Emotional Experiences of Non-Musically Trained College Students

While Improvising Music in a Group Setting

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EMOTIONAL EXPERIENCES OF NON-MUSICALLY TRAINED COLLEGE STUDENTS WHILE IMPROVISING MUSIC IN A GROUP SETTING

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Abstract

The purpose of this study is to explore the effects of music improvisation on the emotional experiences of college students who have no previous music training. The participants (N=12) involved in this study consisted of college students, both male (n=5) and female (n=7), in both undergraduate and graduate programs. The participants were split into three groups, consisting of four participants in each group. Participants completed a questionnaire identifying their current emotional state, and then participated in a group music improvisation facilitated by the researcher. The participants then completed a second questionnaire to identify emotions they felt during and after the improvisation. Results indicated that music improvisation evoked more positive emotions in participants. In general, participants reported a decrease in negative emotions and an increase in positive emotions after participating in active music improvisation.

Implications for this study include the use of music improvisation as a viable method in the field of music therapy to both elicit and modulate emotions within clients who have no musical training.
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According to Rayle and Chung (2007), college students face distinct challenges during their academic years: academic stress, financial problems, pressure from family, fostering social support, and the overall experience as a college student. These challenges can lead to health problems, academic issues, and a decline in emotional strength due to financial and/or emotional pressures. College students may feel stress and pressure from their friends or families who do not provide approval or acceptance of their academic performance (Rayle & Chung, 2007). In order to deal with negative emotions such as, stress and anxiety college students may engage in music in order to experience positive emotions (Asthon, 2013).

This study investigated the effects of active music improvisation on emotional experiences of college students, who have not been musically trained. Three different groups of college students participated by engaging in a group music improvisation led by the researcher. Data was obtained through two questionnaires completed by the participants in order to identify their emotions at three points: pre-improvisation, during active music making, and post-improvisation. This data was analyzed quantitatively to identify the emotional experiences of the participants elicited by the music improvisation and the change of emotions that occurred. The results of the study are then connected to music therapy practice and the techniques used in that field.

Review of Literature

Challenges of College Students
College students are faced with many challenges during their academic career. These challenges can affect the students’ mental health, resulting in symptoms such as depression due to poor sleeping habits, not eating healthful foods, and lack of sleep (Dalton & Hammen, 2018). Depressive symptoms also have an effect on students’ health behaviors. This can manifest as persistent alcohol drinking and poor eating habits, in which students consciously engage, to relieve that stress experienced from college (2018). Another challenge that college students in today’s society is the employment opportunities post-graduation. College students worry that their education will not be sufficient to attain employment after graduation. This may lead to feelings of hopelessness, instability, and anxiety (Doygun & Gulec, 2012).

The emotional pressures that college students face, according to Rayle and Chung (2007), indicate that the desire for approval and acceptance from family and friends can lead to negative emotional experiences. Emotional experiences in college students are often wide-ranging and intense, as students embark on new chapters in their lives (Ashton, 2013). The demands of college life, such as assignments, deadlines, and the pressure of finishing a degree may elicit emotions including sadness, grief, disapproval, and loathing; these negative emotions could lead to depression, stress, and anxiety (Wang et al., 2011). While this is concerning, there are positive coping mechanisms that can be employed to help with these experiences. One such common coping mechanism can be engagement with music.

**Music as a Coping Mechanism**

Music can be used as a coping mechanism in order for people to deal with difficult experiences that elicit negative emotions. Those that use music as a strategy for
coping may be capable to engage in positive emotional reflection or regulation (Semenza, 2017). Semenza (2017) stated that people involved in musical engagement such as, listening to the radio, purchasing music, playing an instrument, attending a musical concert or performance, felt it to be useful in order to cope with negative emotions from difficult times in their lives. People who readily engage in active music listening, practicing an instrument, or attend a music performance use these activities to help improve their mood positively. While music can be used as a coping mechanism to deal with negative emotions, this supports how music could have an impact on emotions.

The impact of music on emotions. It is widely accepted that music, in general, can evoke emotion. These emotions can be perceived as negative or positive (Shubert, 2007). It is implied by Schubert that happy music can evoke happy emotions and sad music can induce sad emotions. This supports the power of music’s impact on emotions. Film music, whether it be fearful, sad, happy, or somber, affects the viewer’s emotional experiences as it is “designed to induce basic emotions” to the listener (Peirce & Halpern, 2015). The composer of film music writes music to evoke emotions in the audience while the visual stimulation from the movie is occurring, allowing for an enjoyable experience. This combination can be powerful: “Music, in conjunction to visual information, can intensify or alter the message found in images” (Davis, 2008 p. 62).

