however, he shared that he tended to get a little nervous around the other musicians, especially if there were other bass players. He stated:

> I enjoy the people around me and I feel comfortable to play in front of them [his high school ensemble]. I've been playing with them for a few years now. It's not too bad. When I'm in new environments though, like at Del Amo College, when I practice with them, I do get a little nervous before I play, especially when there's another bass player there."

He further reflected that although the students at the college were older and more experienced, the environment at the college was positive and that everyone there wanted

to learn, get better, and generally support each other.

Diego's responses suggest that he was confident in his abilities as an improvisor. Additionally, he preferred rehearsals and private lessons to practicing alone at home. He disclosed that there were students that he admired and tried to learn from, by emulating their playing and having conversations about musical concepts. Diego preferred feedback from his band directors and peers to that of his family and friends and had learned that the quality of feedback is more important than the gender of the teacher giving the feedback. Despite confidence in his improvisation abilities, Diego reported experiencing excitement and joy when performing with peers, nervousness when performing with more advanced players, and tension during pieces with fast tempos.

Julia

I kind of like soloing. It's fun when it goes good, but I get a little nervous whenever I solo. I was surprised getting outstanding soloist at the last festival. Especially since I just started to play sax, but it was nice to win that prize. I really did not think I would do as good as I did.

-Julia

Julia's Musical Background

Julia, a sophomore and tenor saxophonist, began playing music in the fourth grade. She began first to play the flute and played it throughout elementary and middle school. She was the only musician in her family. Her band director asked her to switch to tenor sax during her first year of high school in order to help balance the instrumentation in the concert band. That same year she joined the beginning jazz ensemble, and although

it was somewhat of a learning curve on her new instrument, she was able to earn outstanding soloist at her first jazz competition. She was nervous when asked to improvise for the first time. She recalled, “I didn’t want to [laughs] improvise because I was embarrassed of doing something wrong, like a mistake.” Yet, despite being nervous, Julia “knew I could do it but it’s just something that I have to work on.” Over time, though, she considered her skills with jazz improvisation to have improved although she can still get nervous. She stated:

> I feel like I’ve collected more knowledge, so now I know what to play. I still feel like I sometimes get a little bit nervous, so then I’m not able to actually play what I want to play. I feel like it’s still a work in progress though.

At the time of this study, Julia played second tenor in the advanced jazz band and enjoyed improvising and learning more about jazz in general.

Jazz improvisation Survey

Julia’s overall survey score was 75 (out of 100). The totals for each of the sources of self-efficacy were the following: Enactive Mastery Experience (82), Vicarious Experience (68), Verbal/Social Persuasion (84), and Physiological/ and Affective States (60). Compared to the other participants, Julia’s survey responses reported a strong positive self-efficacy belief influence from the four sources. Julia’s response showed a positive source influence from peer and teacher feedback (VP). Although she reported having enactive mastery experience during performance, she did report being nervous and overwhelmed (PAS) during performances and reported needing to take a break during solos to refocus and regain composure.

Sources of Self-Efficacy

Enactive Mastery Experience

In the following section Julia describes how enactive mastery experience in various settings impacted her self-efficacy beliefs about improvisation. From practice rooms, to rehearsals, and performances, she portrays how these different settings have influenced her beliefs as an improvisor.

Practice

Julia was usually calm when practicing improvisation in the practice room or in jazz ensemble rehearsals. She stated, “I feel pretty calm when we practice or when we are soloing during rehearsal. Especially since we are just here in class. I know it’s just practice.” She shared the difficulties she has experienced in learning how to improvise. She reported, “the part that takes a while is being comfortable with the scales and playing them over the songs, switching between them is weird sometimes. But when you get it sounds so good, that’s when it gets fun to solo.”

Performance

According to Julia, performing, in general, influenced her growth as a musician. “After every performance I feel like I am a better musician.” She added that regardless of performance outcomes, she remained confident in her ability to improvise. “It feels good to get first place, but that is not the most important thing.” She continued, “It’s more important to get experience performing. Soloing in front of people is getting to be more fun now that I know what to play when I solo.”

Performing with her peers helped Julia with her improvisations and helped her have a better sense of time. For example, she highlighted that having the rhythm section accompany her while improvising provided a sense of rhythm that helped her play more fluidly. She stated:

> It boosts my confidence as an improvisor when I feel the bass and the drums backing me up. I feel like there's good energy. There's, like, a groove and it just helps me feel good when I solo, and somehow it helps me know what to play when I solo.

Julia reported that gaining performance experience and experience improvising was more important to her than winning jazz competitions. She also shared that being supported by her peer rhythm section was helpful in generating ideas during her improvisations. Overall, Julia's self-efficacy beliefs about her own abilities as an improvisor benefited from having performance mastery experience.

Vicarious Experience

In the following section I explore how Julia's self-efficacy beliefs related to improvisation improved through vicarious experience. She identified bandmates as role models, relying on them for clarification on confusing improvisation topics. However, Julia found observing professional performances more helpful than watching peers. She explained that watching professionals allowed her to visualize how her playing could develop with practice.

Julia shared that improvising often made her nervous and put her outside of her comfort zone. She disclosed that having students in the jazz ensemble that she could look

to for clarity and inspiration helped her development as an improvisor. Julia shared that she looked up to another tenor player in her class named Jesse, whom she considered a peer role model. Julia disclosed that he was a role model to her because they both played tenor saxophone, and because he often gave her tips on improvisation and saxophone playing, in general. “One of the kids from advanced (jazz ensemble,) Jesse, is someone I look to for help.” For Julia, one of the reasons she sought help from Jesse was because “he plays the same instrument as me.” Julia appreciated his advice and how “he gives me tips on how to improve.” In addition, Julia valued his feedback because “he also played flute like me, so we have that in common.” She communicated that she shared a connection with Jesse because like her, he switched from flute to tenor saxophone.

Peer vs. Pro. Julia reported that it was beneficial to watch both developing improvisors as well as seasoned professionals. She reported that it helped to see a developing jazz musician make mistakes and to see how they might work their way through challenges. She further stated that watching a professional was helpful because she could set a goal to reach the same level of improvisation proficiency as the professional. “I like watching both (peers and pros), whenever I see a peer improvise, I like to see them work through their mistakes.” She continued, “I like watching pros too because then I can see what level I can get to if I keep practicing.” Julia communicated that although it was helpful to watch other musicians perform, she sometimes found herself comparing herself to the musician she was observing. She stated, “sometimes I do find myself getting nervous because sometimes I see other performances before my performance, and then that’s when I start getting nervous and start overthinking things

because I compare our band to the others that are performing."

Julia reported that it was helpful to have peers that she could look to for inspiration and described how peer modeling had helped her grow as an improvisor. She also remarked that it was helpful to see her peers perform, but also enjoyed watching professionals perform. However, she also described how she might compare herself to other musicians before her performances, and how comparing made her nervous before her own performance. Overall, Julia's self-efficacy beliefs about her own abilities as an improvisor had increased from watching others perform.

Verbal/Social Persuasion

In this section I highlight how verbal/ social persuasion, specifically peer feedback, impacted Julia's self-efficacy belief as a performer. Julia described how feedback from peers, her teacher, family members, and even jazz festival judges via verbal/social persuasion influenced her beliefs in her ability to improvise. Positive feedback enhanced her self-efficacy beliefs as a performer, whereas the absence of feedback, as she described, had a negative impact on these beliefs.

Feedback

Julia shared how feedback from peers, family, or teachers might affect her jazz improvisation performance confidence. Julia added that peer feedback had a bigger influence than her teachers' feedback, "I still find it important, but I feel like the peer feedback is more important, I don't know, it just boosts my confidence." She described that it makes her feel good, knowing that her peers are proud of her when she improvises. "I feel like when they are happy for me or congratulate me, I feel like it makes me happy

and proud of myself because my peers can be very judgmental." She continued, "When they congratulate me and say, 'Oh, you did good.' It boosts my confidence." However, if she did not receive feedback from her peers, she perceived that as negative feedback, and could lower her confidence**.** She shared, "If they don't say anything I might think, maybe I did something wrong."

Judge Feedback. Julia mentioned that festival judge feedback was also important and that she enjoyed hearing recorded feedback the Monday after a weekend jazz festival. She explained how she took the feedback into consideration and tried to find ways to apply what she had learned from listening to the feedback. After earning outstanding soloist, for example, the festival judge praised her for her ability to outline the harmony using scales and arpeggios. She then began to invest more time to learn her scales and arpeggios. She explained:

> I remember my teacher going over it a lot in class (scales and arpeggios), and it did not make a lot of sense, but when I soloed at the festival and the judge pointed that out in the recording, I understood. It made sense why we did it so much of it in class.

Feedback From Friends and Family Teachers. Julia disclosed that if feedback from friends and family, peers, and teachers was arranged in an order from most impactful to least impactful, peer feedback was the most impactful, teacher feedback was second, and family feedback was the least impactful. Julia elaborated:

> I think that peers are first because they're the ones who judge the most. When I receive positive feedback, that makes me feel good about myself and it gives me

> more confidence. The teacher's feedback would be second, because their input is good and helps me improve. But I feel like when a peer gives me feedback it's real and it's the truth. Like when a peer gives me feedback and it might be bad, my confidence goes down, but then if they do give me positive feedback, like they say I was good, that makes me really happy.

Although Julia found peer and teacher feedback helpful, friends and family would rank the lowest. She stated:

> I think family and friends would go down, like, the lowest because sometimes they want to encourage you to do better no matter what. Your families and friends will always encourage you. They won't tell you the truth sometimes. They want to make you feel good about yourself."

Julia described the influence that feedback from friends, family, teachers, and festival judges had on her improvisation belief. As she disclosed, peer feedback was the most important and family was least important. However, festival judge feedback was also helpful as it validated concepts that her teacher had worked on in class. For Julia, the festival judge feedback helped her understand the importance of the concepts her teacher drilled in class, like scales and arpeggios.

Physiological and Affective States

Julia reported experiencing overwhelming nervousness that, at times, she felt unable to control. This nervousness negatively affected her performance, even leading to instances where she "froze" during improvisation and was unable to execute her solo due to tension in her hands from nerves. In the following section I portray Julia's strategies

for managing these emotional states and their impact on her self-efficacy beliefs as an improvisor.

Nervousness and Excitement

According to Julia, she was unable to control her emotions during performances. To cope with this, she reported that she might take a break during her solos to refocus:

> Sometimes, I feel like I can't control my emotions if I'm nervous. I'm not sure what to play. I'll just take a break, probably for like a few measures, and then I try to go back into playing and try to forget about it (nerves).

Julia communicated that thinking ahead was a way for her to avoid getting nervous when improvising. She communicated that thinking ahead in this way helped her not to be so nervous during her solo. According to Julia, despite sometimes needing to take a break during a solo to collect emotions, feelings of nervousness could sometimes actually enhance her performance. Julia reported that she sometimes had the capacity to channel her nervous energy to help her perform better. She commented, "being nervous makes my performance good because being nervous makes me think ahead. If I don't think of anything to play next, then I just freeze."

Friends and Family in the Audience. Julia shared that she sometimes gets nervous during performances, especially when there was a large audience. Although she gets nervous, her nerves were calmed somewhat when there were friends and family in the crowd, and they cheered the band during the performance. She confided that, "if they clap and make noise for us, it makes me feel good about what we are playing." She continued, "if they don't cheer me on or clap, it makes me feel like, 'Oh, I probably

didn't do a good job.'"

Belief Enhancing Techniques

Julia disclosed that her band director gave the students techniques to cope with nerves or feelings of anxiousness while improvising. She disclosed, "He tries to make us feel comfortable. I don't know how to explain it. He will remind us that it's just music and not worry, just play." She shared that she thought improvisation was an ability that only a select few possessed. However, when she learned that she could think about improvisation in the same way that a person speaks to another person (combining words to make phrases in real time), that made it seem more attainable. She stated:

> He [her teacher] will give examples like improvising is like talking. He'll say 'we don't practice conversations, but we learn how to put words together on the spot, that's the same as improvisation.' It makes it easier to think of it in that way.

