Body Consciousness: The Effects of Posture on Musicians’ Performance Anxiety

Christina Farley
Eastern Illinois University

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Abstract

Body Consciousness: The Effects of Posture on Musicians’ Performance Anxiety

Christina L. Farley

The primary research question of this quasi-experimental mixed methods study investigated the effects of positive (superman) and negative (slumped) body postures on students’ individual perceptions of their performance anxiety in three settings: in front of a studio professor, in front of peers, and in a private practice session. This study took place in two phases. Phase one consisted of a 14-question survey completed by 40 music education majors. Phase two included six participants that met with the researcher individually twice for each setting. Each participant followed the same timeline when completing the sessions: pre-session questionnaire, three-minute body posture (either the “superman” or the “slumped”), session task, post-session questionnaire, and post-session video interview. Data collection for phase two included pre-study interviews, pre- and post-session questionnaires, post-session interviews, and post-study questionnaires. Four main themes emerged from the interviews and open-ended questionnaire responses: reduction and increase in anxiety, confidence, sense of calm, and awareness of breathing. The results of this study show the average difference between the perceived positive and negative effects of the “superman” posture was 4.5 (taken from the results of two Likert-type scales assessing the effects from one to ten) whereas the average difference between the perceived positive and negative effects of the “slumped” posture was 0.67. The “superman” posture had more of an effect on the perception of anxiety than the “slumped.” Each participant had a positive reaction to one of the two postures and stated that they would utilize this technique outside of the study to help them with their anxiety.
Acknowledgements

Foremost, I would like to express my sincere gratitude to my advisor, Dr. Danelle Larson. Her continuous support, patience, motivation, and enthusiasm throughout this process guided me, and she allowed me a safe environment to grow as a student, writer, and researcher. I could not have imagined having a better advisor and mentor.

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Finally, I want to thank the participants of this study that helped me immensely by working with my crazy schedule and always being so flexible; my friends, family and professors for encouraging me to reach for my goals; and my grandma for always cheering me on and pushing me to “just get it done.”
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**Introduction**

Performance anxiety affects each person in different areas of his/her life, depending on the type of lifestyle he or she lives. It can take many forms: nerves before a job interview, sweaty palms before a big speech, or even shortness of breath before a musical performance. Performance anxiety experienced by musicians can be crippling. Audience presence, performance setting, timing, and personal variables all come into play when performing, and each musician handles the stresses differently (Taborsky, 2007).

Music performance anxiety (MPA) is a physical result of extra adrenaline being produced as a reaction to a potential threat (Watson, 2009; Kenny, 2011). Darwin observed that mammals generally respond to potentially dangerous or life-threatening situations with a set of psychological and physiological responses (fight-flight-fright) (Cuddy, 2015; Kenny, 2011; Greene, 2002). When the alarm is set off, the “cooperative relationship between the sympathetic and parasympathetic decisions of the autonomic nervous system is disrupted and the homeostatic balance of the organism is disturbed” (Kenny, 2011). The body starts to prepare for an attack. The lungs don’t fill, breathing gets shallow and quicker; the stomach begins to produce extra acid, resulting in feeling “butterflies”; the pulse increases (Greene, 2002). The typical reaction to this built-up adrenaline is to use it physically: to run, to fight, to hide. When a musician experiences performance anxiety, it is generally before and during a performance. The adrenaline flows through the body, and there is no outlet.

The main reaction to the nervous system’s reception of stress occurs in two areas of the brain: the limbic system and the autonomic nervous system (Watson, 2009). The
area of the brain that processes declarative memory is directly affected when stress occurs, causing loss of memory; the amygdala, which processes the emotional aspects of memory, is also directly affected (Watson, 2009). The frontal lobes in the brain are utilized for planning behavior and playing an instrument, while the motor cortex and sensory cortex provide the tactile feedback that signal the body has done the right thing.

Reading music involves the visual cortex in the occipital lobe; listening to music begins in the subcortical structures and involves language centers in the temporal and frontal lobes (Levitin, 2007).

The hypothalamus, located in the limbic system, is used in regulating the brain through metabolic processes including the distribution of hormones, such as epinephrine, and nerve usage; it is known to be responsible for the memory of facts, events, and places (Watson, 2009). The hypothalamus is also the area of the brain that controls the physical manifestations of anxiety and is in charge of balancing and maintaining homeostasis. During the time before a performance, the hypothalamus might over-adjust in reaction to the pre-performance nerves and cause the signs musicians recognize as physical symptoms of performance anxiety: shaking hands, irregular breathing, racing heart, and profuse sweating (Watson, 2009). Due to the change in blood circulation and different hormones surging into the brain, the performer might experience memory loss, confused thinking, loss of concentration, and feelings of agitation and unreality (Kenny, 2011). The autonomic nervous system delivers blood to muscles, skin and organs while controlling the activity of glands that produce saliva, sweat, and digestive enzymes; the two main branches of this system are the sympathetic and parasympathetic systems. As Watson states in his 2009 book:
The sympathetic system prepares the body for action. Nerves from the thoracic and upper lumbar segments of the spinal cord combine to form the sympathetic trunk, which runs up the side of the vertebral column. This sends out branches to supply the organs, blood vessels, and the glands. Its actions increase heart rate, open up the bronchioles of the lungs, enlarge the pupils, direct blood to the muscles and skin, and cause sweating and the rising of hairs in the skin. The parasympathetic system has the opposite action, preparing the body for a more passive role. It contributes to many cranial nerves and also to nerves that arise from the lower (sacral) regions of the spinal cord. It reduces heart rate and makes the pupils smaller and the bronchioles narrower. It also directs blood toward the internal organs and promotes digestive activity in the gut (Watson, 2009, p. 337).

The sympathetic nervous system is what causes many of the symptoms of stress response because of the trigger of the adrenal glands, releasing adrenaline into the bloodstream (Watson, 2009; Kenny, 2011).

The adrenal cortex in the brain releases cortisol in response to these physical stressors. Cortisol is known to increase our sense of threat and how likely we are to avoid a situation that makes us uncomfortable (Cuddy, 2015; Watson, 2009); cortisol has also been related to chronic stress, because the hormone itself suppresses the immune system (Watson, 2009). This release results in a disruption of the homeostatic balance, displaying physical signs of MPA.

It is known that animals express power through open and spread-out postures and they express powerlessness by closing down and curling up; by putting your body in a powerful, or high-power, pose, it is possible to cause “neuroendocrine and behavioral
changes” (Carney, Cuddy, and Yap, 2010), reestablishing a solid homeostatic balance.

Basal testosterone has been linked to socially dominant behaviors, and testosterone levels result from and cause behaviors that help us to approach challenges (Cuddy, 2015).

Group music therapy, muscle relaxation, and medications – such as beta-blockers – have all been studied as a treatment to music performance anxiety (MPA). A comprehensive look at many of the studies completed on performance anxiety in musicians shows the best results on blocking the anxiety comes from beta-blockers, prescribed drugs that are primarily used for the treatment of high blood pressure. These are drugs utilized to block the hormone epinephrine, a result of stresses that cause anxiety (Mayo Clinic Staff, 2016, “Beta Blockers”, para. 1).

Performance is a large part of being a musician. Music performance anxiety can hold students back and cause them to fear the idea of performing. Because performing is such a large part of music, it occurs quite often. This fear centered around performing can cause performers to seek these drugs to help them to relax or it might cause them to quit music altogether. Power posing has been known to reduce anxiety when it comes to other high-stress areas (job interviews, first dates, speeches). Using the body to fight anxiety could be a drug-free answer to treating MPA. The purpose of this study was to examine the results of power posing and body consciousness on students’ perceived music performance anxiety. The primary research question is as follows: how does positive/negative body posture affect the way students perceive their performance in front of peers, alone in practice sessions, and in front of professors?
Operational Definitions

For this study, the following operational definitions will be used:

Music Performance Anxiety (MPA) – a physical result of extra adrenaline being produced as a reaction to a potential threat.

Jury – refers to the performance exam that a music student in higher education must complete each semester they are active in individual music lessons. For participants in this study, this involves playing one or two excerpts, sight-reading (playing a piece of music that the student has not seen before), and scales for a panel of judges that is made up of three to six professors in the department of music.

Phase One – refers to the small informative study done during the spring of 2015. This consisted of a 14-question survey (appendix A) asking 40 music education majors both qualitative and quantitative questions involving their MPA.

Phase Two – refers to the main study that was completed in the fall of 2015 and spring of 2016. This consisted of meeting with the six main participants for each session, completing pre- and post-study questionnaires and interviews, pre- and post-session questionnaires, and post-session interviews.