Listening to music can correspond with the brain and the way signals are sent to express emotion. Schaefer (2017) found that music activates signals to the brain to process the music, which leads to neurological process that evokes an emotional response. The part of the brain that receives most of those signals is the amygdala, which is highly involved with processing emotions. This activation in the brain can be examined
using different imaging tools such as functional magnetic resonance imaging (fMRI) or positron emission tomography (PET) (Schaefer, 2017).

**The ability of music to modulate emotions.** While listening to music can evoke emotional experiences, the act of playing improvisational music in a group can also affect one’s emotional state. For example, emotion in musical improvisation of jazz pianists is noted to be a significant property of the music (McPhearson et al., 2014). The authors concluded that musical elements such as the key, tempo, meter, and dynamics all played a role in portraying emotions within the music improvisation. One explanation of the ability of music to modulate emotions is related to different music components. These musical elements are timbre, pitch, contour, rhythm, tempo, and melody (Levitin, 2006, p. 168).

As previously stated, music can affect cognitive behavior insofar as signals are sent to parts of the brain involving emotional states, such as the amygdala located in the limbic system (Schaefer, 2017). Braun and Limb (2008) examined the limbic system being affected by musical improvisation with jazz musicians: “Spontaneous musical improvisation would be associated with discrete changes in prefrontal activity that provide a biological substrate for actions that are characterized by creative self-expression…as well as limbic structures needed to regulate memory and emotional state” (p. 1).

Braun and Limb concluded that the relationship between music and emotion in the limbic system, as well as the involvement of improvisational music showed a “positive emotional valence”, in that the music evoked positive emotions in the musicians. They also state the relation to improvisation and self-expression:
“Improvisation may be the result of the combination of internally generated self-expression with the suspension of self-monitoring that regulate goal-directed actions” (Braun & Limb, 2008 p. 1). Thus, improvisation evokes a self-expression and modulates emotions through shifts in cognitive functions.

**Music Therapy**

The American Music Therapy Association (AMTA) defines music therapy as an established health profession in which music is used within a therapeutic relationship to address a client’s physical, emotional, cognitive, and social needs (AMTA, n.d.). There are various methods of music therapy used in the treatment process. Bruscia (2014) identified four main methods of music therapy: improvisation, composition, re-creative and receptive. These methods are chosen in response to client’s needs, preferences, and training and approach of the music therapist. This paper will focus on the use of improvisational music therapy in relation to emotional processing.

**Music therapy to address emotional processing.** Music therapy is a useful means to address emotional needs like identification, expression, and modulation. According to Juslin and Sloboda (2010), the clinical techniques in music therapy assist clients to strengthen and restore their ability to internally organize emotions. Active music experiences enable the identification of emotion, expression of emotion, and the modulation or control of a client’s emotional behavior (Juslin & Sloboda, 2010, p. 830). Music therapy can be beneficial for children with severe emotional disturbances who show symptoms of impulsive aggression and an inability to identify negative behavior due to trauma. For children with severe emotional disturbances, music therapy can aid the ability to correctly recognize moods and emotions, and to express emotions appropriately.
Music experiences in the context of the music therapy process can have an effect on individuals’ emotional regulation. Moore (2013) states that emotional regulation is an internal process during which a person modulates aspects of an emotion, and uses techniques in order change or create new emotions. She explains that the music therapist must realize what musical experiences and characteristics have an effect on the client’s ability to regulate their emotions, in order to achieve the clinical goals. For example, the music therapist may ask the client to close their eyes and pair the music with a visual stimulus, in order to evoke an emotional response.

There are many approaches to music therapy that emphasize the use of clinical musical experiences to address the emotional needs of clients. One such approach is the Bonny Method of Guided Imagery and Music (GIM). The Bonny Method of GIM uses music and imagery as therapeutic agents to explore the consciousness in clients to aid in personal self-growth (Darrow, 2008 p. 49). Darrow (2008) states that music arouses the limbic system of the brain, and once the client interprets the arousal made from the music an emotional experience will happen. In the context of the Bonny Method of GIM, Darrow holds that “clients take control of the imagery experience and work with the music to elicit positive feelings and eventually greater self-worth” (p. 53). This description of the Bonny Method of GIM supports that music therapy techniques can be used to assist clients’ emotional modulation and identification.