She shared that she was currently working on learning the language of jazz in the same way that she learned English. "My teacher said that if I learn how to speak the language of jazz by listening to recordings I can learn how to improvise."

Technical Execution

Julia reported that her performing levels diminished when she was not completely prepared with the material. She shared, "I think that if I did not practice as much and if I don't have the confidence, it really makes my performance go down. I feel like my fingers won't respond the way they normally do." She also shared that when she was not confident in the material, her fingers did not respond in the same way and it was difficult

to execute technical passages. For Julia, being nervous when improvising was a multi-faceted experience, and her nerves served as a way to keep her focused while improvising, or, they might hinder her performance. But, she also admitted that her nerves might also be calmed by familiar faces in the audience.

Personal and Contextual Factors

In the following section I highlight personal and contextual factors that influenced Julia's belief in her ability to improvise. Factors such as teacher gender, band program environment, and school band culture are all discussed.

Gender

Julia disclosed that it would not make a difference in her learning development or environment if her jazz ensemble teacher was female instead of male. She commented, "I don't think it matters if they are male or female." She continued, "I think it matters more that you want to learn from the person, I think that is more important." She also shared that having a positive relationship with the teacher was also helpful.

Structure

Julia shared that she struggled to structure efficient practice sessions. She commented that it was a work in progress and that she has definitely improved in that area. She shared:

> At the beginning of the school year, I wouldn't really practice as much, but then I get more encouraged to do better because I would see my peers doing really good as well. Especially now that I am in the advanced jazz band. I have tried to

> envision myself as good as them. I need to practice, practice, practice in order to get to that level.

Julia mentioned that her band director provided her with a practice journal to help her keep track of her practice. “My teacher suggested that I create a practice journal to help keep track of my practice. In that journal I’ll write my goals and what I need to work on.” She shared that her journal was very helpful.

Environment

Julia described that the learning environment was very important. For example, if the environment was filled with negativity, where students were unfriendly with each other, this might make it difficult for her to learn.

Feelings During Rehearsal. Julia shared that at times she had negative feelings of intimidation during rehearsals. She attributed her negative feelings to comparing herself to more experienced students. Julia shared that success as a soloist or improvisor was largely dependent on the environment. She continued:

> I think the environment matters because let’s say, like, there’s tension when we are rehearsing. Like we keep messing up on certain sections. Sometimes you feel the tension in the room. You won’t feel as comfortable doing what you want to do because you don’t want to mess up and you will mess up. You will play more tense. The feeling in the environment does really matter.

As stated earlier, tense rehearsals kept her from executing technical passages. She shared that she might play with more tension, causing her fingers to have less flexibility thus limiting her flexibility on the instrument.

Band Culture. Julia reported that students in her band program were generally positive and were always willing to provide positive encouragement, rather than negativity towards each other. She commented, “I feel like everyone’s comfortable with each other, we help each other out. There aren’t not really any negative vibes in the band room. We all open up to each other. We have good communication. I would say the environment is positive.”

Teacher. Julia communicated that teachers had a profound effect on students’ beliefs in their ability to improvise. She stated, “I think that it really does matter how the teacher’s personality is and how they encourage their students. I feel that it is really important for directors to give input and help their students grow as musicians.” She continued by sharing that students’ beliefs are mostly affected by teacher feedback. She stated “I think it’s through the feedback and how they encourage them. Some teachers really sometimes don’t motivate their students and I think that that makes the students feel discouraged.” She shared that she was comfortable asking her director for help. She also appreciated her director’s patience and how he takes time to explain difficult material like music theory to the students.

Julia generally reported feeling confident in her skills as an improvisor, however, on occasion, she dealt with nervousness and anxiety during performances. Although she knew that feedback from her teachers and festival judges was important, she preferred feedback from her peers to that of her teachers. Incidentally it was a judge’s feedback that helped her understand the importance of the material her teacher drilled in class, such as scales and arpeggios. Julia expressed that she looked to another student in the ensemble

that also played tenor saxophone for tips on improvisation. Finally, Julia likened improvisation to speech and disclosed that it was easier to think of jazz as learning a new language rather than to think that improvisation was something that only a select few are able to do.

Daniela

I would know that I played a good solo if I got a good reaction from my peers, more or less. Since they know music, a good reaction from them would mean that I did good. Or if they are dancing a little, then I know that I did good. I trust their input more. -Daniela

Daniela's Musical Background

Daniela played alto saxophone since the fourth grade. Both she and her sister, who played trombone, played in the school band. Aside from them, there were no other musicians in their family. Throughout elementary school, Daniela was always one of the top musicians in her class. In middle school, she was selected to participate in the district honor band, but unfortunately could not participate due to the pandemic. She joined the jazz ensemble her first year of high school and worked her way up from the beginning jazz ensemble to the advanced ensemble. At the time of this study, she played lead alto in the advanced jazz ensemble and was working on her improvisation skills. Although Daniela played lead alto, she did not feel confident in her ability to improvise. She stated:

> I don't feel very confident. I just think that it is mainly because sometimes I don't know what to play. It's just like I need to understand the foundation, and then it'll make more sense. I don't know, it just doesn't click for me. I just need more time.

> Then I feel like when I understand it better, I'll be able to do it better, but right now, it's just a little confusing.

Jazz Improvisation Survey

Daniela's overall survey score was 64 (out of 100). The totals for each of the sources of self-efficacy were the following: Enactive Mastery Experience (74), Vicarious Experience (60), Verbal/Social Persuasion (56), and Physiological/ and Affective States (55). Among the participants, Daniela's survey score was the lowest of all participants. Her responses suggested positive source influence as low. Daniela reported not feeling confident as an improvisor, and she mentioned overwhelming feelings of nervousness (PAS) during performance which kept her from executing her written music during concerts. She also reported that it was more helpful to observe peers improvise rather than professionals (VE).

Sources of Self-Efficacy

Enactive Mastery Experience

In the following section I highlight Daniela's enactive mastery experience in the following contexts: practicing improvisation in the classroom, rehearsing for concerts, and performances. I discuss how the enactive mastery experience in the above scenarios impacted Daniela's self-efficacy beliefs as an improvisor.

Opportunities to Improvise

Despite what she considered a lack of confidence, performing in the jazz band had helped Daniela as an improvisor. She disclosed that she appreciated the opportunities her band director provided during class to improvise. Her band director made sure the

students had opportunities to improvise every class session. She admitted that she got nervous when asked to improvise and acknowledged that some of the concepts of music theory were often hard for her to grasp at first. Daniela also disclosed that she found it easier to practice her ensemble pieces rather than practice improvisation. Regarding playing the ensemble pieces, Daniela remarked, “I don’t have to worry about coming up with something to play. It’s all there in front of me.” She continued, “But I know that it’s important to improvise in jazz, like my band director said once, ‘if you’re in a jazz band and you’re not improvising, what’s the point?’”

Rehearsal

Daniela shared that she performed better during rehearsals rather than performances. She described struggling with practice sessions at home because she did not feel like she was able to make progress with her material because she was at home. She described a very different experience, however, when she attended rehearsals. “Everything just clicks,” she remarked, and added, “I feel like I perform better in the classroom sometimes. At home, I could really be struggling, and then I get here and I’m, like, ‘Oh, I guess it did work out.’”

Performance Perceptions

Daniela shared that her most memorable experience was a poor performance at a local jazz festival. She shared, “I feel like the most memorable one was the first performance of the year. I still remember that everyone was bummed after the performance because of how bad we did.” She shared that she felt overwhelmed and

described the moment becoming larger than it was. She recalled the end of the performance, where she thought she had disappointed everyone and took responsibility for the poor performance. In retrospect, she admitted she put too much pressure on herself, and that self-inflicted pressure affected her performance. “I don’t know, I just feel like I always have to have a perfect performance since I am a lead player. If I mess up that might mess others up.” As the lead alto player, Daniela disclosed that she had a responsibility to always have a great performance, and that anything less would be a disappointment to the band. She shared that part of the reason for this self-imposed responsibility was that during the year of this study several students set a goal to win first place at every competition and that made her nervous. She disclosed that it was the added pressure of winning that affected her. “I just know that a lot of the other students really wanted to win first (first place) at every jazz festival so that made me little nervous, I was like, ‘what if I mess up?’” According to Daniela, the second most memorable performance was a jazz festival that took place at her school. During that performance she recalled the jazz band performing really well. She stated, “It was so fun. It made me so happy. I was about to cry. I was like, yay, we did it!”

Although Daniela was not a confident improvisor, her self-efficacy beliefs about her own abilities as an improvisor benefited from performance experience. Despite the perception of a poor performance, she demonstrated a positive belief in her own abilities and was able to persevere through challenges she might have faced.

Vicarious Experience

In the following section, I highlight how vicarious experience contribute to Daniela's jazz improvisation self-efficacy beliefs. Daniela shared that she looked up to two students as models for improvisation and how this was helpful for her as she learned to improvise. She shared how it was beneficial for her to see professionals improvise and how they inspired her to work at becoming a better improvisor.

Peer Modeling

For Daniela, she looked up to two students in the jazz ensemble when improvising: a saxophonist named Jesse and a trumpet player named Carlos. She shared that she liked to hear them improvise and communicated that she thought improvisation came easy to them. She mentioned that she hoped to one day be a competent improvisor like they were. She commented that she rarely saw female students improvising, and that it was usually male students that took solos. She noted, "It's always the boys that I see taking solos. I wish there were more female students taking solos."

Peer vs. Pro

Daniela described how it was more beneficial to her learning as an improvisor to see her peers improvise than it was to see a professional musician. She communicated that if she saw a peer play a well-executed solo, it motivated her to want to do the same. "It makes me want to continue to work, it makes me want to try even more." She continued, "When I hear professionals improvise well it does help me understand it more.

I don't know, I feel like I understand when they set an example, I get inspired and then I try to do better."

Verbal/Social Persuasion

In the following section I highlight how Daniela perceived feedback as influencing her self-efficacy beliefs as an improvisor. Daniela reported that teacher feedback helped her stay on track, while peer feedback may not be as reliable as her teacher's feedback.

Feedback

Daniela communicated that feedback could impact her confidence and growth as an improvisor. She stated, "I guess it depends on who it is because if it's from my teacher, then I know that I'm doing something right. Then from my peers, it's always nice." She continued, "Sometimes I just think, 'Oh, what if they don't get it either' and they don't know that what I'm doing is wrong. My parents, they don't really say anything. It doesn't affect me if they did though." Daniela shared it was the teacher feedback that had the most impact on her growth as an improvisor. As she stated earlier, although she appreciated feedback from peers, she did not think too much of it because she thought they might not know the material. She explained, "I don't know, I just feel like they might not get it either. Whenever I hear something from them, I'm, like, 'Thank you, but [laughs] I don't know if this is correct. Well, you're probably lost like me.'" Daniela shared that she received feedback related to her improvisation ability very well, and commented that she welcomed all feedback, positive and negative. She explained, "I think it's all constructive, meant to help me grow. I'll take it and I work on it."

Physiological and Affective States

In the next section Daniela describes how she was unable to recover from mistakes she might make during a performance. Additionally, she highlighted how her teacher constantly encouraged her to improvise and improve on her skills as an improvisor, despite being overwhelmed with negative emotions about improvisation.

Control

Daniela shared that if she made mistakes during a performance, she was sometimes unable to regain her focus, and this inability to focus might affect her entire performance. She found herself dwelling on those mistakes for the entire performance, causing her to make more mistakes as she performed. “Yes, it gets me sometimes. It really just depends. Sometimes I am able to get back on track and have a good performance, but sometimes it’s hard for me to focus, and I just get really nervous.” She shared that it was hard for her to focus when she was nervous. These feelings of nervousness hindered her ability to execute technical passages and made it especially difficult to improvise. She continued by saying that, even if she knew what to play over a specific set of chord changes, she had a hard time executing if she was nervous. She further added, “if I get in my head too much, I just make simple mistakes that I’ve never made before. I do get in my head, and it does affect my performance.”