Session – refers to one complete meeting with the researcher. A timeline of a single session is as follows: pre-session questionnaire; body posture; completing either an hour of practice, a lesson, or a studio performance; post-session questionnaire; post session interview.
Positive Body Posture/“Superman” Pose – Feet shoulder-width apart, hands in fists on hips, standing tall, head at a 90-degree angle from the clavicle. This pose was adapted from Amy Cuddy’s research. See image below.

Negative Body Posture/“Slumped” Pose – Sitting down, legs crossed, arms crossed, hunched over. This pose was adapted from Amy Cuddy’s research. See image below.
Literature Summary

The summary of literature has been divided into the three main areas of research topics used to inform this study: Music Performance Anxiety (MPA), Yoga and Performance Anxiety, and Power Posing.

Music Performance Anxiety

Hoffman and Hanrahan (2012) created a study based on teaching short-term mental skills to musicians in hopes of reducing their performance anxiety. The study was comprised of 33 musicians who were placed into two groups: a treatment and a non-treatment. The treatment group received three, hour-long sessions over three weeks in which they were taught cognitive and imagery strategies to manage performance anxiety. The first workshop began with a self-awareness exercise, allowing participants to indicate the factors holding them back during performance. They then were taught how these feelings and factors influence performance. The second workshop introduced participants to dysfunctional thought patterns, and allowed them to complete their own, identifying performance situations, their feelings and thoughts, and evidence that both supports and does not support those thoughts. The third workshop taught participants how to use self-talk effectively and utilize cues to regain concentration. Both groups were asked to give two performances; there was a three-week gap between the performances.

The researchers included the use of a heart rate monitor. Each participant was required to wear the monitor during the performance as well as have video record the entire performance. Assessment came in a three-system model of MPA: two self-report instruments (State-Trait Anxiety Inventory (STAI) and Performance Anxiety Inventory (PAI)), a physiological measure (heart rate measurements at ten, five, and one minute
prior to the performance and then averaged the three), and a behavioral measure (Behavioral Anxiety Index (BAI)). The performance quality was also assessed by two judges, a woodwind player with 15 years of experience and a fourth-year university student studying music education, who evaluated each performer on the twelve six-point scales derived from interviewing 11 judges about the underlying constructs they use to assess performance.

The study provided results in favor of short mental skill interventions targeting music performance anxiety. When asked to provide feedback on the workshops, the treatment group said that they were enjoyable, helpful and allowed them to have a better awareness of their anxiety. The study resulted in a significant reduction on the PAI in the treatment group, the performance quality was enhanced in the treatment group, and there was a significant decrease in performance anxiety from pre- to post-test in the treatment group.

Perdoma-Guevara (2014) evaluated the relationships between performers’ preferred musical genre, the way they think about their performance, and their performance-related emotions. Six hundred and twenty-five participants completed an online survey that asked for descriptions of emotions experienced during a performance, practice and daily life, as well as a conceptualization of a recent highly enjoyable public performance.

The results included a large line drawn between classical and non-classical performers. Classical performers reported significantly less elation, joy, positive arousal and confidence than non-classical performers. They reported more worry in practice sessions, as well. Patterns were discovered between the participants by conducting a
Categorical Principal Component Analysis of the emotions reported in each of the three previously stated settings (performance, practice, and daily life). Three dimensions (emotional profiles, EP) were retained: EP1, always great; EP2, fear in performance; and EP3, only great in performance. In EP1, positive emotions were higher in practice than the other two areas; in EP2, negative emotions in performance was shown as well as higher levels of positive emotions during practice as compared with daily life; in EP3, high levels of worry, fear, lack of motivation and lack of confidence, as well as an absence of positive emotions in daily life compared to a high level of all positive emotions and an absence of negative emotions during performance. Classical performers scored significantly lower than non-classical performers in EP1 and EP3 and much higher in EP2.

Classical and non-classical environments promote different approaches to performance that result in different levels of performance anxiety for each musician. A non-classical environment can include any place that music is being created outside of a “traditional” classical music group; a “traditional” classical music group includes an orchestra and/or a concert band. Classical performers were found to be significantly more self-oriented and less people-oriented than non-classical performers. The concern of most classical musicians is focused on the means to achieve musical excellence, therefore resulting in anxiety during and before performances.

Wells et al. (2012) completed a study with 46 trained musicians looking at the effects of slow breathing with or without biofeedback. The participants were separated into three groups: slow breathing with biofeedback, slow breathing without biofeedback, and a control group. Each participant was given a questionnaire and then five minutes to
examine, for the first time, one of the two previously created musical excerpts. Participants were told they would be recorded while performing this piece, and they should prepare the music to the best of their ability. After their performance, the participants moved into another room where they completed a questionnaire and the two breathing groups were taught to utilize breathing exercises. There was then another performance and questionnaire.

Each participant experienced anxiety during the first task. It was found that slow breathing with or without the biofeedback produced positive results reducing anxiety.

Taborsky (2007) completed a review of literature on musical performance anxiety. He discussed many different research studies that investigate all of the pressures around performance anxiety. Treatments such as “group music therapy, muscle relaxation, and medications” have all been discussed and utilized in trials. Increasing confidence through these treatments has lowered levels of stress and anxiety as well as the visual/physical signs of anxiety. The other main treatment that has shown to lower levels of stress and anxiety was the use of beta-blockers; these drugs were the highest aid, after group music therapy.

Kenny’s (2011) book, *The Psychology of Music Performance Anxiety*, discusses the biological and environmental interactions with anxiety and how the mind reacts to anxiety. Origins of anxiety – such as anxious apprehension, state and trait anxiety, and anxiety sensitivity – and the effect of things such as stress, arousal, activation, fear and anxiety all play a part in the reaction each person has to stress. The book goes on to discuss other factors, such as anxiety disorders and the psychological characteristics of people who suffer from anxiety.

Greene (2002) published a book – *Performance Success: Performing Your Best Under Pressure* – on techniques and ideas to help musicians perform their best under pressure. This book discusses how stress can affect a performance in both good and bad ways. Greene explains the “stress model,” which shows both the physical and psychological responses to stress, resulting in consequences in the performance. The book also describes the seven essential skills for optimal performance: determination, poise, mental outlook, emotional approach, attention, concentration and resilience. After explaining these seven skills in depth, Greene goes on to discuss how to put these skills to work and accomplish a solid performance without anxiety.

Levitin (2007) thoroughly describes how our brain reacts to the music that we listen to in his book *This is your Brain on Music: the Science of a Human Obsession*. He goes on to argue that music is “fundamental to our species,” and therefore required for our bodies, minds, and spirits. His book focuses on making the work of both scientists and musicians accessible for everyone. Levitin states, “The un-natural gap that has grown between musical performance and music listening has been paralleled by a gap between those who love music and those who are discovering new things about how it works” (p. 10).
Yoga and Performance Anxiety

Khalsa et al. (2009) devised a study to apply the calming, stress relieving, anxiety ridding effects of yoga to professional musicians to assess its ability to ameliorate performance anxiety and mood disturbance. The study included 31 participants that were randomized into three groups, a yoga intensive group, a yoga only group, and a control group. Both yoga groups attended three yoga and/or meditation classes per week over eight weeks. The second group had specifically tailored and instructed learning and practice opportunities that were only available to them (weekly problem-solving group, 60-minute session of private instruction, a two-day intensive retreat where participants received a small lecture about a key concept in yogic philosophy at the beginning of each discussion session).

Performance anxiety decreased for both the “yoga lifestyle” and “yoga only” groups and stayed the same for the control groups. Performance anxiety was reduced by the use of yoga in both groups, meaning that long-term use seems promising to continue to reduce anxiety in music performance.

Power Posing

Carney, Cuddy and Yap (2010) developed a study testing the effectiveness of high and low power poses on neuroendocrine and behavioral changes in 42 participants. The high and low power poses were determined from previous studies by Carney et al. and Hall et al. as well as the open and expansive poses that are universally linked to power. Humans and other animals have expressed power through open, large postures; they express helplessness/powerlessness with small, closed postures:
The proud peacock fans his tail feathers in pursuit of a mate. By galloping sideways, the cat manipulates and intruder’s perception of her size. The chimpanzee, asserting his hierarchical rank, holds his breath until his chest bulges. The executive in the boardroom crests the table with his feet, fingers interlaced behind his neck, elbows pointing outward (p. 1).

The neuroendocrine profiles of the power differentiation are two hormones – cortisol and testosterone. The investigators linked these neuroendocrine changes with the power poses due to past studies showing how power is linked to cortisol and testosterone levels.

A pretest was administered to 95 participants to assess the level of power by rating each pose from one (very low power) to seven (very high power). The high power poses were rated significantly higher than the low power poses.