**Improvisational music therapy and emotional processing.** Clinical improvisation refers to music created extemporaneously in various clinical contexts (Bruscia, 2014). Improvisation is used to help clients’ emotional states and to evoke
emotions through the process of making music. Bruscia (2012) states, “Improvisation can be used in a clinical setting in order to provide a non-threatening means of self-expression and explore various aspects of self in relation to others” (p. 22). This self-expression is facilitated through emotions and expressed while improvising music. Hiller (2015) focused on active music-making process where emotions are expressed through music rather than by music. He explains this through “expression theory”, which holds that emotions are drawn from the composer’s or performers’ own immediate experiences of emotion during creation or re-creation of music. The client is thus an agent in the creation of meaningful musical sounds and interactions with the therapist and others through playing, singing, or composing.

Improvisation is applied in a variety of clinical contexts to address a multitude of therapeutic goals, which often include emotional expression and modulation. For example, clinical improvisation is used in correctional facilities where the clients improvise music with the music therapist in order to learn to express and communicate emotions such as anger, joy, and sadness (Davis, 2008). Davis explained, “The therapist tries to help the client achieve musical expressions as a means to help them achieve cognitive and emotional coherence” (p. 254). If emotional responses correspond to cognitive processes in the brain, musical improvisation can affect the patient’s emotional coherence or identification in order to modulate behaviors, cognitively. This response can act as a changing agent on a person’s feeling of ones self, and the release of that existing emotion.

Ashton (2013) studied music therapy with female college students with depression and anxiety. Clinical improvisations, along with reflection and meditation
sessions, were conducted to gauge the emotional expression of the participants. The participant’s experiences of depression and anxiety gradually decreased during treatment (Ashton, 2013). This supports that a relationship exists between the ability for individuals to express their emotions through improvisational music and their affective states.

Most music therapy clients are not musically trained nor have musical experience, yet still have emotional responses to making music. As improvising music is widely used in music therapy, the act of spontaneously making music could bring out a variety of emotional experiences in clients even without musical training. Hiller (2015) purports, “Yet music therapy clients who are generally a musically untrained group, repeatedly exhibit a similar ability to express emotion within musical processes of re-creating, improvising, and composing” (p. 31). If the act of making music via improvisation can evoke different emotional experiences in clients who are generally not musically trained, then the same could be said about college students who are going through many different emotions themselves.

**Research Questions**

The purpose of this study was to determine if improvising music in a group can elicit emotional experiences in college students with no musical training, and if so, to discover which emotions arise. This study also examined the change of emotional states in the college students before, during, and after the active music improvisation. When considering the challenges that college students face, the use of music improvisation as a means of self-expression may have a positive impact on their overall emotional states. Thus the purpose of this study was to learn:

1. Does group music improvisation elicit emotions in college students who have no
prior musical training or experience?

a. If so, what emotions are experienced?

2. Does group improvisation elicit a change in the emotional states of college students who have no music training or experience?

a. If so, how do these emotions change?

b. To what extent do participants attribute any change in their emotion to their participation in improvisation?

Method

This study employed a pre-experimental design. Participants all participated in a group improvisational music session, and completed researcher-designed questionnaires before and after the music-making.

Participants

Participants were recruited through a flyer that was created and posted throughout the State University of New York (SUNY) at New Paltz college campus (see Appendix A). The researcher then responded to the inquiries of volunteers through e-mail or telephone. A total of 15 individuals responded to recruitment. Participants were divided into groups, and a single participant in each group declined to participate, resulting in a total of 12 subjects. The remaining participants were divided into three groups of four, and each group participated on separate dates within a six-month span. Of the 12 subjects, five were male and seven were female. All subjects were college students between the ages of 18 and 24. The participants had neither any prior musical training nor experience playing an instrument. Each participant signed an informed consent form (see Appendix B). The researcher explained to the participants that the improvisation would
last approximately 10-15 minutes, and be non-referential in nature (Bruscia, 2014). The researcher began by playing guitar, with a pre-selected chord progression, and then cued the participants to play their chosen instruments.

**Data collection**

Two questionnaires per group were administered during the study. The first included a preliminary question and a copy of Plutchik’s Wheel of Emotion (Plutchik, 2001) from which they were asked to choose the top 3 emotions felt prior to participating in the activity (see Appendix C). After the improvisational activity concluded, participants were given another questionnaire and were asked to choose the top three emotions felt while participating in the activity, as well as three emotions they felt after the activity was completed (see Appendix D). The second questionnaire consisted of two sections: “during” and “post”. Both sections included preliminary questions that fostered the participants to use Plutchik’s Wheel of Emotions (2001) to identify what emotions were felt during and after the improvisation. The other questions in the second questionnaire included a Likert scale, which were used to identify the relationship with the emotions experienced and the improvisation music.