Student Teacher Relationship

Daniela described a positive relationship with her jazz band teacher. She shared that because he encouraged the students to always try to improve in the area of

improvisation, students were even more motivated to learn and improve as improvisors. She communicated that if her teacher was not as persistent in helping and encouraging the students to improvise, that many would not give maximum effort to improve. She shared:

> I personally don't improvise as much, but he always encourages me anyway. He always pushes the whole class to improvise, to get out of their comfort zone. He really tries to build me up, tries to educate me on the material and tries to make me feel more comfortable.

Belief

Daniela stated that she believed her teacher had a significant impact on her jazz improvisation belief. "He believes anyone can do it, so that's what I believe, too." Daniela described some belief enhancing techniques that her jazz instructor had shared with the ensemble. "Sometimes our ensemble could be getting stressed, and he always tells us to take it little by little. That kind of advice just helps us because we develop and learn together." She continued:

> When we are soloing, he always tells us to just go for it. He will say things like, 'You know what you're doing, just play!' He tells us to have confidence in ourselves and just go for it. I think that helps.

Personal and Contextual Factors

In the following section Daniela describes a positive band environment where the band members encouraged each other and held each other accountable. Daniela also describes the lack of female representation in jazz as well how she would like to learn to

be a better improvisor so that she might form part of that female representation in jazz.

Culture

Daniela portrayed the culture of her band program as positive. She shared that for the most part students encourage each other and build each other up, rather than put each other down. “Everybody wants to be there and it’s never, like, oh, this person isn’t doing their part, or that person sucks.” Instead, student leaders held each other accountable within their section, making sure everyone shows up and is ready for rehearsal. She also described how everyone in the band looked out for each other by checking in with each other. She stated:

> We all try to look out for each other. Sometimes a student might check in with another and say, ‘Hey, I saw you were down. Do you need anything?’ Just making sure everyone is ok and feels good. Everybody wants to be there [in the band program]. I just think it’s a good environment.

Gender

Daniela shared that learning from a male teacher or female teacher did not impact her learning. She explained, “I don’t think that they’re going to teach differently based on their gender. I think it’ll always be the same educational experience.” She mentioned that she would like to see more women improvising in jazz, especially because she mostly saw male students improvise. She shared that it would be encouraging to other women to see women improvise. “Yes, I would like to see more women in jazz. That’s where I’d be, like, ‘oh, there’s girls out there improvising.’ I would feel like I can do it too. In our

jazz band, it's always mostly the male students." She acknowledged that performing and teaching jazz represent distinct contexts. Furthermore, despite her desire to see more female participation jazz, she reported that the gender of her instructor did not influence her ability to learn jazz improvisation. She shared that she would like to improve as an improvisor so that she could be a representative for women in jazz. She disclosed, "I would like to learn to improvise better so that I can be one of those girls that might inspire other girls to play jazz and improvise. I think that would be cool."

Chapter Summary

Of the 20 students that took the jazz self-efficacy survey, Diego, Julia, and Daniela, represented the high, medium, and low scores respectively. Although Daniela and Julia had lower scores than Diego, they still had a desire to grow as musicians in general and were confident in their abilities to grow as jazz soloists. In the next chapter I will discuss these findings, situated within the literature reviewed for this study. I will also provide implications for music teachers for how they might enhance self-efficacy beliefs among their students when teaching jazz improvisation. Finally, I conclude with recommendations for future research.

CHAPTER FIVE

Discussion, Implications, and Future Research

The present study contributes to the understanding of self-efficacy beliefs in music by suggesting a link between participants' self-efficacy beliefs and their jazz improvisational ability. These findings align with Ritchie and Williamon (2012), who reported a positive association between self-efficacy beliefs related to performance ability and the quality of musical performance. In addition, researchers have shown that performance perception is constantly in flux and is influenced by individual beliefs in their ability (Clark & Lisboa, 2014; Hendricks, 2009), as well as personal and contextual factors (Bandura, 1997). In this chapter, I discuss the reported self-efficacy beliefs of Diego, Julia, and Daniela as they relate to the five research questions posed earlier in the dissertation. The research questions helped me to investigate how the participants' beliefs about their abilities to improvise was influenced by each of the four sources of self-efficacy. I then discuss implications for music teachers; how they might support student perceptions in their jazz improvisation abilities and how they might support students as they develop their own voice as jazz soloists. Finally, while the four sources of self-efficacy were explored here, future researchers may want to consider how additional personal and contextual factors, such as socioeconomic status, pre-service music training, gender, and ethnicity, might influence students' jazz improvisation self-efficacy beliefs.

How are secondary level students' beliefs about their jazz improvisation abilities influenced by enactive mastery experience?

In this study, class rehearsal sessions, individual practice, and performances all contributed to participant self-efficacy beliefs, but varied by the participant's own experiences with jazz improvisation. Concurrent with Marshall (2011), who reported that opportunities to perform allowed for successful performance outcomes for voice majors, participants in the current study reported that culminating performances were deeply influential to their growth as musicians. Diego, Julia, and Daniela collectively stated that they felt an improvement in their overall musicianship after each performance. In addition to performances, success in rehearsals and the practice room were also noted as contributing factors to their self-reported abilities of success with jazz improvisation.

Rehearsals

Diego, Julia, and Daniela all stated that they performed better in classroom rehearsals, rather than in performances. They each stated that they made more progress practicing at school because their band director was there to provide guidance. The finding of participants experiencing better practice results in rehearsals rather than at home is similar to Lewis (2018), who stated that participants in that study typically did not obtain desired results in the practice room, some of the participants stated that the close proximity to other practice rooms made them perceive that they might be judged by other students. Hendricks (2009) also found that participants reported elevated performances during rehearsals. Participants shared playing with more expression, energy, and emotion during their performance; in one instance even causing some

students to become so overwhelmed with emotion that they were brought to tears. Michaud (2023) examined the self-efficacy perceptions of rural music teachers as it relates to their teaching ability. Participants in that study reported that rehearsing beyond their contractual hours caused extra stress and did not allow for personal time with their families. This extra stress caused a lowering of their self-efficacy belief toward their teaching ability.

Practice

With respect to practicing at home versus rehearsals, Diego and Daniela shared that they found it difficult to make progress on their music and improvisation when they practiced at home, whereas Julia shared that she rarely felt tense or nervous when she practiced at home and that she felt calm instead. This finding is different from Lewis (2018), where one participant in that study expressed frustration when practicing at home and attributed that frustration to perfectionism. The participant in Lewis (2018) commented that home practice sessions did not yield the expected results. Regarding structuring effective practice sessions in this current study, it is interesting to note that, although Julia reported that she could improve her practice routine at home, she sometimes did not feel that her practicing yielded the best results. This finding was also similar to Lewis (2018) whose participants remarked on the importance of acquiring the skill of designing a practice routine that aligned with their current skill level and ability. Some participants in the Lewis (2018) study expressed that they found it difficult to structure efficient practice routines and schedules. For example, some shared that they were often frustrated after practice sessions when they did not feel they made sufficient

musical progress during that practice time. Other research findings related to practice included Hendricks (2009), who found that through practice and opportunities to engage in "growth-promoting" musical activities (p. 292), students were able to show positive growth on their instrument. Hendricks further stated that the notion that only certain musicians possess an innate ability to excel in music is not entirely correct. Rather, musician's performance outcomes are determined by "environmental and intrapersonal forces" (p. 292). A participant in Michaud (2013) reported that hard work and preparation only resulted in a moderate improvement in teaching self-efficacy belief. The participant, who taught music in a rural community, stated that some of the challenges she faced were not challenges that can be overcome through hard work and preparation as they were more related to external factors such as unique teaching situations and circumstances.

Performance

Diego, Julia, and Daniela all reported feeling a boost in performance confidence following each performance. Both Daniela and Diego shared that, despite feeling nervous for their respective performances, they experienced an increase in their belief in their performance abilities following the performance. Similar findings were reported by Lewis and Hendricks (2022), who found that collegiate vocal students reported an increase in self-efficacy perceptions over time due to performance mastery experience. Zelenak (2015, 2019) also reported that enactive mastery experience during performances had the strongest influences on participant music performance self-efficacy belief. These findings are concurrent with Bandura's (1977) theory of self-efficacy which emphasizes the importance of enactive mastery experience and how these experiences inform learner

self-efficacy perceptions. For Diego, Julia, and Daniela, each performance outcome reinforced their perceptions of their ability to perform and improvise. Not all performance experiences led to an increase in performance belief, however, similar to Lewis and Hendricks (2022), who reported that a participant in their study experienced a decrease in performance belief due to the competitive nature of their vocal program.

Jazz Competitions. In this study, the notion of performances took on added dimensions with performances at competitive jazz festivals. Diego, Julia, and Daniela shared that their jazz band participated in competitive jazz festivals, and this played an interesting role in their self-efficacy beliefs about jazz improvisation. For example, Julia and Diego both reported that, although they felt a sense of accomplishment winning first place at those festivals, winning was not the most important outcome for them. Julia stated that it was more important to gain performance experiences and to improvise in front of an audience than to earn first place. The need to win first place, however, is often a measure of success for students in some programs, especially with regards to gender. For example, Wehr-Flowers (2006) found that male participants, ranging from middle school to college, reported aspirations for success in jazz competitions and for achieving outstanding soloist awards. Female students, however, did not report the same level of aspiration for these specific achievements. Although Diego shared that winning was not a priority, he did mention that he and his peers felt a sense of pride and a boost in their belief in their abilities as musicians whenever they won top prize.

How are secondary level students' beliefs about their jazz improvisation abilities influenced by vicarious experience?

Throughout the course of this study, Diego, Julia, and Daniela expressed that vicarious experience was a positive source influence on their beliefs towards their jazz improvisation skills. Although Bandura (1977) stated that learners with high performance belief benefited from watching others with a higher ability perform successfully (master modeling), the beliefs among the participants were varied. Daniela and Diego (with low to high self-efficacy belief respectively) preferred to watch a peer's performance (coping modeling), while Julia (with medium self-efficacy belief) preferred watching professional musicians over peers. Aligning with Lewis (2018), vicarious experience emerged as a predominantly positive influence on performance belief, although some negative source influence was also identified. Positive source influence was reported by Diego when he observed peers perform, while negative effects were reported by Julia and Daniela when they compared themselves to other students. Additionally, all participants reported looking to more advanced students in their ensemble for guidance and inspiration.

Coping Modeling

Bandura (1997) stated that vicarious experience is most effective when the observed model possesses similar abilities to the observer. Participants reported that coping modeling, rather than master modeling, was more beneficial to their learning. For example, Diego shared that he was generally confident in his abilities as an improvisor but that his confidence stemmed from observing the more advanced members of his ensemble perform. Julia and Daniela shared that although improvising made them

nervous, having more advanced students in their class to lean on for inspiration and help, with concepts in improvisation, was also helpful to their jazz improvisation learning. According to Daniela and Diego, they both preferred to watch their peers improvise and found it more beneficial to their growth as improvisors than watching a professional jazz musician. Daniela shared that watching her peers do well when improvising motivated her to want to do the same, for she found that elevating her skills with improvisation seemed more achievable when observing her peers improvise than from watching a professional. Diego maintained that he would rather watch his peers perform instead of professionals, stating that he learned more from watching his peers work through difficulties than watching professionals have a seemingly flawless performance. These findings align with Lewis (2018), who reported that coping modeling was more impactful than master modeling, and Hirshorn (2011), who reported that students responded positively when performing with students that had similar ability and age. Furthermore, in alignment with Usher and Pajares (2008), peer vicarious experience was especially beneficial when engaging in new and challenging material, such as with jazz improvisation for the participants in this current study. Hirshorn (2011) found that adolescent vocal student participants felt safe during group vocal improvisation activities, which fostered a "musical community, generating multiple forms of creative interaction among choir members" (p. 183). In alignment with prior research, Clemmons (2007) found that student participants reported having benefited from observing their peer's private voice lesson because it allowed for them to learn from the experiences of their peers. Nielsen et al. (2018) also reported that instrumental music students with jazz and

classical backgrounds benefited from collaborative practice sessions with their peers. Participants reported their practice habits to be positively influenced by their peers during group practice sessions.