During the study, a saliva sample was collected and frozen, electrocardiography leads were placed on each participant, and the experimenter manually configured the participants’ bodies into the high or low power pose. Participants held this pose for one minute while completing a filler task. The experimenter was not in the room and the participant was videotaped. After the pose, participants were given a gambling task to test risk-taking behavior. They also were required to give another saliva sample, which was immediately frozen.

The results indicated that the high power-power poses caused an increase in testosterone and a decrease in cortisol; low-power poses caused a decrease in testosterone and an increase in cortisol. High-power poses helped participants focus on rewards and report feelings of power and being “in charge.” The low-power pose felt the opposite and resulted in the participants being less likely to take a risk.
It was found that by simply changing one’s physical posture, he or she is able to prepare mentally and physiologically to endure stress and difficult situations. It is also possible that physical posture can help to improve confidence and performance in high-stress situations.

Cuddy, Wilmuth, Yap & Carney (2015) completed a quantitative study testing the effects of expansive and contractive poses on a job interview. Sixty-six participants were involved in the study. Each was randomly assigned a high- or low-power pose and adopted the pose for five to six minutes while preparing for a job interview speech. After holding the pose for one minute, participants were asked to, while maintaining the pose, imagine that they were about to interview for a dream job, and they needed to prepare a five-minute speech advocating for themselves and why they deserve their dream job. The participants were videotaped to ensure correct application of the pose and assignments. Upon completion of the five- to six-minute pose, participants were then asked to prepare a real speech while continuing to imagine interviewing for the dream job. Participants were told to remain in the pose while taking five minutes preparing the real speech. They were then asked to give their speech, while standing freely, and were videotaped and assessed by two experienced evaluators. After delivering the speech, participants were asked to assess how confident and in charge they felt on a five-point scale.

The evaluators were assessing the speeches by observing the non-verbal behavior and the quality and content of the speech itself. The two evaluators coded all assessment. The participants who prepared with the high-power pose did significantly better on the job interview than those who prepared with the low-power pose.
The preparatory posing affected the individual’s presence while delivering the speech, which, in turn, affected the judges’ evaluation on the participant. The high-power posers were more composed, confident, captivating, and enthusiastic. Power posing is a simple tool to facilitate psychological and behavioral changes needed to feel more confident and ready to perform during stressful situations.

Ranehill et al. (2015) conducted a conceptual replication study with similar methodology as the 2010 study by Carney et al. All 200 participants provided a saliva sample and adopted two body postures, a high- and low-power pose adopted from the replicated study, while completing a filler task. They were then given the same type of opportunity to take a risk/gamble, choose whether to solve a math exercise in a competitive or non-competitive manner, provide a second saliva sample, and fill out a questionnaire that inquired about more qualitative data.

Participants in the high-power pose reported more feelings of power than those in the low-power condition. Unlike the study completed by Carney et al., this study found no correlation between the physical position and hormone level collected in the saliva sampling.

Cuddy (2015) published a book discussing the findings of her long-term research on power posing in response to social anxiety. The book goes between Cuddy’s research and stories of people around the world who have been affected by the accessibility and also the function of the power posing Cuddy has dealt with throughout her research. In chapter five, Cuddy explains how powerlessness prevents success: “When we feel powerless, we cannot be present” (p. 112). She goes on to discuss the importance of feeling positive, and how “even someone who has achieved a certain amount of success
can be brought low by just a few negative verdicts from complete strangers” (p. 116).

Because these negative verdicts can lower self-esteem so easily, it can cause serious
mental setbacks, resulting in anxiety.

**Method**

**Design and Participants**

This research study took place over two academic years (four semesters) plus one
summer (see table 1 for timeline of study). The pre-study phase one survey was
developed in the spring of 2015; the study design was created during the summer of 2015
based on information gathered from the phase one survey; the main study, phase two,
began in the fall of 2015, and data collection was completed in the first half of the spring
2016 semester. IRB permission was acquired, and the participants and their respective
professors completed consent forms (appendices B and C).

**Table 1**

*Timeline of Study*

<table>
<thead>
<tr>
<th>Month</th>
<th>Progression</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 2015</td>
<td>Phase one questionnaires</td>
</tr>
<tr>
<td>Summer 2015</td>
<td>Development of phase two design</td>
</tr>
<tr>
<td>August 2015</td>
<td>Asked for volunteers to participate in study</td>
</tr>
<tr>
<td>September 2015-</td>
<td>Sessions with volunteers</td>
</tr>
<tr>
<td>January 2016</td>
<td></td>
</tr>
<tr>
<td>February 2016</td>
<td>Began data analysis</td>
</tr>
<tr>
<td>April 2016</td>
<td>Completed data collection and analysis</td>
</tr>
</tbody>
</table>
Phase one.

The phase one pre-study survey (see appendix A) was created and given to 40 music education majors, and the semester before the main study (phase two) began. Thirty-one music students who were either music minors, performance majors, or Bachelor of Arts students also completed the phase one survey; because solving performance anxiety through music education drove this study, the data presented in this paper is only from the music education students. The survey included Likert-type scale questions assessing participants’ level of anxiety, type of physical signs of their anxiety, area in which the most anxiety occurs, and what each student does to cope with the feelings of performance anxiety.

After the collection of the phase one data, a quasi-experimental mixed-methods research study was designed that incorporated both qualitative and quantitative data collection. Students were asked to rank from one to five (one being the most and five being the least) where they are most nervous in each of the following scenarios: in front of peers in studio, in front of a group of professors, in front of the studio professor, in a practice room, and in an ensemble. Two of the highest and the one lowest-ranked areas of anxiety reported in the phase one survey were incorporated into the study; these three areas included playing in front of peers (average response being 2.23), in front of professors in a private lesson (average response of 2.85), and alone in a practice room (average response being 4.79).

Phase two.

The researcher selected six students (see table 2) to participate in phase two. Participants were chosen based on instrument, major, age level, level of interest and
availability. The participants in this phase of the study were each given a pseudonym to protect their identity. Age levels indicated in the study are based on the semester of data collection. All participants except for Timothy completed the study playing on their primary instruments. Katie is a freshman music education major playing the alto saxophone. Jonathan is a sophomore music education major who is playing horn. Brian, trumpet, is a junior music education major. Savannah is a senior music education major who is playing clarinet, and Timothy is a junior music education major playing his secondary instrument, bassoon. The sixth and final participant is Marie, a junior performance major playing oboe.

Table 2

<table>
<thead>
<tr>
<th>Name</th>
<th>Year in School</th>
<th>Major</th>
<th>Instrument</th>
<th>Primary/Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katie</td>
<td>Freshman</td>
<td>Music Education</td>
<td>Alto Sax</td>
<td>Primary</td>
</tr>
<tr>
<td>Jonathan</td>
<td>Sophomore</td>
<td>Music Education</td>
<td>Horn</td>
<td>Primary</td>
</tr>
<tr>
<td>Brian</td>
<td>Junior</td>
<td>Music Education</td>
<td>Trumpet</td>
<td>Primary</td>
</tr>
<tr>
<td>Savannah</td>
<td>Senior</td>
<td>Music Education</td>
<td>Clarinet</td>
<td>Primary</td>
</tr>
<tr>
<td>Marie</td>
<td>Junior</td>
<td>Music Performance</td>
<td>Oboe</td>
<td>Primary</td>
</tr>
<tr>
<td>Timothy</td>
<td>Junior</td>
<td>Music Education</td>
<td>Bassoon</td>
<td>Secondary</td>
</tr>
</tbody>
</table>

*Note. One performance major was chosen as the student presented immense interest in the study and wanted to take part. Her participation in the study provided insight on comparative anxiety levels between performance and education majors.*

Each participant completed a pre-study video interview (appendix D) discussing the severity of his or her anxiety, location during which the anxiety occurs most, and physical signs and ways he or she may combat the anxiety. The researcher and each participant then set up six individual sessions/times to meet: two private lessons, two
personal practice sessions, and two performances in front of peers. Before each separate session, the participant completed a short pre-session questionnaire specific to each setting (appendices E-G) and a videotaped three-minute power pose.

The two power poses used in this study were derived from Carney et al.’s previous studies on body posture and the effect it had on anxiety in the workplace. In Carney et al.’s study, the participants were asked to complete a pose for one minute while also doing a filler task of viewing, interpreting, and executing facial expressions and emotions. This study differs from Carney et al. with the amount of time each pose requires and that each student does not complete a filler task. Each student is coming from class and being asked to focus on switching from an external subject straight to performing music. Much like “sponge” activity to draw the students into the subject in public schools, the three-minute body pose without a filler task was designed to allow the participants more time to focus on the task at hand.