**Plutchik’s Wheel of Emotion.** Plutchik’s Wheel of Emotion was the graphic representation chosen to outline the scope of possible emotions that someone might feel. This wheel consists of words that describe emotions and divides them into eight primary categories: anger, fear, sadness, disgust, surprise, anticipation, trust, and joy. These categories are each paired with a different color with the lighter shade of the color representing the weaker intensity of the emotion, and the darker shade representing the stronger intensity of that emotion (Plutchik, 2001).
**Procedure**

The procedure was conducted in three separate groups; each group consisted of four participants. Each group session lasted 30 minutes. Each group’s session was conducted with the same sequence of events.

The researcher verbally explained the procedure to each group after consent forms were filled out, but before beginning the improvisation. Each participant was given five minutes to fill out the first questionnaire (Appendix C), which included Plutchik’s Wheel of Emotions (2001), and asked only one question: “Can you name three emotions that you feel before starting this improvisation?” Participants were then presented with a selection of percussive instruments, including maracas, tambourines, hand drums, and shakers. They were asked to choose an instrument from the pile and were allowed to explore the sounds the instruments made. The participants chose an instrument by picking it up, playing it, and seeing how it sounded, then either kept the instrument they chose or repeated the process with another instrument until they found one they preferred. The researcher explained to the participants that the improvisation would last approximately 10-15 minutes, and be non-referential in nature.

Next, the researcher began the music improvisation by playing a simple chord progression on the guitar and encouraged the participants to join in whenever and however they felt comfortable. The chord progression consisted of three chords: A Major, G Major, and D Major, following the progression of the chorus section from the song *Across the Universe* by The Beatles (Lennon, 1968). The researcher used this chord progression because it was found to be beneficial in previous simulated clinical exercises with peers during his music therapy training. The researcher also hypothesized the
progression would give structure and comfort in the familiarity of a pop culture song. The researcher determined when to end the improvisation after the duration of 10 to 15 minutes by following the lead of the participants, listening for a natural conclusion in the music.

After the improvisation ended, the participants were given 10 minutes to fill out the second questionnaire (Appendix D) which included Plutchik’s Wheel of Emotions (2001), as well as questions concerning their emotional state both during the active instrument playing and after the improvisation activity was complete.

**Data Analysis**

For the preliminary questions used in both survey questionnaires, a bar graph was constructed to measure every emotion chosen by the participants. A pie graph was created to measure the primary emotions (anger, fear, sadness, disgust, surprise, anticipation, trust, and joy) that were most frequent within each group. These graphs were created for each preliminary question and are categorized in three different sections: emotions felt pre-improvisation, emotions felt during-improvisation, and emotions felt post-improvisation. The questions from the second survey that used a Likert scale were numerically analyzed into tallies. The answers to the questions using the Likert scale were counted to see the majority response.

**Results**

**Pre-improvisation**

The first questionnaire (Appendix C) asked one question: “Can you name three emotions that you feel before starting this improvisation?” Each participant chose three emotions from this question. The results varied, the participants chose many different
emotions. As seen in Figure 1, the most prevalent emotions were “interest” and “anticipation”, both chosen by 53.8% of all participants. The next most commonly identified emotion was “optimism”, which was chosen by 33% of the participants. These top three most identified emotions fall in Plutchik’s Wheel of Emotions (2001) primary emotion category of “anticipation”. Other emotions identified by a total of 25% of subjects or less included acceptance, annoyance, apprehension, boredom, contempt, distraction, joy, pensiveness, serenity, surprise, and trust. These other emotions accounted for a total of 50% of the total emotions identified.

![Figure 1. Emotions felt before active improvisation](image)

As seen in Figure 2, emotions were divided into eight primary categories, 50% are categorized as anticipation, consisting of interest and optimism; 11% are categorized as trust, including acceptance; 11% are categorized as surprise, including distraction; 11% are categorized as disgust, identified as boredom and contempt; 8% are categorized as joy, including serenity; 3% are categorized as anger, identified as contempt; 3% are
categorized as sadness, identified as pensiveness; and 3% are categorized as fear.