Julia stated, however, that she found it helpful watching both professionals and her peers improvise. She shared that watching professionals allowed her to set goals related to what her playing might become in the future. Ultimately, like Daniela and Diego, Julia enjoyed watching her peers work through adversity, which in turn inspired her to continue to practice in order to elevate her jazz improvisation skills.

How are secondary level students' beliefs about their jazz improvisation abilities influenced by verbal persuasion?

Bandura (1977) stated that verbal/social persuasion is the most used of the four sources of self-efficacy information due to its accessibility. Through words of encouragement from credible sources, a student can be led to believe they can succeed. According to Diego, Daniela, and Julia, they first looked to their teacher, followed by their peers, and lastly their respective families (e.g., parents, grandparents) for encouragement.

Teacher Feedback

Both Diego and Daniela shared that teacher feedback was ultimately the most impactful to their growth as improvisors. They indicated that they perceived their peers and family to have less knowledge of jazz improvisation compared to their teachers. Consequently, they placed less weight on feedback from peers and family. For example, Daniela stated that her band director constantly encouraged her to improvise. She shared

that her band director always had positive but constructive feedback so that students felt encouraged to keep practicing and growing. She also stated that her teacher believed that anyone could improvise and that his belief was reinforced by his positive comments and encouragement. This, in turn, had an influence on her improvising belief, even though she indicated that she might not fully believe in her ability to improvise. She stated that it was her band director's belief in her that gave her a boost of confidence whenever she improvised. In alignment with Royo (2014) and Lewis and Hendricks (2022), participants reported that teacher feedback positively influenced their self-efficacy beliefs, such as feeling validated by their teacher's recognition of their effort. Daniela's music teacher's beliefs about her abilities to succeed as a jazz improvisor were similar to Clemmons (2007), who found that vocal students reported an increase in self-efficacy belief when teachers expressed belief in their abilities. Participants in Fryling (2015) also reported an increase in self-efficacy belief when they believed that their teachers supported their efforts and believed in their ability.

Diego and Daniela's perspectives about feedback are similar to Hendricks (2009), who discovered that students valued conductor feedback and found it the most meaningful when the performance was truly worthy of praise. Zelenak (2019) also found that verbal/social persuasion was a strong predictor of student music performance achievement and that positive outcomes were directly correlated with comments of praise and encouragement from teachers and peers leading up to a performance. Zelenak also found that verbal/social persuasion instead of enactive mastery experience positively influenced student self-efficacy perceptions.

Peer Feedback

Unlike Diego, who found teacher feedback the most constructive, and Daniela, who sometimes doubted the authenticity of peer feedback because she felt that her peers might be just as misinformed as she was, Julia shared that feedback from peers was more important than teacher or family feedback. Julia stated that she felt a boost of confidence when peers congratulated her on her solos, and if she did not receive feedback, she perceived that she had a poor performance, and felt discouraged as a result. She also conveyed that peers can be very judgmental and that because of this, she deemed their feedback generally more truthful. This finding is similar to Lewis (2018), who reported that participants shared that there was a sense of mutual respect among peers and that peer feedback was generally positive and that the students felt safe to make mistakes while performing for peers. Another participant in Lewis's study (2018) reported an increase in performance belief, stating that they felt that peer feedback was always sincere. This finding is also similar to Goodrich (2023), who noted that peers often value feedback from their peers more than feedback from their music teachers.

Peer feedback, however, can have a negative impact, such as Julia's beliefs that peer feedback is not always authentic. For example, participants in Goodrich (2007) struggled with receiving feedback from their peers in jazz band rehearsals, and participants in Goodrich (2014) were not always sure how to incorporate peer feedback to elevate their jazz playing. In Conway's (2010) study, undergraduate music education students' self-belief was negatively impacted by negative feedback, and participants in Lewis's study (2018) also reported feeling distressed emotionally when they overheard

negative comments from their peers.

Festival Judge Feedback

In this study I also discovered that some participants indicated that feedback from jazz festival judges might have impacted their self-efficacy beliefs. Diego reported that, in general, he was not discouraged by negative feedback from festival judges, and generally he found the feedback was not helpful to him, nor did he take the comments into account when practicing. Diego's perceptions of judge feedback were in alignment with Lewis (2018), in which student participants expressed that they did not feel that feedback from a vocal masterclass clinician was helpful because the clinician was not familiar with the student's voice or performance ability. Conversely, Julia shared that festival judge feedback was helpful and reinforced the material her teacher drilled in class. She recalled a judge who commented on her ability to outline the harmony in her solo with scale and arpeggio ideas. This harmonic approach to improvisation (outlining harmony with scales and arpeggios) earned her the outstanding soloist award at a jazz festival. Similarly, de Bruin (2017) reported that feedback from an experienced jazz musician allowed students to reflect and think more critically about their own playing and subsequently modify their practice routine.

How are secondary level students' beliefs about their jazz improvisation abilities influenced by physical and effective states?

The participants in this study generally considered enactive mastery experience as the strongest source influence followed by vicarious experience. Given that other researchers have found that verbal/social persuasion is second to enactive mastery

experience, the findings from this current study indicate that vicarious experience is important in jazz improvisation. The participants also considered verbal/social persuasion and physiological and affective states as important in the development of their self-efficacy beliefs (Bandura, 1997), Diego, Daniela, and Julia all reported that physiological and affective states affected their performance. Diego's survey responses indicated that the source influence of physiological and affective states was equal to enactive mastery. This is another unique finding, and may be due to jazz improvisors relying heavily on body and emotional signals for gauging success.

Inhibiting States

Some participants in the current study reported feeling tense and overwhelmed, and were sometimes unable to recover from these negative physical and emotional indicators during a performance. These findings align with prior research where students reported feeling emotional and physical stress related to the fear of being judged (Hendricks, 2009). Diego shared that, although he was generally comfortable with his technical facility on the upright bass, he sometimes felt a tension in their hands that built during a performance which he reported kept him from executing technical passages. He confided that this hand tension occurred during pieces with fast tempos, when he was fatigued, or when he was nervous about performing. Julia stated that she was often overwhelmed by emotions during her performances. She admitted that she felt more nervous when she knew she had not prepared to perform as she might have hoped. She relayed that when she felt tension, either from frustration, from a difficult rehearsal, from lack of preparation, her fingers did not respond and her flexibility on the instrument was

limited. Lewis (2018) also reported similar findings in that lack of preparation caused participants to focus on technique rather than expression, which resulted in an unauthentic performance.

The physical effects of performing reported by the participants of the current study can be attributed to the physiological and affective states described by Bandura (1997). These states refer to the physical and emotional reactions that a person experiences that affect their ability to complete a task (e.g., shaking, shallow or accelerated breathing, mental lapses anxiety). Consistent with Robson and Kenny (2017), undergraduate music student participants reported experiencing performance mistakes and attributed them to factors such as shaky extremities, shallow breathing, difficulty relaxing, feeling overwhelmed, physical tension, nervousness, and anxiety. These factors align with negative physiological and affective states associated with performance anxiety. Similarly, Dempsey and Comeau (2016) found that student musicians aged 7-17 with lower self-efficacy beliefs regarding performance were more likely to experience high levels of music performance anxiety. Students with music performance anxiety typically report feeling anxious, nervous, sweaty, experiencing shallow breathing, and difficulty performing well, similar to participants in Dempsey and Comeau (2016).

Self-induced Pressure. Daniela shared that she was often unable to mentally recover from mistakes during a performance. Her inability to mentally recover from performance mistakes often caused her entire performance to be negatively impacted by feelings of nervousness as she performed. According to Daniela, she often felt overwhelmed by the pressure of being the lead alto, which led to her inability to recover

from those mistakes. She confided that she often created pressure for herself by expecting a flawless performance. Daniela's feelings of inadequacy align with participant reports in the Lewis (2018) study, in which unrealistic goals for flawless vocal performance and striving for perfection contributed to negative thoughts and ultimately, poorer performance perceptions resulting in a negative belief in the participants vocal ability. Similar results were reported in Clark et al. (2014) who found that participants' performances were affected by a need to prove themselves to the audience and deliver a technically perfect performance. Patston (2010) asserted that inhibiting states are a result of self-imposed standards and perfectionist attitudes that cause self-doubt and might ultimately lead to poor performances.

Facilitative States

Julia also reported feelings of nervousness and described how she coped with those feelings by taking breaks of a few measures during performance to regain her composure. Another technique she used was thinking ahead during her solos, in other words, she tried to anticipate what she might play, which helped her to not get as nervous while improvising. Despite feeling nervous, she stated that she could channel nervous energy to help enhance her performances. Julia shared that her band director helped her and her band with coping techniques for nerves during improvisation. She described techniques rooted in positive thinking, and belief in one's ability. Julia's coping mechanisms for nervousness align with Lewis (2018), in which a participant reported channeling nervous energy to enhance their performance. The participant stated that she perceived nerves as a positive feeling and that those feelings of nervousness were her

eagerness to share her songs with the audience, which resulted in increased expression and a clean execution of the material. Additionally, a participant in Lewis and Hendricks (2022) reported practicing cognitive self-regulation exercises in order to help overcome negative effects of self-doubt related to their performance ability.

Julia shared that thinking about improvisation in simple terms helped her feel more at ease about the activity. For example, she described her band director who used the analogy of speech for improvisation. When a musician improvises, they combine small melodic ideas in real time in the same way a person might combine words to produce sentences when they speak. According to Julia, thinking of improvisation in this way was helpful. Rather than viewing improvisation as something stressful and overwhelming, Julia shared that her teacher's analogies on improvisation helped everyone in the class feel more at ease and willing to improvise. Crooke and McFerran (2014) described the benefits of creating a teaching environment that fostered positive thinking and caused students to have a healthier relationship with the music rather than one that caused stress and anxiety. Teachers in that study shared that they sought to have their students view music as a means of expression rather than a skill that was obtained. In this way, students removed themselves from the toxicity of perfect performances and instead performed from a relaxed stress-free place. Furthermore, Clark et al. (2014) found that students with positive outlooks and mindsets had better performances than students with negative outlooks.

In what ways do personal and contextual factors (e.g., gender and culture) mediate the influences of these self-efficacy sources upon their beliefs in their abilities in jazz improvisation?

Other influences, besides the four sources of self-efficacy, may impact self-efficacy beliefs (Bandura, 1997). Contextual influences such as teacher gender, classroom environment, performance setting, and student-teacher relationship were shown to affect the self-efficacy beliefs of the participants in this study.

Environment

Prior research has shown that the perceived safety of one's learning environment is an important factor in student learning outcomes. For example, Lewis (2018) highlighted that safe spaces allowed participants to explore their performance ability, facilitating the opportunity to try different vocal techniques and to make mistakes. On the other hand, unsafe spaces inhibited creative flow, for fear of being judged by peers or teachers. Lewis and Hendricks (2022) reported that the perceived safety of a learning environment was also mediated by individual perception, specifically stating that some students perceived master classes to be an unsafe leaning space due to the competitive nature of the environment.

Diego reported that the environment in his band program was positive and supportive. He recalled how students helped and tried to uplift each other through encouragement, rather than through negative comments. He commented that most students, including himself, found it easy to try new things during rehearsal; for example, trying a new solo phrase that he transcribed or different harmonic and rhythmic ideas

during their accompaniment of the band. These findings are in alignment with recommendations by Hendricks et al. (2014), which stated that music educators should foster environments where student learning and engagement in music are prioritized over competitions and perfect performances. Furthermore, according to Hendricks et al. (2014), music educators can have a direct hand in creating an environment where students are free to express themselves through their music.