The three-minute pose completed during the session was either a positive “superman” or negative “slumped” pose. The “superman” pose consisted of standing with the feet shoulder-width apart, hands in fists on the hips, standing tall, and rest the head at a 90-degree angle from the clavicle. In the “slumped” position, participants sat down with their legs crossed, arms crossed, and hunched over (see photos of positions in the operational definitions). These three-minutes were videorecorded when the researcher was not in the same room.

From there, the participant completed whichever session they were doing on his or her own for approximately 50 minutes. The participant and researcher then reconvened
to complete a post-session questionnaire (appendices H-J) and video interview (appendices K-M). See figure 1 for a timeline of each session.

**Figure 1**

Session Timeline

![Session Timeline Diagram]

*Note.* This timeline was used for each session meeting: “superman” and “slumped” personal practices, lessons, and peer performances.

**Data Collection**

**Phase one.**

The method used for data collection in this study combined both a qualitative and quantitative approach. Seventy-one phase one surveys (appendix A) were handed out in the spring semester of 2015. Each survey was given to music students as they left their final jury. There were 40 music education majors who completed the phase one session of the study and 31 music students who were either music minors, performance majors, or Bachelor of Arts students. All participants were asked to complete the survey; it included Likert-type scales rating the areas in which performance anxiety is most prevalent, the level (one being the least and ten being the most) at which anxiety occurs in different scenarios, and the type of anxiety that each person experiences. There were also open-ended questions on the questionnaire that allowed participants to fill in answers to questions such as, “What is the most prevalent physical sign of your performance anxiety,” “What do you do to help combat your performance anxiety,” or “Was your high school band program competitive.”
Phase two.

During the main study, each pre- and post-session questionnaire (see appendices E-J) included a Likert-type scale determining the level at which their anxiety rated from one (least) to ten (most). The questionnaires also included open-ended questions to allow participants to express the feelings they had: “Do you feel prepared for this lesson,” and “Describe your positive/negative feelings toward the material you will be covering in your performance today.” The individual video interviews were transcribed for analysis, and the qualitative data from the questionnaires were grouped with the individual responses from the participants’ interviews.

Data Analysis

All data from phases one and two were analyzed using the same systems but were kept separate for organizational purposes. The quantitative data collection resulted in graphing of the numbers that participants reported. Because of this, data analysis included individual responses and average levels at which the participants’ anxiety level rested before and after each session. After the averages were derived, it became simple to discover which pose had more of an effect on the participants.

Qualitative data analysis was based on the questionnaires, surveys and individual video interviews. Because each participant filled out the same questionnaires/surveys and followed the same interview prompt, coding was used to find similar themes that emerged between each participant.
Results

Because this study incorporated mixed methodologies, different types of results will be presented. In “phase one,” quantitative data will be explained in text and then shown in a table. “Phase two” will begin with qualitative data, including quotes, and then quantitative data will be presented in the text and in tables. The main qualitative themes that occurred in the data collection are presented together in paragraph format.

Phase One

Quantitative data was collected in three main areas: reported anxiety levels in different scenarios, physical signs of performance anxiety on a scale of one (least) to ten (most), and the location in which each participant experienced the most anxiety. Table 3 shows the average of all reports of each physical form of performance anxiety (sweaty hands, shaking, shortness of breath, and weak knees). In the survey, the option “other” was also available for participants to fill in a different physical form of their performance anxiety.

Table 3

<table>
<thead>
<tr>
<th>Sweaty Hands</th>
<th>Shaking Hands</th>
<th>Shortness of Breath</th>
<th>Weak Knees</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.875</td>
<td>6.175</td>
<td>4.525</td>
<td>3.4</td>
</tr>
</tbody>
</table>

*Note. Averages were taken from Likert-type scales ranging from one (least) to ten (most).*

Fifteen participants described physical forms of anxiety other than the previous four mentioned. Responses included: forgetting music, dry mouth, fatigue, numbness in hands and arms, uneasy breath, increased heart rate and anxious movement (swaying, pacing, biting the lip). Seven of the fifteen reports included dry mouth, making it the most prevalent of the open-ended responses given.
Data was also collected on the length of time each student had been playing his or her primary instrument and what year in school they were at the time. Tables 4-6 show the length of musical study for each phase one participant, if they experience performance anxiety (PA), where they experience the most (one) performance anxiety to the least (five), and the level of their performance anxiety (one being least and ten being most) in five scenarios: in front of peers, a group of professors, their studio professor, in a practice room, and in an ensemble. The tables are separated by age group: table 4 is freshman, table 5 is sophomores, and table 6 includes one senior and eight juniors. The results showed that participants were less nervous in the practice room and most nervous in front of their studio professors or peers. Participants had more pronounced physical signs of their performance anxiety in front of an audience (professors or peers).

Table 4

<table>
<thead>
<tr>
<th>Length of Study</th>
<th>Do you get PA</th>
<th>Group of Prof</th>
<th>Studio Prof</th>
<th>Practice Room</th>
<th>Ensemble</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yrs in music</td>
<td>Peers (1 = most, 5 = least)</td>
<td>Peers (1 = least, 10 = most)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Y</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>6 Y</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8 Y/N</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8 Y</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
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<tr>
<td>9 Y</td>
<td>2</td>
<td>1</td>
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<td>9 Y</td>
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<tr>
<td>9 Y</td>
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<tr>
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<td>9 Y</td>
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<td>9 Y</td>
<td>4</td>
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<td>5</td>
<td>3</td>
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<tr>
<td>9 N</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>4</td>
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<tr>
<td>10 Y</td>
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<tr>
<td>10 Y</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>4</td>
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<tr>
<td>11 Y</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>13 Y</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

Note. PA = Performance Anxiety. The section “Length of Study, yrs in music,” shows the amount of years that each participant has studied music/been involved in music. Students ranked the places in which they were most nervous from one to ten and rated their performance anxiety in those places on a scale from one to ten.
Table 5
Sophomore Pre-Study Survey

<table>
<thead>
<tr>
<th>Yrs in music</th>
<th>Do you get P.A.</th>
<th>Peers</th>
<th>Group of Prof</th>
<th>Studio Prof</th>
<th>Practice Room</th>
<th>Ensemble</th>
<th>Peers</th>
<th>Group of Prof</th>
<th>Studio Prof</th>
<th>Practice Room</th>
<th>Ensemble</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 Y</td>
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<td>2</td>
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<td>4</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9 Y</td>
<td></td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>7</td>
<td>10</td>
<td>8</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9 Y</td>
<td>Y/N</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>10</td>
<td>7</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10 Y</td>
<td></td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10 Y</td>
<td></td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>7</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>11 Y</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>7</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>6</td>
</tr>
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<td>4</td>
</tr>
<tr>
<td>12 Y</td>
<td></td>
<td>2</td>
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<td>3</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>7</td>
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<td>1</td>
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<td>5</td>
<td>4</td>
<td>10</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 6
Junior and Senior Pre-Study Survey

<table>
<thead>
<tr>
<th>Yrs in music</th>
<th>Do you get P.A.</th>
<th>Peers</th>
<th>Group of Prof</th>
<th>Studio Prof</th>
<th>Practice Room</th>
<th>Ensemble</th>
<th>Peers</th>
<th>Group of Prof</th>
<th>Studio Prof</th>
<th>Practice Room</th>
<th>Ensemble</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 N</td>
<td></td>
<td>1</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>7</td>
</tr>
<tr>
<td>5 Y</td>
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<td>2</td>
</tr>
<tr>
<td>10 Y</td>
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<td>6</td>
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<tr>
<td>11 Y</td>
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<tr>
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<td>4</td>
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<td>5</td>
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<tr>
<td>13 Y</td>
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<td>5</td>
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<td>3</td>
<td>8</td>
<td>7</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Note. Only one senior completed the study; his/her responses are italicized. The seventh participant down did not complete the section in which there are no responses.
Phase Two

Interviews with participants.

Each of the six participants in the main study took part in a pre-study video interview that was finished before their sessions began (see appendix D). All six participants reported anxiety during individual performances. Participants felt that performance anxiety has held, and continues to hold, them back. Marie stated in her beginning interview, “I feel like I would […] love my life and what I do if it weren’t for my performance anxiety. I feel like all the things I’m scared about all revolve around me performing” (Marie; pre-phase two interview, p. 1). These video interviews were transcribed and coded and most participants commented on intrinsic versus extrinsic motivation and good versus bad pressures to perform, and the following sections expand upon their statements.

Good versus bad pressures.