![Pie Chart]

*Figure 2. Primary emotions identified before participating in active improvisation*

**During Improvisation**

In the second questionnaire (Appendix D), participants were first asked to choose three emotions that they felt during the music improvisation. As shown in Figure 3, the emotions chosen from the participants varied. The predominantly chosen emotion during the music improvisation was joy, which was chosen by 75% of all participants. The emotion interest was chosen by 50% of all participants, and the emotion serenity was chosen by 33.3% of all participants. Other emotions identified by a total of 25% of participants or less included acceptance, admiration, annoyance, anticipation, boredom, distraction, fear, love, optimism, pensiveness, surprise, and trust.
Figure 3. Emotions felt during active improvisation

The emotions that fall into the primary emotional category of joy include serenity and love. In Figure 4, the primary emotional category of joy accounted for a total of 39% of all identified emotions. The primary emotional category of anticipation, including optimism and interest, accounted for a total of 25% of all identified emotions. The primary emotional category of surprise, including distraction, accounted for 13.8% of all identified emotions. 5.5% categorized as trust, consisting of admiration; and 5.5% categorized as anger, consisting of annoyance. Only 2.7% of the emotions identified were categorized as fear; 2.7% as sadness, identified more specifically as pensiveness; and 2.7% categorized as disgust, identified more specifically as boredom.
The second questionnaire also asked three other questions about the participants’ feelings during active improvisation using a Likert scale (see Appendix D). As shown in Table 1, Question 2 asked: “How much were you able to express the chosen emotions during the music?” Results show that 66.6% of participants answered that they were able to express their emotions “somewhat” during active improvisation, while 33.3% of participants answered that they were able to express their emotions “to a great extent”.

Question 3 asked: “How much did you feel playing music helped you to express these emotions?” 75% of participants answered “to a great extent”, 16.6% answered “somewhat”, and only 8.3% answered “not at all”.

Question 4, using the Likert scale, asked: “How supported did you feel from the other players during the improvisation?” 66.6% of participants answered “somewhat”, 25% answered “to a great extent”, and only 8.3% answered “very little”.

*Figure 4.* Primary emotions identified during participation in active improvisation

<table>
<thead>
<tr>
<th>Emotion</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joy</td>
<td>39</td>
</tr>
<tr>
<td>Anticipation</td>
<td>14</td>
</tr>
<tr>
<td>Anger</td>
<td>8</td>
</tr>
<tr>
<td>Disgust</td>
<td>5</td>
</tr>
<tr>
<td>Sadness</td>
<td>3</td>
</tr>
<tr>
<td>Surprise</td>
<td>3</td>
</tr>
<tr>
<td>Fear</td>
<td>3</td>
</tr>
<tr>
<td>Trust</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 1

**During-Improvisation**

<table>
<thead>
<tr>
<th>Questions</th>
<th>Not at All</th>
<th>Very Little</th>
<th>Somewhat</th>
<th>To a Great Extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 2: How much were you able to express the chosen emotions during the music?</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Question 3: How much did you feel playing music helped you to express these emotions?</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Question 4: How supported did you feel from the other players during the improvisation?</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

**Post-Improvisation**

The second questionnaire also asked participants to identify three emotions that they felt *after* participating in the active improvisation (see Appendix D). As shown in Figure 5, all 12 participants continued to identify a wide variety of emotions. However, the most prevalent emotions this time were *joy* and *acceptance*, which were both chosen by 75% and 41.6% of all participants respectively. The next most commonly identified emotions were *optimism* and *interest*, which were both chosen by 33.3% of all participants. Other emotions identified by a total of 25% of subjects or less included admiration, amazement, anticipation, apprehension, awe, boredom, distraction, ecstasy, serenity, and surprise. These other emotions accounted for a total of 38.8% of the total emotions identified.
As seen in Figure 6, when dividing the emotions into the eight primary emotional categories, the following are the percentages of chosen emotions: 36% *joy* – including *serenity*, 25% *anticipation* – including *optimism* and *interest*, 17% *trust* – including *acceptance* and *admiration*, 14% *surprise* – including *amazement* and *distraction*, 5% *fear* – including *apprehension* and *awe*, and 3% *disgust* – identified as *boredom*. There were no emotions chosen in the post-improvisation, which can be categorized as either *anger* or *sadness*. 

*Figure 5. Emotions felt after active improvisation*
Two other questions were asked in addition to identifying emotions felt after participating in active improvisation. Question 5, as shown in Table 2, asked if the participants felt a difference in emotional state from before the improvisation. As a result, 16.6% of participants responded “very little”, while 58.3% stated they felt “somewhat” different, and 25% stated that they felt different “to a great extent”.

Question 7 asked how much the participants thought playing in the improvisation was the cause of the emotions picked after the improvisation was completed. 8.3% stated that they felt that playing the music effected their emotions “very little”; 25% stated that they felt it effected their emotions “somewhat”; and 66.6% stated that they felt playing in the improvisation effected their emotions “to a great extent”.