Similar to Diego, Julia reported that the environment in the band room and the general culture of the band program was positive and conducive to learning. She spoke about the importance of learning in a positive environment and how a positive environment makes the learner feel more relaxed and ready to learn, as opposed to being in a negative environment and feeling tense and uninspired to learn.

Daniela also reported that there was a culture of positivity in the band program. She noted that students routinely check in with each other and were always helping each other, especially during jazz class. Daniela spoke about how the students in the band program never put each other down or said negative things about one another. She highlighted that student leaders held their section accountable when students were not prepared for rehearsals. Lewis (2018) reported similar findings as the participants stated that the positive learning environment was fostered by the positive culture the college vocal faculty had established. Participants in the Lewis (2018) study shared that vocal faculty encouraged students to seek feedback, treated students with kindness, and were easily approachable.

Gender

Past research has shown that participant and teacher gender correlate with learner self-efficacy belief. In a study outside of the field of music education, Butz and Usher (2015) found that females responded to social persuasion more so than males. Hendricks (2009) found that females were impacted negatively by competitive settings more than their male counterparts. The previous examples reported results with respect to the learner. However, similar to Lewis (2018), when examining the gender of the teacher and how gender influences learner self-efficacy belief, participants in this study reported that teacher gender did not influence their self-efficacy belief.

According to Julia and Daniela, the gender of their teacher did not make a difference in their jazz improvisation development. Julia spoke about how instead, it was important for her to have a positive relationship with her teacher, regardless of gender, and Daniela also shared that teaching style had more of an influence than gender. A participant in the Lewis (2018) study shared similar sentiments—that teaching style rather than gender influenced performance belief.

An interesting finding was a story that Diego shared about the relationship with his mother. Diego confided that in the past he did not care for feedback from his female coaches. He stated that this was due to being raised by a single mother and that his mother would often give him harsh feedback, similar to what he imagined his father might give. However, he had recently begun working with a female coach, and he realized that he takes feedback very well from his new coach. According to Diego, this change was due to the realization that female teachers are not like his mother.

Representation. Although Daniela shared that the gender of her teacher did not influence her learning, she remarked that she would like to see more female representation in jazz. Daniela spoke about how she rarely saw female soloists and that most jazz bands are full of male students and very few female students. She communicated that if there were more women in jazz, they would serve as an inspiration to other women to participate in jazz ensembles. Both McKeage (2004) and Wehr-Flowers (2006, 2016) investigated female participation in school jazz ensembles and in professional jazz settings. Wehr-Flowers (2006) reported that females are typically less confident than males with respect to jazz and jazz participation, because female students do not consider jazz to be a viable course of study, resulting in less female role models in jazz and fewer women entering jazz as a profession.

Student-Teacher Relationship

As found in Gehlbach et al. (2012), Clemmons (2007), and Hendricks et al. (2014), student-teacher relationships, student-teacher rapport, and safe spaces have been shown to be contributing factors that might lead to successful student learning outcomes. According to Julia, teachers have an indelible impact on their students' learning and their belief in their abilities. She asserted that the teachers' attitude is definitely the difference between a student learning a concept and not learning. Julia also noted that a teacher that has a positive attitude, gives constructive feedback, and is fully invested in their student's success makes the biggest difference in a student's learning outcome.

Daniela stated that she had a positive relationship with her band director, and that he was constantly encouraging her and the rest of the ensemble to improvise and to

improve as musicians. She shared that her band director always had positive but constructive feedback so that students felt encouraged to keep practicing and growing as improvisors. Daniela's comments about the effects of a positive student-teacher relationship is similar to the Clemmons (2007) study, which highlighted that teachers that believe in their students' abilities will have students that believe in their own abilities. Additionally, Clemmons (2007) reported that students felt empowered to be better vocalists knowing that their teacher believed in their abilities.

Summary

In this chapter, I discussed the findings of the current study and I explored how the findings related to the four sources of self-efficacy as well as personal and contextual factors. Diego, Daniela, and Julia all expressed that their improvising self-efficacy perception was increased through positive performance experiences. They also shared that they were able to take inspiration from more experienced musicians within their ensembles, sharing that the observation of their peers rather than that of professionals had a greater influence on their self-efficacy belief as improvisors. From a verbal/social persuasion perspective, Daniela and Diego both commented that feedback from their teacher was most beneficial to their development as performers. Julia however, shared that she preferred to receive feedback from her peers, stating that peer feedback was more truthful than teacher feedback. Julia, Daniela, and Diego, all participated in competitive jazz festivals with their ensemble. However, each participant reported a different experience. Of particular interest was Daniela's (lead alto) reported experience of feeling overwhelmed from the pressure of having to deliver a flawless performance. Similarly,

Julia shared that it was sometimes difficult to mentally recover from mistakes while Diego reported that physically, he felt tense during pieces at faster tempos. In the next section I discuss implications for music teachers and as stated above, offer pedagogical suggestions that may support jazz improvisation learning.

Implications

This study highlights the need for the inclusion of belief-enhancing techniques in jazz education pedagogy in order to enhance student self-efficacy belief relative to jazz improvisation. The data from this study, as well past research (e.g., Zelenak, 2024), indicates the need to support student performance beliefs through the four sources of self-efficacy, healthy student/teacher relationships, and safe spaces where students can thrive as emerging jazz improvisors. Acknowledging that instrumental music students are hesitant to improvise, and that very few students that enroll in high school jazz ensembles continue to play jazz beyond high school, there is a great need to support student self-efficacy beliefs for improvising as early as possible in a student's jazz education in order to normalize jazz improvisation as part of their musical formation. Additionally, this normalization of improvisation in school jazz ensembles could create a system in which future music teachers would have a background in jazz improvisation and, therefore, might be able to support their students' self-efficacy beliefs in their jazz improvisation learning. With this change, the music education profession might see jazz education return to its roots in improvisation, rather than its current state that is focused on note reading and interpretation of repertoire (Goodrich, 2008).

Based upon the findings from this particular study, student perceptions of their

own ability cannot be understated. Students' belief in their ability to improvise successfully is essential for sustained effort in developing improvisation skills. As was reported in this study, Diego, Julia, and Daniela's perceptions regarding their self-efficacy belief had a profound impact on their performance outcomes. Music teachers, therefore, might want to consider exploring strategies that will foster positive student perceptions toward performing and more specifically jazz improvisation. Because student belief had a profound impact on Diego, Julia, and Daniela's achievement in jazz improvisation, music teachers might also consider strategies that help students maintain positive mental outlooks, empower them to persist beyond difficulty, and in doing so, create a learning environment where they can thrive as soloists.

Using the Four Sources of Self-Efficacy in Teaching

Before music teachers begin to contemplate how to encourage self-efficacy beliefs in their students, they may want to consider beginning this process by using the jazz improvisation survey (See Appendix B) adapted from Zelenak's (2011) self-efficacy survey. The Zelenak (2011) scale was adapted and employed in this study to measure self-efficacy source influence specific to jazz improvisation performance. The use of the jazz improvisation survey might provide a potential entry point into self-efficacy belief, for it would help music teachers to become familiar with potential negative sources of influence and develop an individualized plan for each student based on their survey responses. Once music teachers have a sense of students' self-efficacy beliefs about jazz improvisation, the next step is to engage in conversation about improving self-efficacy beliefs and remind students that they have the power to regulate their perceptions, and

that their beliefs about success are based upon their own self-crafted definition of success and are influenced by the four sources of self-efficacy and other personal and contextual influences. One of the issues that came up in this study was the lack of female representation in jazz and the lack of female improvisors in jazz ensembles. When meeting with students, it is important for music teachers to create awareness of career opportunities for jazz musicians, especially for BIPOC females in the jazz program. I now provide an overview of how music teachers can use the four sources of self-efficacy to aid with self-efficacy beliefs among their students when learning to improvise in jazz.

Enactive Mastery Experience

Diego, Julia, and Daniela indicated that their performance experiences had a positive impact on their self-efficacy beliefs related to performing and, more specifically, improvising. Diego, Julia, and Daniela spoke about how they felt that the experiences of each performance provided a boost to their music performance belief. Music teachers might want to specifically highlight positive performance aspects post-performance. By doing so, students might experience an increase of self-efficacy belief in their overall performance ability. It is also important to support students with strategies for memorizing scales and arpeggios, for developing aural recognitions of jazz language through transcribing, transposing transcriptions to as many keys as possible (ideally all 12 keys), and to scaffold music theory concepts with preexisting knowledge. All these aspects of improvisation may serve as a foundation for learning and developing jazz language and may increase general musicianship. These are important skills for anyone aspiring to learn how to improvise, however, they can be incredibly overwhelming.

Therefore, music teachers might want to support students with these activities in group exercises and in doing so, students can elevate their self-efficacy beliefs when rehearsing these basic elements of jazz improvisation.

Vicarious experience

Daniela, Julia, and Diego all shared that there were students in their ensemble that they looked up to and admired. They mentioned that these students not only served as an inspiration but also were supportive and helped them through challenges they faced. Music teachers might want to foster a learning environment that creates opportunities for student collaboration and the modeling of positive coping. Julia articulated that in addition to observing her peers, it was helpful for her to observe more advanced players perform. Music teachers might want to also connect with local jazz musicians and invite them for master classes and, in doing so, utilize master modeling to support student learning.

Verbal/Social Persuasion

Daniela and Diego both agreed that teacher feedback was most influential to their self-efficacy beliefs. Based upon the findings from this study, it is important for music teachers to constantly provide students with positive constructive feedback so as to boost their self-efficacy beliefs, especially as new improvisors. Regular encouragement and constructive feedback for when students are learning to improvise is crucial for students throughout their jazz improvisation learning journey. Daily improvisation exercises can foster the development of jazz improvisation skills and provide opportunities for enactive mastery experience, which can subsequently enhance self-efficacy beliefs.

Although Julia appreciated teacher feedback, she disclosed that peer feedback had more of an impact on her self-efficacy belief than her teacher feedback. Music teachers may want to consider creating opportunities for students to provide constructive feedback for each other. A great opportunity for this might be through student jam sessions where students perform for one-another and provide positive constructive feedback rather than negative or judgmental feedback. Through these jam sessions, students might develop constructive peer-critique skills and receive positive reinforcement from teachers and peers (verbal/social persuasion), potentially leading to enhanced self-efficacy beliefs in their improvisational abilities.

Physiological and affective states

Diego, Daniela, and Julia all reported feeling a variety of somatic states such as nervousness, anxiousness, sweating, and tension in their fingers during performance. Julia and Daniela shared that it was often difficult to recover from mistakes during performances, which resulted in undesirable performance which was ultimately perceived as a poor performance. It might also be helpful for music teachers to remind students that nervousness can be used to enhance performance. Additionally, music teachers could encourage students to remember how they felt during successful performances so that they can tap into those positive somatic states versus the negative ones. Diego mentioned that he often felt nervous when performing with the more experienced players in the college big band, and felt self-conscious performing in front of the more experienced bass players. It is also important for music teachers to remind students that negative somatic responses may be caused by fear of being judged, social comparisons, and lack of

preparation. By creating awareness of these somatic responses, music teachers might employ strategies, and classroom activities that might support student self-efficacy belief.

Personal and Contextual Factors

Daniela, Julia, and Diego all reported they had a positive rapport with their band director. To establish good rapport with the students, music teachers may want to consider forming a strong student-teacher relationship with their students to help motivate students and foster a positive learning environment. Some strategies for achieving positive student-teacher rapport might include: belief in students' abilities, communicating openly with students so as to avoid misunderstandings, setting clear expectations, and holding students to a standard of excellence, always approaching the relationship from a place of compassion. In doing so, music teachers might support student self-efficacy belief by increasing motivation and promoting a general positive outlook in their students' abilities.