Jonathan, Katie, Brian, and Savannah stated they have felt pressured to perform from external sources – teachers, parents, private instructors, etc. – which created feelings of anxiety. Timothy explained,

..in high school, our philosophy was very much on performance. Like, we had to perform well or we didn’t learn anything in band class. And then here, and the professors, I mean, they want you to perform well... all the time (Timothy; pre-phase two interview, p. 1).

However, Katie and Brian did explain that they felt that much of the pressure from the teachers was healthy, rather than unhealthy. Brian explained the difference between unhealthy and healthy external pressure in his beginning video interview,
Well, it all falls under peer pressure. So the healthy pressure would be like, ‘This person is playing extremely well in the studio, so I want to be able to play as well because it sounds good.’ But the negative pressure could be more like, ‘If I don’t perform well then this is going to happen,’ or, ‘If I don’t perform well then I could fail out of the whole performance…’ (Brian; pre-phase two interview, p. 2).

**Intrinsic versus extrinsic motivation.**

When motivation was discussed, there were six mentions of extrinsic and three of intrinsic. Katie felt that her band director in high school:

> Really pushed us to try to do well with everything we did. So […] he pushed us to do IME[C] (Illinois Music Educator Conference) and stuff like that so I feel like he made me perform better because of that. So, not a negative (Katie; pre-phase two interview, p. 1).

Jonathan explains that he feels motivation to perform well, but that it is an internal pressure to perform well. He describes it more as a “need” to play well and do well as a musician (Jonathan; pre-phase two interview, p. 1). The participants who stated more intrinsic motivation reported fewer external pressures, whereas the students who had more extrinsic motivation reported much more.

**Main study.**

Not all participants were able to complete each and every session. All participants completed both the peer performance and practice sessions, whereas three participants did not complete the lessons with professors in full due to the difficulty in scheduling for all three people involved in the lesson sessions. The data reported in the results section includes the information from all completed sessions.
During the extent of the study, qualitative and quantitative data was collected through pre- and post- session questionnaires that included a Likert-type scale (see appendices D-I). These scales rated the level of anxiety each participant was experiencing both before and after each session; another scale asked participants to rate the way each pose affected them in a positive and negative manner. There were also questions that allowed students to explain the positive and negative feelings toward the material they covered in each session and what physical signs of performance anxiety they experienced.

After each session, participants also completed a video interview (see appendices J-L). It was reported that after the “superman” personal practice session Jonathan, Brian, Savannah, and Timothy believed they were more productive while Maddie and Katie felt they were as productive as normal. After the “slumped” personal practice session, Maddie, Katie, Savannah, and Jonathan felt they were less productive, and Brian and Timothy felt that the pose helped them to really focus on their material; therefore, they felt more productive.

During the “superman” lesson sessions, Jonathan reported feeling less nervous to go into the lesson and Katie and Brian reported feeling more nervous. Katie explained that she is not usually nervous for her lessons, but because she was so focused on eliminating anxiety, it made her feel like she should be nervous. It “psyched [her] out a little” (Katie; post-lesson questionnaire). After the “slumped” lesson sessions Jonathan felt more nervous while Brian felt less nervous; Katie felt as nervous as usual.

After the “superman” studio performance, Brian, Savannah, and Jonathan were less nervous to perform. Maddie and Katie experienced normal anxiety. Timothy
explained that he was “more nervous than playing by [him]self” (Timothy; post-study interview, p. 3). All participants, with the exception of Maddie, completed the negative studio performance session. They all felt that they were more nervous after the “slumped” studio performance session. Jonathan explained that he “felt a little constricted prior to and during the first piece. [He] relaxed by the time [he] reached the second” (Jonathan; post-studio questionnaire).

Participants reported many physical signs of performance anxiety throughout the study. Katie gave reports of shaking and sweaty hands twice, and a flushed face two times. She explained that when she gets shaky, it affects her fingers and therefore her playing (Katie; pre-phase two interview, p. 1). Brian gave a report of twitching, increased heart rate and energy, dry mouth, and shaking. Jonathan reported having an upset stomach, increased heart rate and energy, and tension. Timothy experienced shortness of breath. Maddie reported pain due to tension four times, an increased heart rate, and a headache. Savannah experienced shaking, pain due to tension three times and three accounts of sweating.

Participants reported that by standing in the “superman” pose for three minutes, the positive effect was much greater than the negative (see table 7). When asked to rate how the “superman” affected them in a positive manner, participants reported 6.12 out of 10; when asked how the pose affected them in a negative manner, participants responded with an average of 1.83 out of 10 (6.12/10 > 1.83/10). This reports a difference of 4.29 between the positive and negative effects of the “superman” pose. After sitting in the “slumped” pose for three minutes, it was reported the average positive effect was smaller than that of the negative (3.42/10 < 4.75/10). This reports a difference of 1.33 between
the positive and negative effects of the “slumped” pose. In his post-study interview, Jonathan explained that “the ‘superman’ pose reduced nervousness and stress the most; it reinforced internal confidence, and was helpful with breathing. My body felt more stable” (Jonathan; post-study questionnaire).

| Table 7 | Overall Perceived Positive and Negative Effects of Poses |
|-----------------|-----------------|-----------------|-----------------|
|                | “Superman”      |                | “Slumped”       |
| Positive Manner| 6.12            | 1.83           | 3.42            | 4.75 |

Note. Averages were based on responses on a Likert-type scale of one (least) to ten (most).

Post-study questionnaire.

Participants completed a post-study questionnaire (see appendix N) that included both Likert-type and open-ended questions. Participants were asked to rate how much each body consciousness exercise affected the anxiety in both a positive and negative manner during peer performance and personal practice sessions (see table 8). During the “superman” peer performance, participants reported a higher positive influence than negative (6.5/10 > 2.33/10); in the “slumped” peer performance, participants reported lower positive influence than negative (2.5/10 < 4.5/10). After completing the “superman” and “slumped” postures for the personal practice sessions, participants reported higher positive influence than negative (5.83/10 > 1.33/10) during the “superman” session and a lower positive influence than negative (4.33/10 < 5/10) during the “slumped” session.

| Table 8 | Session-Specific Positive and Negative Influences of Poses |
|-----------------|-----------------|-----------------|-----------------|
|                | “Superman”      |                | “Slumped”       |
| Positive       | 5.83            | 1.33           | 4.33            | 5 |
| Negative       | 6.5             | 2.33           | 2.5             | 4.5 |

Note. Averages were based on responses on a Likert-type scale of one (least) to ten (most).
As seen in figure 2, participants were asked to rate their performance anxiety in the three scenarios: after they completed the “superman” pose, “slumped” pose, and the anxiety they have normally without partaking in either pose.

![Average Anxiety Levels](image.png)

Maddie, Katie, Savannah, Timothy, and Jonathan reported that the “superman” pose helped reduce the physical signs of their performance anxiety. The “slumped” pose helped reduce the physical signs of Brian’s performance anxiety. Each participant stated that the pose that helped them was effective because it reduced the performance anxiety symptoms they have, instilled confidence, and helped to relax them before their session.

Four main themes emerged from the post-study questionnaire: reduction/increase in anxiety, confidence, sense of calm, and breathing. These four themes will be discussed simultaneously due to the connections of the themes throughout the data.

Participants were asked which pose they felt was most effective in negatively and positively influencing their performance anxiety. Five of the six participants felt as though the “slumped” position had more of a negative effect on their anxiety and reported...
things such as pain, increased physical nervousness, worsened playing, feeling
constricted, having less confidence, and feeling more anxiety as the result of the pose.

Brian felt that the “superman” pose negatively affected his performance anxiety. He explained,

>This is probably a different result than I had initially expected. The action, meant to instill a sense of increased self-confidence in myself, only really succeeded in making me a little more self-conscious of my level of humility (or lack thereof) at the time (Brian; post-study questionnaire).

The five participants who felt that the “superman” pose had more of a positive influence on their performance anxiety had different reasons for why they felt better after the pose. Katie and Jonathan felt more confident; Jonathan and Samantha felt as though the pose had an effect on the physical aspects of their anxiety. Jonathan said that the “superman” pose allowed his lungs to open up. Samantha explained that by standing up straight, the pose allowed her blood to flow well, her lungs to breathe evenly, and her body to just “chill out” overall.

When asked if either of the poses helped to reduce the physical signs of the participants’ performance anxiety, five of the six participants said that the “superman” pose reduced the physical signs of their performance anxiety. Brian, who felt the “slumped” position helped him most with physical signs of performance anxiety, explained that it “forced [his] mind to be at ease for a few minutes, and in turn enabled [him] to calm [his] thoughts and focus on the immediate task, rather than dwell on the endless supply of worries and tasks that needed to be done” (Brian; post-study questionnaire). The other five participants felt that the “superman” pose eliminated the
sick-to-the-stomach feeling, reduced nervousness, reinforced internal confidence, allowed
for relaxation, helped increase the feeling of stability, prevented shaking and sweating in
the palms, improved breathing, and helped instill powerfulness.