*Figure 6. Primary emotions identified after participating in active improvisation*
Table 2

<table>
<thead>
<tr>
<th>Questions</th>
<th>Not at All</th>
<th>Very Little</th>
<th>Somewhat</th>
<th>To a Great Extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 5: <em>How different do you feel after the improvisation, compared to how you felt before?</em></td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Question 7: <em>How much do you think playing in the improvisation was the cause of those emotions picked in the previous question?</em></td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

Discussion

The purpose of this study was to determine if improvising music in a group can elicit an emotional experience in college students with no musical training, and if so, what emotions arise. This study also examined the change of the emotional states before, during, and after the improvisation and examined the extent the participants attribute the change in emotion to participation in the improvisation. Based on the results, emotional experiences were evoked in college students with no prior musical training by improvising music in a group. Results indicated that the participants’ emotional experience (derived from the questionnaires) varied from positive emotions, categorized by the primary emotions as *joy, trust, and anticipation*, and negative emotions, identified by the primary emotions of *disgust, fear, anger, and sadness*. While examining all the emotions chosen *pre*-improvisation compared to *during-* and *post*-, there was a difference in which emotions were most prominent. This supports that the act of improvising music
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elicits different emotional responses. As Schubert (2007) explains, music played would evoke positive and happy emotions, or music may elicit negative or sad emotions. Music has the capability to impact a person’s emotional state and evokes different emotional responses. As stated earlier, music can affect emotions by activating signals in the brain, resulting in an emotional response (Schaefer, 2017). In this study active music making had an impact on the participant’s emotional states and evoked a variety of emotional responses.

**Pre-improvisation Compared to During-Improvisation**

Based on the results, there was a change in positive emotional responses from pre-improvisation to during-improvisation. The number of responses from the positive primary emotion category *joy* increased from 8% to 39% from pre-improvisation to during-. The negative primary emotion category *disgust* showed a decrease in the number of responses from pre- to during- (11%-3%). As Hiller (2015) stated, performers of active music-making exhibit immediate emotional experiences during the creation of meaningful musical sounds as a group. Emotional experiences were elicited by the participants during the improvisation. This shows that the music improvisation evoked a change in emotional responses from the participants, before they started playing active music to when they were involved in the active music.

**During-Improvisation Compared to Post-improvisation**

Data analysis showed that there was a change in negative emotional responses and a change in positive emotional responses from during- improvisation compared to post-improvisation. The number of responses categorized by the positive primary emotion, *trust* increased from during improvisation to post-improvisation (8%-17%). The primary
emotion, joy for during-improvisation was 39% and maintained at a high percentage (36%) in post-improvisation. The improvisational music played from the participants and researcher induced more positive emotions than negative emotions. No participants chose the primary emotional categories anger and sadness in the post-improvisation questionnaire compared to the during-questionnaire (5% and 3%). This indicates that there was a change in negative emotional responses from when the participants were involved in active music making to after the improvisation ended, evidenced by the decrease in percentages.

Pre-improvisation Compared to Post-improvisation

Data indicates that the primary emotions of anger and sadness that were answered before the improvisation changed as compared to the responses after the improvisation. This implies that the negative emotions the college students were experiencing before the improvisation changed evidenced by the decrease in numerical responses. Braun and Limb (2008) determined that improvising music evoked many positive emotions in musicians. These findings are similar to this study based on the results of higher positive emotional responses from the participants, a key difference being the lack of musical training of the participants. Previous studies have shown that there is a strong connection between musical features and emotions, either positive or negative, caused by active music improvisation (McPhearson et al., 2014). The positive emotional responses (joy and trust) from the pre-improvisation changed as percentages increased, portrayed by the results from the post-improvisation. This evidence indicates that the music improvisation elicited more positive emotional experiences from the participants.

The Influence of Improvisation on Emotion
Based on the results, the majority of participants felt that the active music improvisation assisted them in expressing their emotions. Most of the participants felt that playing in the active music improvisation was the source of the emotional responses they experienced after the improvisation ended. Ashton (2013) stated that improvisation affected the change of the emotions in female college students with anxiety and depression. Improvisation had a positive affect on the college students’ emotional states, which resulted a change of anxiety and depression decreasing. This supports the evidence that participation in active improvisational music has an effect on the change in the participants’ emotional responses. Based on this study, the participants attribute the change in emotions to the active music improvisation.