Recommendations for Future Research

Self-efficacy beliefs have been shown to influence music student performance outcomes. According to Bandura (1997), students with low self-efficacy beliefs are more susceptible to negative influences from the four sources of self-efficacy. These may include: (a) fewer mastery experience due to reduced motivation and effort, (b) lowered self-efficacy belief through observing peers' struggles (vicarious experience), (c) discouragement from constructive criticism (verbal/social persuasion), and (d) heightened anxiety leading to negative interpretations of performances (physiological states). This may especially be the case for a jazz soloist (Ciorba, 2009). There is a need for further

research to investigate how the four sources of self-efficacy and other personal/contextual factors might affect the self-efficacy perceptions of student musicians who improvise in jazz. Although in the present study I sought to investigate the relationship between the four sources of self-efficacy and student self-efficacy belief relative to jazz improvisation, many questions still remain. In order to further understand the relationship between jazz improvisation and the four sources of self-efficacy, more research is needed in order to illuminate the best practices of fostering student self-efficacy beliefs with respect to jazz improvisation.

Socioeconomic status

Researchers have identified access to resources as a factor influencing student participation in school music ensembles (McHale & Abril, 2018). Students who lack access to private lessons, quality instruments, or dedicated practice space may struggle to contribute effectively, perform at their best, and excel within their school music ensemble (McHale & Abril, 2018). As a result, these students may experience higher attrition rates compared to their peers with greater access to resources. According to the band director at the participating high school of the current study, the school serves a working-class community and several of the students' families are of a lower socioeconomic status. The band director shared that through prop 28 funding (state of California funding for the arts) his school instrumental music program has been able to provide group coaching for the students without large amounts of fundraising. According to the band director, this coaching is the closest thing that the students will experience to a private lesson. In terms of instruments, very few students own their own instruments; most students use a school

instrument. The band director shared that through school and district funding, the band program has been able to purchase new instruments for the students, which allowed them to play on relatively new student model instruments. The band director disclosed that the band program was fortunate to have the support of administrators that prioritize arts education by allocating financial resources to the instrumental music program. If not for that support, he added, the program and the students would not have access to the coaching or instruments that the students enjoy. Although questions related to socioeconomic factors were not included in the self-efficacy survey or interview in the current study, investigating how socio-economics influence secondary level music student performance beliefs may give insight into how to create opportunities for access to underprivileged communities and how this access might support student self-efficacy belief as it relates to jazz improvisation.

Preservice music education

It has been well-documented that preservice music educators receive very little, if any, training in jazz improvisation (Goodrich, 2005; Regier, 2009). According to Regier (2009), most music educators that teach marching band and concert band must also teach a jazz band. However, many music educators that teach traditional music ensembles (e.g., choir, band, orchestra, marching band) did not receive preservice jazz improvisation training as part of their course work. It is not a surprise then that jazz education has shifted from its initial emphasis on improvisation to focusing on style and interpretation. Investigating the effects of jazz improvisation preservice training on music educators' jazz improvisation abilities could provide valuable insights into fostering music

educators' self-efficacy beliefs related to jazz improvisation instruction. Incorporating such training into university preservice music education programs may lead to better preparation and support for future music educators in assuming jazz teaching responsibilities.

Female representation in jazz

Very few female instrumentalists pursue a career in jazz (McKeage, 2004), and prior research has documented that female enrollment in college jazz ensembles is predominantly male (Wehr-Flowers, 2006). Of the 17 students that were enrolled in the jazz band from the current study, less than 1/3 of the band was female (5 females of 17 total students). Additionally, while conducting pilot interviews at other local high schools, similar ratios were found. In this study, Daniela stated that she noticed that it was rare for female students to improvise, and that she had wished to see more female representation in the jazz festivals that she had participated in. Some female students perceive jazz music to be predominantly played by males (Colley & Hargraves, 2003), and female students are generally reported to be less confident, more anxious, and have less self-perceived ability in learning jazz improvisation (Wehr-Flowers, 2006). In light of these findings, research is needed to gain insights into how music educators might support female students in order to improve their self-efficacy beliefs in their own abilities as jazz musicians so that this gender gap might be closed.

Latina jazz musician representation

The school band program that the participants in this study were members served a predominantly Latino community. According to the United States Census Bureau the state of California, where the school was located, boasted a population of approximately 40% Latino students. In the U.S., Latinos make up almost 20% of the population (United States Census Bureau). Despite these numbers, very few Latina musicians participate in school jazz ensembles, elect to study jazz in higher education, or pursue jazz as a career. McHale and Abril (2018) reported that school music programs lack importance and relevance in the lives of Latina students. Furthermore, music performance does not align with their immediate social circles both at school and at home. Given these findings, researchers may want to consider how Latina students could be better supported as to increase Latina musician representation in jazz.

Epilogue: Concluding Thoughts

The summer of 2023 marked a thrilling milestone for me: recording my first album as a bandleader! It was a dream come true to collaborate with some talented musicians I'd long admired. Naturally, a wave of excitement washed over me as the recording date approached, June 19th. But soon, that excitement morphed into nervous energy. Self-doubt crept in, “what if I freeze during the session” I thought to myself.

Taking a deep breath, I began telling myself positive affirmations in an attempt to regulate my thoughts. I reminded myself of the countless hours of preparation, the joy of music-making, and the power of simply letting the music *flow*. And flow it did! As we listened back to each track, a sense of satisfaction came over me. Each piece felt like a

mastery experience, building momentum and confidence for the next. The supportive energy within the band, a combination of musicality and camaraderie, played a huge role in calming those initial thoughts of self-doubt through verbal/social persuasion.

Reflecting on the experience, a memory surfaces: saying to myself as we recorded, "just let your fingers go where they want to!" In that moment, it felt like my hands were guided by an unseen force, effortlessly moving up and down the piano. This experience solidified the power of self-efficacy belief–the belief in our own abilities to learn, grow, and achieve.

Now, as I guide my students on their musical journeys in improvisation, I carry the lessons learned from Daniela, Julia, and Diego close to my heart. Their support and talent were instrumental in my own growth, and I strive to offer the same to my students. These lessons extend beyond the music room. As I watch my daughters, Daniela with her horses and Natalia with her passions, I find myself creating opportunities for them to experience mastery, navigate anxieties, and embrace the courage to pursue their dreams.

Appendix A

Protocol Title: THE ROLE OF SELF-EFFICACY BELIEFS IN THE DEVELOPMENT OF JAZZ IMPROVISATION AMONG SECONDARY INSTRUMENTAL MUSIC STUDENTS
Principal Investigator: Esteban Adame
Description of Subject Population: 14–17-year-old children
Version Date: 04/25/23

Introduction

Please read this form carefully. The purpose of this form is to provide you with important information about your child taking part in a research study. If any of the statements or words in this form are unclear, please let me know. I would be happy to answer any questions.

If you have any questions about the research or any portion of this form, please ask me. Your child taking part in this research study is up to you. If you decide for your child to take part in this research study I will ask you to sign this form. I will give you a copy of the signed form.

The person in charge of this study is Esteban Adame. If you have any questions or concerns about the study, please feel free to contact me directly by email ([redacted]), or contact my dissertation supervisor, Dr. Andrew Goodrich (andrewg@bu.edu).

Why is this study being done?

My name is Esteban Adame and I am a DMA student at Boston University. As part of my doctoral dissertation research, I am interested in examining the unique experiences of secondary music students related to jazz improvisation belief. In order to achieve this objective, I am conducting a 24-question survey that should take approximately five to ten minutes to complete. Once data analysis is complete, I am happy to share the study results with you.

How long will my child take part in this research study?

I expect that your child will be in this research study for at most 10 weeks. I will conduct observations of peer mentoring during class sessions at the band director's convenience. I will also request that your child take part in two interviews. Each interview will be about 20 minutes, as well as two journal entries

Study Title: THE ROLE OF SELF-EFFICACY BELIEFS IN THE DEVELOPMENT OF JAZZ IMPROVISATION AMONG SECONDARY INSTRUMENTAL MUSIC STUDENTS
Consent Form Valid Date: 4/25/23
Study Expiration Date: 6/9/23

What will happen if my child takes part in this research study?

If you agree for your child to take part in this study, I will ask you to sign the consent form before I do any study procedures. The interviews will take place at your child's school site. The interviews will be audio recorded and will last for approximately 20 minutes. The interview questions will be about your child's perspectives with their experiences with jazz improvisation.

Once your child's interview has been audio recorded, the audio will be transcribed and will be available for your review. A follow up interview will be requested to close out the research and your child will be asked to write a short journal entry asking them about their experiences with jazz improvisation.

How Will You Keep My Study Records Confidential?

I will keep the records of this study confidential by labeling audio recordings with a pseudonym instead of your child's name. The study data will be stored on my password-protected laptop. The results of this research study may be published or used for teaching. I will not put identifiable information on data that are used for these purposes. I will not use your child's name when I report the results of this study. I will make every effort to keep the study records confidential.

Study Participation and Early Withdrawal

Having your child take part in this study is your choice. You and your child are free not to take part or to withdraw at any time for any reason. If you decide to withdraw your child from this study, the information that you have already provided will be kept confidential.

Study Title: THE ROLE OF SELF-EFFICACY BELIEFS IN THE DEVELOPMENT OF JAZZ IMPROVISATION AMONG SECONDARY INSTRUMENTAL MUSIC STUDENTS
Consent Form Valid Date: 4/25/23
Study Expiration Date: 6/9/23

What are the risks of taking part in this research study?

The main risk of allowing me to use and store your child's information for research is a potential loss of privacy. I will protect your child's privacy by labeling your child's information with a pseudonym in a password-protected computer. Your child can skip any questions they want to during the interview.

Are there any benefits from being in this research study?

There are no benefits for taking part in this study, however, others may benefit in the future from

the information that is learned in this study. Namely music educators and music students.

What alternatives are available?

You may choose not to have your child take part in this research study.

What will it cost me to take part in this research study?

There are no costs to you or your child for taking part in this research study.

If I have any questions or concerns about this research study, who can I talk to?

You can call me with any concerns or questions. My telephone number is: [redacted] You may call me anytime during business hours, Monday through Friday.

If you have questions about your child's rights as a research subject or want to speak with someone other than the researcher, you may contact my dissertation supervisor, Dr. Andrew Goodrich (andrewg@bu.edu).

Study Title: THE ROLE OF SELF-EFFICACY BELIEFS IN THE DEVELOPMENT OF JAZZ IMPROVISATION AMONG SECONDARY INSTRUMENTAL MUSIC STUDENTS
Consent Form Valid Date: 4/25/23
Study Expiration Date: 6/9/23

Statement of Consent

I have read the information in this consent form including risks and possible benefits. I have been given the chance to ask questions. My questions have been answered to my satisfaction, and I agree to allow my child to participate in the study.

SIGNATURE

_____ Name of Child

_____ Name of Parent

_____ Signature of Parent

_____Date

___ I agree to have the interview audio recorded.

___ I do not want the interview to be audio recorded.

___ I agree to have my child complete the music self-efficacy survey during class sessions.

___ I do not want my child complete the music self-efficacy survey during class sessions.

___ I agree to have my child complete the music self-efficacy survey during class sessions.

___ I do not want my child complete the music self-efficacy survey during class sessions.

Esteban Adame: Name of Researcher

Signature of Researcher

4/25/23 Date

When you have completed signing the form, please return it to the researcher or email it to: [redacted]

Appendix B

Jazz Improvisation Self-Efficacy Survey

Please respond to the following statements based on your current level of jazz improvisation ability and experience. There are no right nor wrong answers. Indicate to what degree you either agree or disagree with the statement by selecting a number from 1 (strongly disagree) and 5 (strongly agree). Carefully consider the number you choose.