Each participant stated that one of the two poses worked to reduce his/her
performance anxiety. The pose helped the participants to feel more confident in the
performance, calm them down before their performance, and help to regulate and focus
on their breathing. The opposite pose had the opposite effects and ended up increasing
each participant’s performance anxiety. All six participants stated that they would utilize
this exercise outside of the study to help reduce their performance anxiety.

**Discussion**

The study shows that body consciousness results in a lower perceived level of
anxiety in music. This means that power posing is a healthy way to contest performance
anxiety. Power posing can be used in one-on-one settings and allows performers to tackle
their performance anxiety quickly and efficiently.

This research was based on the work of Amy Cuddy and her study on power
posing before high-stress situations. Cuddy focused on the hormonal changes and risk-
taking behavior due to power posing whereas this study investigated how the power
poses would affect the participants’ perception of their own anxiety and, though slightly
different in the approach, found the same conclusion as Cuddy: positive power posing
reduced anxiety. Her studies and this study differed in the following ways: she used a
filler task for participants during the power pose (this study did not), her pose only lasted
one minute (the pose in this study lasted for three), and she kept track of participants’
levels of testosterone and cortisol (which was beyond the scope of this study). I decided
to not have the students complete a filler task and complete a three-minute pose (rather than one minute) because I understand how difficult it can be to focus the brain on a task after coming straight from something completely different. In public schools, classroom teachers utilize a small, “sponge” activity at the beginning of the hour to help their students to focus on their subject.

The results from this study can also pose a question as to how music classrooms are set up. In ensemble classrooms, the director stands on a podium to help all students see them, but this places students physically lower than the director and the students are often hunched over their music. In general music classrooms, students are usually sitting on the floor or at a desk. Both areas naturally induce bad posture, which results in slouching, and can play a large part in the anxiety/perception of success a student is having in the classroom. In music especially, it is crucial that teachers enforce sitting up straight and having great posture, as this may help to fight performance anxiety that is occurring during rehearsals or performances.

It is possible that each pose works best for particular types of students. Five students responded best to the “superman” pose and one student responded best to the “slumped” pose. The specific student, Brian, that responded best to the slumped position is very high-energy and seemed to respond best to this position because it calmed him down and focused his energy on the task at hand. If the student is high-energy and has a difficult time focusing, the “slumped” pose might be best for him/her. On the contrary, students who struggle with self-confidence or self-esteem might benefit most from the “superman” pose.
One student, Katie, had a hard time with the “superman” pose during her “lesson with a professor” session because it made her overthink what she was doing. She ended up having a negative perception of her anxiety because she completed the pose even though she was not originally nervous to partake in the session. This caused a similar reaction to reverse psychology, and she became more nervous because of the pose.

Each participant responded positively to at least one of the poses, supporting a need to consider using power poses in music settings. The results of this study suggest that body consciousness does play a large role in performance anxiety in musicians and can have a strong influence on their perceived anxiety levels. Body consciousness provides a drug-free, safe, and easy alternative to combating performance anxiety.

**Future Research**

A larger physiological study on body consciousness including data such as heart rate and blood pressure could lead to more quantitative results. Because this study had limited time and resources, it was impossible to include these different types of data collection. Tracking more physical signs of performance anxiety with measurable data would add more to the physical results of power posing in music performance anxiety.

Researchers could investigate the effects of power posing in large ensemble settings. Although power posing has been known to help students on the individual level, it has not been observed in a large group setting, such as a performance ensemble in a public school. This could help public school teachers instruct their students in techniques to help lower their MPA. Previous studies on power posing on the individual level might suggest that the same positive outcome would be the result of group power posing. However, each student is different and, as seen in this particular study, different
personality types might lead to different results from the poses. A study comparing and contrasting the two poses with different personality types could also be beneficial to public school music programs.

A replication of this specific study with a larger sample size could help to support the results found in this study. It was found that if a student was not experiencing anxiety, completing a power pose had a reverse effect on their anxiety. A study on how the poses affect the anxiety level of students who were and were not experiencing anxiety in the first place could help to clarify the effectiveness of each pose.

**Conclusion**

Combating MPA can take many forms, but this study shows that power posing is a healthy, drug-free, and easily applied remedy to performance anxiety in musicians and can reduce physical signs of anxiety before a performance. By standing in a powerful body posture for three minutes before a performance, musicians can reduce the physical signs of MPA. Shaking hands, high heart rate, increased perspiration, shortness of breath, and other physical signs that go along with anxiety can be diminished as well. Being conscious of body posture makes it possible to reduce performance anxiety and nervousness to perform.

Music educators should use information from this research study to develop ideas and adaptations to help their students reduce performance anxiety. Performing with little anxiety allows for students to learn that playing music can be an exciting, low-pressure activity; this opens doors for music education and consistent enrollment in the program, as many students quit music because it can be scary and sometimes causes anxiety. By using this treatment for MPA, music teachers can help their students focus on the music
itself, and therefore create a more welcoming environment for learning. This results in a longer participation in music programs, which develops into something every music teacher dreams for their students: a life-long love for, and participation in, music.
Bibliography


Annotated Bibliography


This source is the main research article that articulates the effects of power posing and how they can change the level of hormones in the brain. This source helped to fully understand Cuddy’s actual project and figure out exactly how to design this particular research study.


This source was the primary informant to the idea of power posing. Amy Cuddy’s Ted talk was the main inspiration for the concept of power posing in music performance, as well. This particular book allowed fuller understanding of Cuddy’s work and how it could work in this particular research setting.


This is another informative source about the ways power posing can affect people in high-stress environments. The results are in cohesion with the other studies completed by Cuddy, et al.


Greene’s book helped to explain what the physical side effects are from the hormonal changes in a performer’s brain. It was along the same line as the Watson book, and worked as one with Watson’s information on the brain’s hormone level as anxiety ran its course. Greene explained how these changes came into play with musicians and their ability to play their music.

Harinath, K., Malhotra, A. S., Pal, K., Prased, R., Kumar, R., Kain, T. C., et al. (2004). Effects of Hatha yoga and Omkar mediation on cardiorespiratory performance,
psychologic profile, and melatonin secretion. *Journal of Alternative and Complementary Medicine, 10*(2), 261-268

This source helped to solidify the idea of body posture as a way to combat anxiety levels. It falls into the same category as the studies completed by Khalsa, Michalsen, and Ray.


This study was important when it came to learning cognitive strategies to combat anxiety. This plays a part in my study, as the power poses create a change in cognitive processes in the brain and how they can block the reactions to the hormonal changes.


This source is in relation to the idea of body posture in combatting signs of anxiety. Khalsa’s research was centered around yoga and how it can change the mood and high anxiety performance of people in general. This specific source was specifically targeting mood and anxiety in musicians by using yoga as a preventative. This study was extremely important when it came to my study, as body consciousness poses and yoga are very similar.


*Kenny, Watson, Levitin, and Greene were the main informants when it came to the actual physical and psychological responses to anxiety. Kenny’s book was extremely important to explaining the actual biological and environmental interactions with anxiety and how exactly the mind and body physically and mentally react to them.*


*This book was focused primarily on making the work of scientists and musicians accessible to everyone by combining their work into one. Levitin explained what goes on in the brain (scientifically) when the body experiences stresses from music performance.*

This study looked at memory retention after yoga. It was important to this study, as memory is one of the main things that is affected when it comes to performance anxiety. Much like the Khalsa study, it is done through yoga, which is another form of body posture.


This website was for the clinical use of Beta Blockers. Beta Blockers can be used to combat performance anxiety, but their purpose is really for high blood pressure.


Michalsen’s study was mainly an informant for how influential yoga can be in combatting anxiety and other reactions to stress.


This study was informative when it came to anxiety in different genres of music. Perdoma-Guevara was interested in the level of anxiety musicians faced depending on the genre of music he/she was playing. This was important to the study, as all of the students in my research were classically trained musicians.

This source played the devil's advocate in my research study. It allowed the study to be well-rounded and have a complete, and solid, understanding of how effective the power posing can be/cannot be.


This source showed other research resulting in the positive and negative results of body posture in a general setting. It was important to gather as much information on body posture as was possible, to help to inform the main concept of this study and how to formulate the decisions made to design the study.


This was mainly an informative literature review that discussed the different areas in which music performance anxiety occurs and the way performance anxiety displays itself in people.