**Connections to Music Therapy Practice**

The data from the results of this study can be relatable to the clinical practice of music therapy. Music therapists often invite clients to participate in active music improvisation in order to evoke emotional experiences. These emotional experiences facilitated through music are a form of self-expression (Bruscia, 2012). Music improvisation is a method used in a music therapy clinical setting in order to promote or increase self-expression as a goal for clients. Some goals of music therapy are to aid the client in identifying and expressing emotions, to modulate the client’s emotional behavior, and increase the client’s self-expression of emotions (Juslin & Patrick, 2010). The results from the study indicate that participating in improvisational music can evoke positive emotions and give evidence that music improvisation can affect those emotions. Thus, it can be implied that these findings can have similar applications in music therapy.

The reported number of negative emotional responses decreased both during and
after the improvisation. As the number of negative emotional responses decreased, the number of positive responses increased. It may be surmised that the decrease in negative emotions could translate into the alleviation of emotional distress experienced by college students. Thus, improvisation may serve to reduce the reportedly high incidences of depression and anxiety in college students (Ashton, 2013). Furthermore, clients in music therapy with depression and anxiety might similarly benefit from clinical improvisation, particularly in the context of a therapeutic relationship. Clients in music therapy who are generally untrained in music can exhibit emotional expression and experiences while improvising music (Wheeler, 2015). This study supports the use of music improvisation as a method to evoke emotions within clients in the clinical practice of music therapy, even in single session treatment.

**Limitations**

There are limitations in the study design and implementation. The researcher served as session facilitator and data gatherer. This may have influenced the participants’ responses. The number of participants is small, and this study is best considered a pilot. As such, the results are promising, but should be interpreted with caution. The study questionnaires were designed by the researcher, and as such were not tested for reliability or validity. It would be recommended that future studies consider using validated measures. This study was done as a single session design and study measures were taken in the same session as the improvisation.

It would be beneficial to administer follow up questionnaires at intervals after the completion of the study in order to determine if the positive effects continued or were applied to the participant’s everyday. For example, a follow up questionnaire examining
the impact on emotions at one-month post-participation would aid in determining longer-term impact of music improvisation. It would then be possible to see if any of the participants chose to involve themselves in any other music making activities or use any of the information or tools they learned during the session in other aspects of their life.

For future research, a larger study to examine how the music improvisation affected the limbic system in the brain of each participant (Schaefer, 2017). From there the examination of the brain responses matched with the emotions experienced could be useful to determine the cause for the emotions chosen by the participants. Another method that could be used in further research is to study the timbre, tone, pitch or tempo of the active music improvisation and the relation to the participant’s emotional experiences. An analysis of the improvisation could be conducted to discover if happy or positive emotions would be evoked as a result of the improvisation representing happy music based on the musical elements (Schubert, 2007).

The individuals who participated in this study are all unique, and it cannot be known exactly why each person experienced things differently from one another. There are many factors that may have affected how the participants felt. For example, some people enjoy participating in new activities, while others experience anxiety in these types of situations.

This study did not focus on the ability to express the emotions felt, only the change in the emotions felt due to participation in active improvisation. The ability of individuals with no prior musical training or music making experiences to express their emotions through improvisational music-making may be a topic worth exploring further in future research.
Conclusion

Participating in active music making has shown to be a positive experience for many individuals. The results of this study indicate single-session short group improvisations can first elicit emotions, and elicit a positive change in emotions. This study also indicates that formal musical training, or even minimal experience or knowledge of how to play an instrument, is not necessary to experience these emotional responses. Furthermore, this study concludes how improvisation can affect the change of emotional states within people who have no musical training.

Each person is unique and capable of many different emotions, and as Plutchik (2001) illustrated in his graphic representation, there are many emotions which can describe how one feels about an experience. This study revealed that several of those emotions from Plutchik (2001) graph were evoked through improvisation. Each participant identified the emotions they felt prior to participating in the active improvisation, and then indicated some change in their emotions due in response to this experience.

The fact that the majority of participants identified positive emotions is significant. In relation to the music therapy practice, clients may have goals to modulate, identify, and express their emotions. While clients may have difficulty with emotional processing, improvisation in music therapy can be facilitated to aid them to achieve those goals (Hong, 1998). As stated earlier, most clients in music therapy have little to no musical background (Hiller, 2015). This study concludes that any individual, regardless of their musical background, can experience positive emotions while improvising music.

References


EMOTIONS OF COLLEGE STUDENTS WHILE IMPROVISING MUSIC


Want to Improvise Music?