1. I have had positive jazz improvisation performance experiences in the past.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

2. I have improved my jazz improvisation performance skills by watching professional musicians improvise well.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

3. My friends think I am good at my primary instrument.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

4. I have had positive experiences improvising in jazz ensembles.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

5. I have improved my music performance skills by watching someone I know perform well (parent, brother, sister, peer, mentor)

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

6. I have had positive experiences as a soloist.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

7. Members of my family believe I perform well.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

8. I have a had positive experiences performing simple music.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

9. People have told me that my practice efforts have improved my performance skills.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

10. I have had positive experiences performing complicated music.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

11. I have used other jazz students as models to improve my improvisation skills.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

12. I have overcome performance challenges on my instrument through hard work and practice.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

13. I have received positive feedback on my jazz improvisation abilities from peers and teachers.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

14. I have used a practice routine to help me prepare for my performances.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

15. I am learning or, have learned, to control my nervousness during a performance.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

16. I have had positive experiences performing and improvising music in small combos.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

17. Improvising on my instrument makes me feel good.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

18. I have watched other students with similar music ability as me improvise and then decided whether I could or could not improvise at the same level as that student.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

19. I do not worry about making small mistakes during a performance.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

20. I have compared my performance ability to those of other students who are similar in improvisation ability to me.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

21. My jazz ensemble instructor has complimented me on my improvisation performances.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

22. I have met or exceeded other people's expectations of being a good improvisor for someone my age.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

23. I enjoy participating in jazz performances.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

24. I have positive memories of my past jazz ensemble performances.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Please answer the following questions by selecting from either an option or short answer.

25. What is your current academic standing?
    Freshman
    Sophomore
    Junior
    Senior

26. Do you plan to be a music major in college?
    Yes
    No
    Not sure

27. What is your primary instrument?

28. Is your primary instrument different from what you play in your jazz ensemble? If so what do you play in the jazz ensemble?

29. Do you currently take private lessons?

30. What is your gender?
    Male
    Female

31. What is your ethnicity?
    Hispanic or Latino
    Black or African-American
    Native American
    Asian Pacific Islander
    White
    Other (Please specify)
    Rather not state

32. At what age did you begin playing your primary instrument?

33. At what age did you begin practicing skills directly related to music?

34. Who primarily motivated you to pursue music?
    Parents
    Teachers
    Peers
    Self
    Other (please specify)

35. What is the highest level of education you plan to complete?
    Bachelors
    Masters
    Doctoral degree

36. Please leave your contact information below if you are interested in potentially being interviewed in order to expand upon what you have shared in the survey:
    Name
    Email
    Address/Phone

Appendix C

Interview one Protocol

Jazz improvisation Self-Efficacy Belief

1. Describe your belief in your jazz improvisation performance ability.

Verbal/ Social persuasion

1. To what degree does verbal feedback from peers' teachers and parents affect your jazz improvisation performance confidence?
2. What feedback has had the greatest impact on your belief in your jazz improvisation performance potential?
3. What do you do when you receive negative feedback related to your improvisation ability?

Physiological and affective states

1. To what degree do you feel in control of your body and emotions when you perform?
2. What thoughts go through your mind as you perform?
3. In what ways does nervousness help or hinder your jazz improvisation performance?

Vicarious experience

1. Would you say it's more beneficial to your own development as an improvisor to watch a performer who has mastered jazz language and is a proficient improvisor, or to watch a musician who is in the process of learning? Please describe your reasoning.
2. How has the observation of performance help or hinder your development as an improvisor?
3. Describe how you respond to competition.
4. Do you have a peer model or models that you look to for guidance or inspiration as a developing jazz musician?

Enactive Mastery Experience

1. To what degree do you say performance experiences affect your belief in your performance ability?
2. In what ways have performing in jazz ensembles either increase or decrease your confidence in your ability to improvise?
3. How would you compare your ability to perform successfully in the practice room, to a private lesson, a master class, and a recital?
4. Can you share with me your most memorable performance experience or experiences?

Appendix D

Jazz Improvisation Reflection Prompt

Please express your thoughts following an unusually positive or negative experience improvising during:
A private lesson
A practice session
And during performance.
Please share your reflections in the form of a journal entry. Please send the three expressions as you complete them.

Thank you!
Esteban Adame

Appendix E

Follow-Up Interview Protocol

Follow-Up Interview Protocol Student-Teacher Relationship

1. To what degree do you feel music teachers affect their students' beliefs in their ability to improvise?
2. Can you tell me about the relationship you have with your current jazz ensemble teacher?
3. Do you feel that your teacher has an influence on your jazz improvisation performance belief?
4. What belief-enhancing techniques has your teachers used to build your belief in your performance ability? How have you been impacted by these belief-enhancing practices?
5. How is technique affected when matters of performance belief are neglected during performance?

Environment

1. In general, how do you feel during your practice sessions or rehearsals?
2. How would you describe the feel or culture of the band program at your school?
3. How does feeling like you are performing in a safe environment affect your performance ability and confidence?
4. How would you compare the support you feel in your journey as an improvisor from the following people: peers within your jazz ensemble, other friends, family, and teachers?

Other factors

1. In what ways does having a teacher of the same or different gender than you affect your learning and development?
2. How would you rate your ability to structure effective practice sessions?
3. How have you learned to shape and filter improvisation self-beliefs?
4. Would you say that your potential success as a soloist is more tied to internal factors, or external factors? Please describe your reasoning.
5. What affects your belief in your jazz improvisation performance ability most? Rank the following from most to least influential: the words of others, performing, how you think/feel while performing, or watching another person execute a similar performance?

REFERENCES

Aebersold J. (2017) *Jazz handbook*. Jamey Aebersold Jazz. https://www.jazzbooks.com/mm5/download/FQBK-handbook.pdf

Alexander, M. L. (2012). Fearless improvisation. *Update: Applications of Research in Music Education*, *31*(1), 25–33. https://doi.org/10.1177/8755123312457884

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Bernard, H. C., & Stringham, D. A. (2016). A national survey of music education majors' confidence in teaching improvisation. *International Journal of Music Education*, *34*(4), 383–390. https://doi.org/10.1177/0255761415619069

Boucher, H., & Ryan, C. (2010). Performance stress and the very young musician. *Journal of Research in Music Education*, *58*(4), 329–345. https://doi.org/10.1177/0022429410386965

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brumbach, G. A. (2020). The effects of two jazz pedagogical approaches on improvisation and ensemble performance achievement by high school musicians. *Jazz Education in Research and Practice*, *1*(1), 41–58. https://doi.org/10.2979/jazzeducrese.1.1.05

California Department of Education (2023). *Proposition 28*. https://www.cde.ca.gov/eo/in/prop28artsandmusicedfunding.asp

Cammarota, J. (2011). From hopelessness to hope. *Urban Education, 46*(4), 828–844. https://doi.org/10.1177/0042085911399931

Campbell, P. S. (2009). Learning to improvise music, improvising to learn music. In G. Solis & B. Nettl (Eds.), *Musical improvisation: art, education, and society* (6th ed., pp. 119–142). https://doi.org/10.21083/csieci.v6i2.1311

Ciorba, C. R. (2009). Predicting jazz improvisation achievement through the creation of a path-analytical model. *Bulletin of the Council for Research in Music Education, 180*, 43–57. https://doi.org/10.2307/40319319

Clark, J. L. (2013). A qualitative exploration of higher self-efficacy string students preparing for a competition. *International Journal of Music Education, 31*(1), 4–14. https://doi.org/10.1177/0255761411431393

Clark, T., Lisboa, T., & Williamon, A. (2014). An investigation into musicians' thoughts and perceptions during performance. *Research Studies in Music Education, 36*(1), 19–37. https://doi.org/10.1177/1321103x14523531

Clemmons, M. J. (2007). *Rapport in the applied voice studio.* [Doctoral dissertation, Teachers College, Columbia University]. ProQuest Dissertations & Theses database. (Publication No. 3259241)

Conway, C., Erős, J., Pellegrino, K., & West, C. (2010). Instrumental music education students' perceptions of tensions experienced during their undergraduate degree.

Journal of Research in Music Education, 58(3), 260–275. https://doi.org/10.1177/0022429410377114

Coss, R. G. (2018). Descriptions of expert jazz educators' experiences teaching improvisation. *International Journal of Music Education, 36*(4), 521–532. https://doi.org/10.1177/0255761418771093

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Czerny, C., & Mitchell, A. L. (1983). A systematic introduction to improvisation on the pianoforte: Opus 200. Longman.

Davison, P. D. (2010). The role of self-efficacy and modeling in improvisation among intermediate instrumental music students. *Journal of Band Research, 45*(2), 42–58. https://search.proquest.com/openview/a07f2ccaba013b64d1f764ad1a0e2aa1/1?pq-origsite=gscholar&cbl=34879

de Bruin, L. (2016). Expert voices in learning improvisation: shaping regulation processes through experiential influence. *Music Education Research, 19*(4), 384–397. https://doi.org/10.1080/14613808.2016.1204279

de Bruin, L. (2019). Expert improvisers' formal, informal and situated influences on learning, motivation and self-efficacy: A qualitative study. *Music Education Research, 21*(1), 99–115. https://doi.org/10.1080/14613808.2018.1516746

de Bruin, L., Williamson, P., & Wilson, E. (2020). Apprenticing the jazz performer through ensemble collaboration: A qualitative enquiry. *International Journal of Music Education*, *38*(2), 208–225. https://doi.org/10.1177/0255761419887209

Dempsey, E., & Comeau, G. (2019). Music performance anxiety and self-efficacy in young musicians: Effects of gender and age. *Music Performance Research*, *9*, 60–79. https://musicperformanceresearch.org/wp-content/uploads/2020/11/MPR-0121-Dempsey-and-Comeau-60-79.pdf

Després, J. P., Burnard, P., Dubé, F., & Stévance, S. (2017). Expert western classical music improvisers' strategies. *Journal of Research in Music Education, 65*(2), 139–162. https://doi.org/10.1177/0022429417710777

Easter II, L. (2021). A critical examination of preservice music teacher preparation in jazz: Current policies influencing curricula, certification, and pedagogical competency in Oklahoma. *Jazz Education in Research and Practice*, *2*(1), 118-134. https://doi:10.2979/jazzeducrese.2.1.08

Fryling, D. S. (2015). *Persistence in choral music: An investigation into psychological and sociological factors involved in choral membership*. [Doctoral dissertation, Hofstra University]. ProQuest Dissertations & Theses Global. (Publication No. 3734137)

Gall, M., Gall, J., & Borg, W. (2007). *Educational research* (8th ed.). Pearson Education, Inc.

Gaunt, H. (2011). Understanding the one-to-one relationship in instrumental/vocal tuition in higher Education: comparing student and teacher perceptions. *British Journal of Music Education, 28*(2), 159–179. https://doi.org/10.1017/s0265051711000052

Gavin, R. B. (2010). *An exploration of potential factors affecting persistence to degree completion in undergraduate music teacher education students*. [Doctoral dissertation, Florida State University]. ProQuest Dissertations & Theses Global. (Publication No. 3462300)

Glesne, C. (2016). *Qualitative researchers: An introduction.* Pearson.

Goodrich, A. (2005). *Inside a high school jazz band*. [Doctoral dissertation, Wilmington University]. ProQuest Dissertations & Theses Global. (Publication No. 10169573)

Goodrich, A. (2007). Peer mentoring in a high school jazz ensemble. *Journal of Research in Music Education, 55*(2), 94-114. https://doi:10.1177/002242940705500202

Goodrich, A. (2008). Utilizing elements of the historic jazz culture in a high school setting. *Bulletin of the Council for Research in Music Education, 175*, 11–30. https://dialnet.unirioja.es/servlet/articulo?codigo=2695316

Goodrich, A., Kracht, J., McDonald, J., & Sapp, C. (2014). Comentoring in a university jazz ensemble. *Visions of Research in Music Education*, *25*(1). https://opencommons.uconn.edu/cgi/viewcontent.cgi?article=1151&context=vrme

Goodrich, A., & Icenogle, B. (2019). Blurred lines: Reconsidering the roles of teacher and student in the learning process. *Visions of Research in Music Education*, *34*(5). https://opencommons.uconn.edu/cgi/viewcontent.cgi?article=1847&context=vrme

Goodrich, A. (2023). *Peer mentoring in music education: Developing effective student leadership.* Routledge.