This book - along with Levitin, Greene, and Kenny - informed most all of the biological information on what goes on in the brain when it undergoes stress. It allowed for a deeper understanding of the chemical/hormonal imbalance that is the result of performance anxiety.


*This study helped to enforce the idea of breathing lowering anxiety levels in musicians. Breathing and meditation is one typical way to combat anxiety and nervousness before a performance.*
Thank you for agreeing to participate in this study! By completing the survey, you are consenting to participation in the pre-study, which just includes this survey. The survey is anonymous. Please answer the questions below. You may skip questions that you are not comfortable answering. Please complete the survey during the next few minutes and submit to Christina Farley. Thank you!

Instrument: ____________________________ Is this your primary instrument? ___________

Major: ____________________________ Is this your Advanced Placement jury? Y  N

Year in school: Freshman  Sophomore  Junior  Senior  Senior+

1. How long have you played this instrument/formally studied singing?

2. Do you get performance anxiety?
   a. Yes.
   b. No.

3. Please rank (from 1 [most]-5 [least]) where are you most nervous:
   _____ In front of peers in studio.
   _____ In front of a group of professors.
   _____ In front of your studio professor.
   _____ In a practice room.
   _____ In an ensemble.

4. Rate your anxiety level for each scenario:
   a. Playing in front of peers in studio.

      1  2  3  4  5  6  7  8  9  10
      (hardly nervous) (moderately nervous) (very nervous)

   b. Playing in front of a group of professors.

      1  2  3  4  5  6  7  8  9  10
      (hardly nervous) (moderately nervous) (very nervous)

   c. Playing in front of your studio professors.

      1  2  3  4  5  6  7  8  9  10
      (hardly nervous) (moderately nervous) (very nervous)
d. Playing in a practice room.

   1 2 3 4 5 6 7 8 9 10
   (hardly nervous) (moderately nervous) (very nervous)

e. Playing in an ensemble.

   1 2 3 4 5 6 7 8 9 10
   (hardly nervous) (moderately nervous) (very nervous)

5. To what degree does each of the following occur when you are nervous?

   a. Sweaty hands

       1 2 3 4 5 6 7 8 9 10
       (hardly) (moderately) (very much)

   b. Shaking in the hands/arms/fingers

       1 2 3 4 5 6 7 8 9 10
       (hardly) (moderately) (very much)

   c. Shortness of breath

       1 2 3 4 5 6 7 8 9 10
       (hardly) (moderately) (very much)

   d. Weak knees

       1 2 3 4 5 6 7 8 9 10
       (hardly) (moderately) (very much)

   e. Other: ___________________

6. What do you generally do to help your anxiety before a performance? Check all that apply.

   _____Eat particular foods

   _____Exercise

   _____Give yourself a pep talk

   _____Take beta blockers

   _____Other: ___________________

7. What is the most helpful aid with your performance anxiety? Circle one.

   a. Eating particular foods
b. Exercise  

c. Give yourself a pep talk  

d. Take beta blockers  

e. Other:____________________

8. How does your attitude toward the music that you are playing affect your performance?

   1  2  3  4  5  6  7  8  9  10
   (hardly)  (moderately)  (very much)

9. How nervous do you get when you are moderately prepared for a lesson?

   1  2  3  4  5  6  7  8  9  10
   (hardly nervous)  (moderately nervous)  (very nervous)

10. How nervous do you get when you are extremely well prepared for a lesson?

   1  2  3  4  5  6  7  8  9  10
   (hardly nervous)  (moderately nervous)  (very nervous)

11. How nervous do you get when you are not well prepared for a lesson?

   1  2  3  4  5  6  7  8  9  10
   (hardly nervous)  (moderately nervous)  (very nervous)

12. Did you have a competitive high school music program?

   a. Yes  
   b. No  

13. When did you start getting nervous to perform?

   a. Middle school  
   b. High School  
   c. College  
   d. I cannot remember when it started.  
   e. I don’t get nervous.

14. Do you have anything else dealing with your performance anxiety that you would like to add?

Thank you for taking the time to complete this survey; your help is greatly appreciated!
CONSENT TO PARTICIPATE IN RESEARCH

Body Consciousness: the Key to Performance Anxiety in Musicians?

You are invited to participate in a research study conducted by Christina Farley and Dr. Danelle Larson, from the Music Department at Eastern Illinois University. Your participation in this study is entirely voluntary. Please ask questions about anything you do not understand, before deciding whether or not to participate.

You have been asked to participate in this study because you are an active performer in the music department. Students from different years in school, instrument groups, and majors within the department have been invited to participate in this study.

- PURPOSE OF THE STUDY

This study is designed to investigate the effect of body consciousness on performance and performance anxiety.

- PROCEDURES

If you volunteer to participate in this study, you will be asked to:

I will conduct and audio/video record an interview with you to assess your baseline performance anxiety. We will then complete six sessions (one positive and one negative before studio, lesson and practice).

1. Positive before studio:
   a. I will meet with you and teach you positive body postures prior to studio. This step will be video taped.
   b. You will complete a pre and post survey reporting your perception of the effects of the posture on your performance anxiety.
   c. You will complete a brief interview after studio in a practice room in the music department. The interview will be audio and video recorded.

2. Negative before studio:
   a. I will meet with you and teach you negative body postures prior to studio. This step will be video taped.
   b. You will complete a pre and post survey reporting your perception of the effects of the posture on your performance anxiety.
   c. You will complete a brief interview after studio in a practice room in the music department. The interview will be audio and video recorded.

3. The process described in numbers one and two will be repeated in two additional settings (lessons and personal practice sessions).
4. The researcher will not sit in on the sessions and performances and the sessions will not be audio and video recorded. The purpose of this study is to collect data on your self-reported performance anxiety, not performance success.

- **POTENTIAL RISKS AND DISCOMFORTS**

There will be minimal risk for you. Preliminary surveys will be given after you perform so you are not negatively influenced. Potential risks for you include discussion and focus on performance anxiety, which may negatively affect performance in lessons and in studio, which are university courses and are graded. Potential benefits include new knowledge of strategies to minimizing performance anxiety, which affects many student musicians. The benefits outweigh the risks because you will learn coping techniques and strategies to help eliminate performance anxiety.

- **POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY**

It is possible that you will receive a benefit from participating in this study if the positive body posture truly helps your performance anxiety.

- **CONFIDENTIALITY**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Data will be collected via notes, audio recordings, surveys, video recordings and interviews. All data collected will be stored in a locked cabinet in a professor’s office in the basement of the Doudna Fine Arts Center for up to ten years. Audio and video recordings may be used in presentations. Once the study and presentations are complete, video and audio recordings will be erased and hard copy data will be shredded.

- **PARTICIPATION AND WITHDRAWAL**

Participation in this research study is voluntary and not a requirement or a condition for being the recipient of benefits or services from Eastern Illinois University or any other organization sponsoring the research project. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind or loss of benefits or services to which you are otherwise entitled. There is no penalty if you withdraw from the study and you will not lose any benefits to which you are otherwise entitled.

You may also refuse to answer any questions you do not want to answer.

- **RIGHTS OF RESEARCH SUBJECTS**

If you have any questions or concerns about the treatment of human participants in this study, you may call or write:
You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB is an independent committee composed of members of the University community, as well as lay members of the community not connected with EIU. The IRB has reviewed and approved this study.

If you have any questions about the study, feel free to contact:

Christina Farley  
clfarley@eiu.edu

Dr. Danelle Larson  
dlarson@eiu.edu  
(217) 581-7201

I voluntarily agree to participate in this study. I understand that I am free to withdraw my consent and discontinue my participation at any time. I have been given a copy of this form.

________________________________________
Printed Name of Participant

________________________________________
Signature of Participant ________________________ Date

I, the undersigned, have defined and fully explained the investigation to the above subject.

________________________________________
Signature of Investigator ________________________ Date
APPENDIX C
(IRB Consent Form, Professor)

CONSENT TO PARTICIPATE IN RESEARCH

Body Consciousness: the Key to Performance Anxiety in Musicians?

You are invited to participate in a research study conducted by Christina Farley and Dr. Danelle Larson, from the Music Department at Eastern Illinois University. Your participation in this study is entirely voluntary. Please ask questions about anything you do not understand, before deciding whether or not to participate.

You have been asked to participate in this study because you are a studio professor in the music department. All private studio professors of the student participants have been invited to participate in this study.

- PURPOSE OF THE STUDY

This study is designed to investigate the effect of body consciousness on performance and performance anxiety.

- PROCEDURES

If you volunteer to participate in this study, you will be asked to complete a survey, after having a lesson with the student participant, answering questions based on your observations from the lesson. This will occur twice.