Get a $10 StarBucks card by participating for 30 min in a thesis study

Participants must have absolutely NO Prior Musical Training!

If interested please Call or E-mail the Investigators:

Matt Royes
516-603-0639
mattroyes@gmail.com

&

Angie Selfridge
845-637-7885
ars13167@gmail.com
Appendix B

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Dr. María Montserrat Gimeno – Music Therapy Professor
Contact – (845) -257-2708  gimenom@newpaltz.edu

The Emotional Experiences of College Students with No Prior Musical Training when Improvising Music in a Group Setting.
By Matthew Royes and Angie Selfridge

Purpose: The purpose of this study is to examine the emotional experiences of college students without musical training or experience playing music, that result from improvising music in a group setting.

Description: The researcher and participants will meet at the Shepard Recital Hall in College Hall on a weekend. The researchers will lead three separate groups, each consisting of 5 participants. Each of the three groups will be assigned a specific time to meet. Participants will be offered a choice of percussion instruments to play. The researchers will verbally explain the procedure and will instruct the participants to complete a short questionnaire regarding their emotional state before the improvisation begins. One researcher will play the guitar to start the improvisation, encouraging the participants to play along. The improvisation will last for 10-15 minutes. After the improvisation is completed, the researcher will provide each participant with a second survey questionnaire. The second questionnaire will consist of questions about the participants’ emotional experiences during the improvisation, as well as their emotional state after the improvisation. Each group will be allotted 5 minutes to answer the first questionnaire, then will improvise with the researchers for 10-15 minutes, and finally be given another 5-10 minutes to complete the second questionnaire. This procedure will be repeated in the same manner for each of the other two groups. The participants will spend 30 minutes total time to participate. The duration of all three groups will be one hour and thirty minutes.

Risks: We do not anticipate any risk in your participation.

Benefits: Although you may not receive direct benefit from your participation, others may ultimately benefit from the knowledge obtained from this research.

Confidentiality: All information obtained in this study is strictly confidential unless disclosure is required by law. In addition, the Human Research Ethics Board, the sponsor of the study (e.g. NIH, FDA, etc.), and University or government officials responsible for monitoring this study may inspect these records.
Any and all identifying information obtained during this study will be kept confidential and will be stored in a locked file at the researcher’s home. Any published information will be coded accordingly and no identifying information will be included.

Compensation: Compensation for participation will be limited to a $10 gift card to StarBucks coffee.

One copy of this document will be kept together with the research records of this study. Also, you will be given a copy to keep.

For questions about your rights as a research participant, contact the State University of New York at New Paltz Human Research Ethics Board (which is a group of people who review the research to protect your rights) at 845-257-3282.

The Human Research Ethics Board of the State University of New York at New Paltz has determined that this research meets the criteria for human subjects according to Federal guidelines.

If at any point you are uncomfortable and want to discontinue participation you may set down your instrument and leave at any time without consequence. However, in order to receive credit for participation you must stay for the full duration of this study.

Your participation in this project is voluntary. Even after you agree to participate in the research or sign the informed consent document, you may decide to leave the study at any time without penalty or loss of benefits to which you may otherwise have been entitled. We will retain and analyze any information you have provided up until the point you have left the study unless you request that your data be excluded from any analysis and/or destroyed.

I have read, or been informed of, the information about this study. I hereby consent to participate in the study.

Signature ______________________________________________ Date ______________________

Print ________________________________________________

Appendix C

Matthew Royes 03/09/16

Thesis title: The emotional experiences of college students with no prior musical training when improvising music in a group setting.

Thesis survey questionnaire 1
Question 1: Can you name three emotions that you feel before starting this improvisation?

*Based off of Plutchik's Wheel of emotion (2001)

1 ____________________________
2 ____________________________
3 ____________________________

Appendix D
Matthew Royes Participant Group _____
05/01/16 Participant Number ____

Thesis title: The emotional experiences of college students with no prior musical training when improvising music in a group setting.

Thesis survey questionnaire #2

Question 1: Can you name three emotions that you experienced during the improvisation?

*Based off of Plutchik's Wheel of emotion
Question 2: How much were you able to express those emotions during the music?

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Question 3: How much do you feel playing music helped you express those emotions?

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Question 4: How supported did you feel from the other players during the improvisation?

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**Post**

Question 5: How different do you feel after the improvisation, compared to how you felt before?

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Question 6: Can you name three emotions that you feel now, after playing in a group improvisation?

*Based off of Plutchik’s Wheel of emotion*
Question 7: How much do you think playing in the improvisation was the cause of those emotions picked in the previous question?

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