González, A., Blanco-Piñeiro, P., & Díaz-Pereira, M. P. (2018). Music performance anxiety: exploring structural relations with self-efficacy, boost, and self-rated performance. *Psychology of Music*, *46*(6), 831–847. https://doi.org/10.1177/0022429411405214

Hendricks, K. S. (2009). *Relationships between the sources of self-efficacy and changes in competence perceptions of music students during an all-state orchestra event.* [Doctoral dissertation, University of Illinois at Urbana-Champaign]. ProQuest Dissertations & Theses Global. (Publication No. 3362920)

Hendricks, K. S. (2014). Changes in self-efficacy beliefs over time: Contextual influences of gender, rank-based placement, and social support in a competitive orchestra environment. *Psychology of Music*, *42*(3), 347–365. https://doi.org/10.1177/0305735612471238

Hendricks, K. S. (2016). The sources of self-efficacy: Educational research and implications for music. *Update: Applications of Research in Music Education, 35*(1), 32–38. https://doi.org/10.1177/8755123315576535

Hendricks, K. S., & Smith, T. D. (2018). Eclectic styles and classical performance: Motivation and self-efficacy belief at two summer music camps. *String Research Journal*, *8*(1), 33–49. https://doi.org/10.1177/1948499218769632

Hendricks, K. S., Smith, T. D., & Legutki, A. R. (2016). Competitive comparison in music: Influences upon self-efficacy beliefs by gender. *Gender and Education*, *28*(7), 918–934. https://dx.doi.org/10.1080/09540253.2015.1107032

Hendricks, K. S., Smith, T. D., & Stanuch, J. (2014). Creating safe spaces for music learning. *Music Educators Journal*, *101*(1), 35–40. https://doi:10.1177/0027432114540337

Hewitt, M. P. (2015). Self-efficacy, self-evaluation, and music performance of secondary-level band students. *Journal of Research in Music Education*, *63*(3), 298–313. https://doi.org/10.1177/0022429415595611

Hickey, M. (2009). Can improvisation be 'taught'?: A call for free improvisation in our schools. *International Journal of Music Education*, *27*(4), 285–299. https://doi:10.1177/025576140 9345442.

Hickey, M., Ankney, K., Healy, D., & Gallo, D. (2015). The effects of group free improvisation instruction on improvisation achievement and improvisation confidence. *Music Education Research*, *18*(2), 127–141. https://doi.org/10.1080/14613808.2015.1016493

Hirschorn, D. N. (2011). *Vocal improvisation and the development of musical self-efficacy and musical self-image in adolescent choral musicians*. [Doctoral Dissertation, Georgia State University]. ProQuest Dissertations & Theses Global. (Publication No. 3471637)

Kelly, K. B. (2013). *A new cartography: Learning jazz at the dawn of the 21st Century*. [Doctoral dissertation, Arizona State University]. ProQuest Dissertations & Theses Global. (Publication No. 3559620)

Kelly-McHale, J., & Abril, C. R. (2015). The space between worlds. In *Oxford University Press eBooks* (pp. 156–172). https://doi.org/10.1093/oxfordhb/9780199356157.013.12

Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, *24*(1), 120–124. https://doi.org/10.1080/13814788.2017.1375092

Larsson, C., & Georgii-Hemming, E. (2018). Improvisation in general music education – a literature review. *British Journal of Music Education*, *36*(1), 49–67. https://doi.org/10.1017/s026505171800013x

Lewis, M. C. (2018). *"I think I can!": The influences of the four sources of self-efficacy upon the development of vocal performance belief in nine classical collegiate vocalists.* [Doctoral dissertation, Boston University]. ProQuest Dissertations & Theses Global. (Publication No. 10808879). Available from https://open.bu.edu/handle/2144/30031

Lewis, M., Weight, E. A., & Hendricks, K. S. (2022). Teaching methods that foster self-efficacy belief: Perceptions of collegiate musicians from the United States. *Psychology of Music*, *50*(3), 878–894. https://doi.org/10.1177/03057356211026744

Lewis, M., & Hendricks, K. S. (2022). “It’s your body, it’s part of who you are!”: Influences upon collegiate vocalists’ performance self-efficacy beliefs. *International Journal of Music Education*, *40*(4), 514–529. https://doi.org/10.1177/02557614221074057

Madura Ward-Steinman, P. (2014). Effects of a vocal jazz workshop on choral music education majors’ achievement in improvisation and confidence in teaching improvisation. *International Journal of Research in Choral Singing*, *5(1)*, 1–14. https://search.proquest.com/openview/4978a8048e850053fa335c16beefaa2e/1?pq-origsite=gscholar&cbl=2030991

Mann, M. J., Smith, M. L., & Kristjansson, A. L. (2015). Improving academic self-efficacy, school connectedness, and identity in struggling middle school girls. *Health Education & Behavior*, *42*(1), 117–126. https://doi:10.1177/1090198114543005

Marshall, Z. K. (2011). *The necessity of extra-curricular activities for the undergraduate vocal performance major: How performance opportunity correlates with success*. [Doctoral dissertation, University of South Carolina]. ProQuest Dissertations & Theses Global. (Publication No. 3454765)

McCormick, J., & McPherson, G. E. (2003). The role of self-efficacy in a musical performance examination: An exploratory structural equation analysis. *Psychology of Music*, 31, 37–51. https://doi:10.1177/0305735603031001322

McKeage, K. M. (2004). Gender and participation in high school and college instrumental jazz ensembles. *Journal of Research in Music Education*, *52*(4), 343–356. https://doi.org/10.1177/002242940405200406

McPherson, G. E., & McCormick, J. (2006). Self-efficacy and musical performance. *Psychology of Music*, 34, 322–336. https://doi:10.1177/0305735606064841

Mickolajak, M. T. (2003). Beginning steps to improvisation. *Teaching Music, 10*(5), 40–44.

National Association of Music Education (NAfME). (2014). *Standards.* https://nafme.org/publications-resources/standards/

Niehaus, K., Rudasill, K. M., & Adelson, J. L. (2012). Self-efficacy, intrinsic motivation, and academic outcomes among Latino middle school students participating in an after-school program. *Hispanic Journal of Behavioral Sciences*, *34*(1), 118–136.

Nielsen, S. G., Johansen, G. G., & Jørgensen, H. (2018). Peer learning in instrumental practicing. *Frontiers in Psychology*, *9*. https://doi.org/10.3389/fpsyg.2018.00339

Pajares, F., & Urdan, T. C. (2006). *Self-efficacy beliefs of adolescents*. Information Age Publishing.

Palmer, C. M. (2016). Instrumental jazz improvisation development: Characteristics of novice, intermediate, and advanced improvisers. *Journal of Research in Music Education*, *64*(3), 360–368. https://doi.org/10.1177/0022429416664897

Ray, J., & Hendricks, K. S. (2019). Collective efficacy belief, within-group agreement, and performance quality among instrumental chamber ensembles. *Journal of*

Research in Music Education, *66*(4), 449–464. https://doi.org/10.1177/0022429418805090

Regier, B. J. (2019). A measurement of self-efficacy among Oklahoma secondary band directors in concert, marching, and jazz ensemble pedagogy. *Update: Applications of Research in Music Education*, *37*(3), 57–64. https://doi.org/10.1177/8755123318808246

Ritchie, L., & Williamon, A. (2012). Self-efficacy as a predictor of musical performance quality. *Psychology of Aesthetics, Creativity, and the Arts*, *6*(4), 334-340. https://doi:10.1037/a0029619

Ritchie, L., & Williamon, A. (2011). Primary school children's self-efficacy for music learning. *Journal of Research in Music Education*, *59*(2), 146-161. https://doi.org:10.1177/0022429411405214

Robson, K., & Kenny, D. (2017). Music performance anxiety in ensemble rehearsals and concerts: A comparison of music and non-music major undergraduate musicians. *Psychology of Music, 45*(6), 868–885. https://doi:10.1177/0305735617693472

Rosenthal, R. K. (1984). The relative effects of guided model, model only, guide only, and practice only treatments on the accuracy of advanced instrumentalists' music performance. *Journal of Research in Music Education*, *32*(4), 265–273. https://doi: 10.2307/3344924

Royo, J. (2014). *Self-efficacy in music education vocal instruction: A collective case study of four undergraduate vocal music education majors*. [Doctoral dissertation, University of Arizona]. ProQuest Dissertations & Theses Global. (Publication No.

3619734)

Schunk, D. H., & Usher, E. L. (2012). Social Cognitive Theory and motivation. In *Oxford University Press eBooks* (pp. 13–27). https://doi.org/10.1093/oxfordhb/9780195399820.013.0002

Shevock, D. J. (2018). The experience of confident music improvising. *Research Studies in Music Education, 40*(1), 102–116. https://doi.org/10.1177/1321103x17751935

Snell, II, A. H., & Azzara, C. D. (2015). Collegiate musicians learning to improvise. *Bulletin of the Council for Research in Music Education*, *204*, 63–84. https://doi.org/10.5406/bulcouresmusedu.204.0063

Stake, R. E. (1995). *The art of case study research*. Sage.

United States Census Bureau (n. d). https://www.census.gov/quickfacts/fact/table/CA/PST045222

Usher, E. L. (2009). Sources of middle school students' self-efficacy in mathematics: A qualitative investigation. *American Educational Research Journal*, *46*(1), 275–314. https://doi.org/10.3102/0002831208324517

Usher, E. L., & Pajares, F. (2008). Sources of self-efficacy in school: Critical review of the literature and future directions. *Review of Educational Research*, 78, 751–796. https://doi:10.3102/ 0034654308321456

Varvarigou, M. (2017). Group playing by ear in higher education: The processes that support imitation, invention and group improvisation. *British Journal of Music Education, 34*(3), 291–304. https://doi.org/10.1017/S0265051717000109

Watson, K. E. (2010). The effects of aural versus notated instructional materials on achievement and self-efficacy in jazz improvisation. *Journal of Research in Music Education, 58*(3), 240–259. https://doi.org/10.1177/0022429410377115

Wehr, E. L. (2006). Differences between male and female students' confidence, anxiety, and attitude toward learning jazz improvisation. *Journal of Research in Music Education, 54*(4), 337–349. https://doi.org/10.1177/002242940605400406

Wehr, E. L. (2016). Understanding the experiences of women in jazz: A suggested model. *International Journal of Music Education, 34*(4), 472–487. https://doi.org/10.1177/0255761415619392

Werner, K., & Aebersold, J. (1996). *Effortless mastery*. Jamey Aebersold Jazz.

Zelenak, M. S. (2015). Measuring the sources of self-efficacy among secondary school music students. *Journal of Research in Music Education, 62*(4), 389–404. https://doi/10.1177/0022429414555018

Zelenak, M. S. (2019). Predicting music achievement from the sources of self-efficacy: An exploratory study. *Bulletin of the Council for Research in Music Education, 222*, 63–77. https://doi.org/10.5406/bulcouresmusedu.222.0063

Zelenak, M. S. (2024). Self-efficacy and music performance: A meta-analysis. *Psychology of Music*. 1–19. https://doi.org/10.1177/03057356231222432

Zhou, J. (2014). *Imitation in undergraduate student learning*. [Doctoral dissertation, State University of New York at Binghamton]. ProQuest Dissertations & Theses Global. (Publication No. 3683218)

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, *25*(1), 82–91. https://doi:10.1006/ceps.1999.1016

CURRICULUM VITAE