- POTENTIAL RISKS AND DISCOMFORTS

There will be minimal risk for you. You will be asked to complete a short survey immediately following the performance of your student in two studio sessions and two private lessons.

- POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Potential benefits for your students may include strategies for reducing performance anxiety.

- CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Data will be collected via surveys. All data collected will be stored in a locked cabinet in a professor’s office in the basement of the Doudna Fine Arts Center for up to ten years. Once the study and presentations are complete, hard copy data will be shredded.

- PARTICIPATION AND WITHDRAWAL
Participation in this research study is voluntary and not a requirement or a condition for being the recipient of benefits or services from Eastern Illinois University or any other organization sponsoring the research project. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind or loss of benefits or services to which you are otherwise entitled.

There is no penalty if you withdraw from the study and you will not lose any benefits to which you are otherwise entitled.

You may also refuse to answer any questions you do not want to answer.

- **RIGHTS OF RESEARCH SUBJECTS**

If you have any questions or concerns about the treatment of human participants in this study, you may call or write:

Institutional Review Board  
Eastern Illinois University  
600 Lincoln Ave.  
Charleston, IL  61920  
Telephone: (217) 581-8576  
E-mail: eiuirb@www.eiu.edu

You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB is an independent committee composed of members of the University community, as well as lay members of the community not connected with EIU. The IRB has reviewed and approved this study.

If you have any questions about the study, feel free to contact:

Christina Farley  
clfarley@eiu.edu

Dr. Danelle Larson  
dlarson@eiu.edu  
(217)581-7201

I voluntarily agree to participate in this study. I understand that I am free to withdraw my consent and discontinue my participation at any time. I have been given a copy of this form.
I, the undersigned, have defined and fully explained the investigation to the above subject.

Signature of Investigator  Date
APPENDIX D
(Student Pre-Study Interview)

1. Describe the physical signs of your performance anxiety.
2. Have you ever done anything to attempt to rid yourself of performance anxiety? If so, what?
3. Do you feel your performance anxiety holds you back? In what ways?
4. Do you have performance anxiety in any area other than music (public speaking, group work, etc.)?
5. Would you describe yourself as a shy person? Outgoing?
6. Was the music department in your school competitive? How?
7. Do you feel that you were ever pressured to perform well? When?
8. Have you ever performed without performance anxiety? If so, when? What was the occasion?
9. Is there one environment in which you have more performance anxiety? Where?
10. Has your anxiety ever prevented you from performing?
APPENDIX E
(Pre-Practice Questionnaire)

1. Rate your current anxiety level:

   1  2  3  4  5  6  7  8  9  10
   (hardly nervous)  (moderately nervous)  (very nervous)

2. Do you have a current physical sign of your anxiety?

3. How much time do you have for this practice session?

4. Describe your positive/negative feelings toward the material you will be working on?

5. Have you done anything prior to this practice session that helps with anxiety?
APPENDIX F
(Pre-Studio/Divisional Questionnaire)

1. Rate your current anxiety level:

   1     2     3     4     5     6     7     8     9     10
   (hardly nervous) (moderately nervous) (very nervous)

2. Do you have a current physical sign of your anxiety?

3. For how long have you been working on this music?

4. Describe your positive/negative feelings toward the material you will be performing?

5. Have you done anything prior to this performance that helps with anxiety?
APPENDIX G
(Pre-Lesson Questionnaire)

1. Rate your current anxiety level:

   1   2   3   4   5   6   7   8   9   10
   (hardly nervous)   (moderately nervous)   (very nervous)

2. Do you have a current physical sign of your anxiety?

3. Do you feel prepared for this lesson?

4. Describe your positive/negative feelings toward the material you will be covering in your lesson today?

5. Have you done anything prior to this lesson that helps with anxiety?
APPENDIX H
(Post-Practice Questionnaire)

1. Rate your current anxiety level:

   1 2 3 4 5 6 7 8 9 10
   (hardly nervous) (moderately nervous) (very nervous)

2. Do you have a current physical sign of your anxiety?

3. Describe your positive/negative feelings toward the material you covered in your practice session?

4. How much did the body consciousness exercise affect your rehearsal in a positive manner?

   1 2 3 4 5 6 7 8 9 10
   (hardly) (moderately) (very much)

5. How much did the body consciousness exercise affect your rehearsal in a positive manner?

   1 2 3 4 5 6 7 8 9 10
   (hardly) (moderately) (very much)

6. Is there anything else about your experience you would like to add?
APPENDIX I
(Post-Studio/Divisional Questionnaire)

1. Rate your current anxiety level:
   1  2  3  4  5  6  7  8  9  10
   (hardly nervous) (moderately nervous) (very nervous)

2. Do you have a current physical sign of your anxiety?

3. Describe your positive/negative feelings toward the material you covered in your performance?

4. How much did the body consciousness exercise affect your performance in a positive manner?
   1  2  3  4  5  6  7  8  9  10
   (hardly) (moderately) (very much)

5. How much did the body consciousness exercise affect your performance in a positive manner?
   1  2  3  4  5  6  7  8  9  10
   (hardly) (moderately) (very much)

6. Is there anything else about your experience you would like to add?
APPENDIX J
(Post-Lesson Questionnaire)

1. Rate your current anxiety level:

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2. Do you have a current physical sign of your anxiety?

3. Describe your positive/negative feelings toward the material you covered in your lesson today?

4. How much did the body consciousness exercise affect your lesson in a positive manner?

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5. How much did the body consciousness exercise affect your lesson in a positive manner?

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6. Is there anything else about your experience you would like to add?
APPENDIX K
(Post-Personal Practice Session Interview [Superman and Slumped])

1. Did you seem to be more or less productive than you usually are in your sessions? Please explain.
2. Were there many outside factors that contributed to the quality of your practice session (less time than normal, less sleep than normal, more homework than normal, etc.)?
3. Do you feel that the positive/negative body posture you practiced before your practice session had any influence on your performance anxiety? How?
APPENDIX L

(Post-Studio Interview [Superman and Slumped])

1. Were you more or less nervous than normal to go into studio? Why?
2. Did you feel as prepared as you normally do for this studio class?
3. Do you feel that the positive/negative body posture you practiced before your lesson had any influence on your performance anxiety? How?
1. Were you more or less nervous than normal to go into this lesson? Why?
2. Did you feel as prepared as you normally do for this lesson?
3. Do you feel that the positive/negative body posture you practiced before your lesson had any influence on your performance anxiety? How?
APPENDIX N
(Post-Study Questionnaire)

Please complete the following questionnaire and return it to Christina Farley no later than January 7th.

1. Rate your normal anxiety level for each scenario (without completing any body consciousness exercise):

   a. Playing in front of peers in studio.
      1(hardly nervous) 2  3  4  5(moderately nervous) 6  7  8  9  10(very nervous)

   b. Playing in front of your studio professor in a private lesson.
      1(hardly nervous) 2  3  4  5(moderately nervous) 6  7  8  9  10(very nervous)

   c. Playing in a practice room.
      1(hardly nervous) 2  3  4  5(moderately nervous) 6  7  8  9  10(very nervous)

2. Rate your average anxiety level for each scenario AFTER completing the “superman” body consciousness pose.

   a. Playing in front of your studio professor in a private lesson.
      1(hardly nervous) 2  3  4  5(moderately nervous) 6  7  8  9  10(very nervous)

   b. Playing in front of your studio professor in a private lesson.
      1(hardly nervous) 2  3  4  5(moderately nervous) 6  7  8  9  10(very nervous)

   c. Playing in a practice room.
      1(hardly nervous) 2  3  4  5(moderately nervous) 6  7  8  9  10(very nervous)

3. Rate your average anxiety level for each scenario AFTER completing the “slumped” body consciousness pose.

   d. Playing in front of your studio professor in a private lesson.
      1(hardly nervous) 2  3  4  5(moderately nervous) 6  7  8  9  10(very nervous)

   e. Playing in front of your studio professor in a private lesson.
1 (hardly nervous) 2 3 4 5 (moderately nervous) 6 7 8 9 10 (very nervous)

f. Playing in a practice room.

4. Which body consciousness pose did you feel was most effective in positively influencing your performance anxiety? Why?

5. Which body consciousness pose did you feel was most effective in negatively influencing your performance anxiety? Why?

6. Did any of the body consciousness poses help reduce the physical signs of your performance anxiety? If so, which helped most?

7. Do you feel that there are any ways to improve either of the poses to help in reducing performance anxiety? How?

8. Would you utilize these exercises outside of this research project?
   a. yes
   b. no

9. Do you feel that your participation in the study has helped your performance anxiety in any way? If so, how?

10. Do you have any suggestions to improve any future endeavors in this research topic?