Planned intervention for school of performing arts Juilliard, New York - reducing performance anxiety in art students

Context

Juilliard is one of the best performing arts conservatory in the world founded in 1905 in New York. Every year about 850 students are trained in dance, music and drama in both undergraduate and graduate art programs. Juilliard is considered one of the best schools in the world, only the most talented artists from around the world can attend, therefore the pressure is very high. The professors have noticed that students perform worse under the pressure and they struggle to handle their anxiety. Everybody from the school wants the students to do well in their future careers, for that reason we were hired as sport and performance psychologists to help the students to lower their performance anxiety and to help them perform to their fullest potential. We will create an intervention to teach students about pre-performance routines, specifically imagery, to help them lower their anxiety and be more confident during art performance.

Literature review

The performing arts taught at Juilliard include music, dance and theatre, which means that artists perform live in front of the audience, unless the act is used for TV, videos or commercials. Of the three forms of performing arts being discussed here only music and dance have been the subject of research (Nordin-Bates, 2012), yet it is still an under researched area. Several studies were conducted and results showed than more than fifty percent of musicians suffer from anxiety (Lockwood, 1989; van Kemenade, van Son, & van Heesch, 1995; James, 1998).

The ability to cope with pressure, stress and expectations is one of the most important determinant of successful performance during concerts, shows, plays or exams. Lehrer et al. (1990) described that not only musicians but other performers suffer from performance anxiety under conditions of high

adrenaline flow, fatigue, social pressure, financial insecurity and others. Not all performers suffer the same degree of anxiety, differences are based on individual psychological characteristics (Sternbach, 1995).

Performance anxiety is a set of disorders that occur prior to performance and increase the chance of performing poorly (Hall et al., 2002). Female experience performance anxiety more often than males. (Huston, 2001). Cashmore (2008) defined anxiety as "an unpleasant emotion, which is characterized by vague but persistent feelings of apprehension".

Anxiety is a multidimensional construct, that is divided into 3 elements: cognitive anxiety, somatic anxiety and behavioural anxiety (Gould et al, 2002). Cognitive anxiety refers to intense worries about the performance (Smith et al., 1998). An individual with cognitive anxiety has negative expectations and negative thoughts about the performance (Martens et al., 1990). Somatic anxiety is connected to physiological reactions such as nervousness and tension (Morris et al., 1981). Somatic anxiety also refers to physiological arousal states such as rapid heartbeat, shortness of breath or butterflies in the stomach (Morris et al, 1981). Arousal or activation is a physiological state of alertness and readiness for body action. Of these two concepts, cognitive anxiety has a greater negative impact on performance (Martens et al., 1990). Behavioural anxiety refers to tense facial expressions, agitation and restlessness (Gould et al., 2002).

Lederman (1990) in his research of music performance anxiety divided factors based on the previous anxiety research into 3 modified factors. Three independent factors are cognitions, autonomic arousal and overt behavioural responses. Caske and Craig (1984) demonstrated that low anxious individuals experienced somatic symptoms such as elevated heart rate but not cognitive or behavioural anxiety compared to a practise.

Spielbeger et al. (1970) used and developed the State-Trait Anxiety Inventory (STAI). Components were divided into two groups: state anxiety and trait anxiety. State anxiety reflects feelings of the individual at the moment and comes in response to a situation or a stimulus. Trait anxiety refers to a personality disposition that is stable over time.

Effective performance occurs when a performer is able to execute complex motor skills in a flawless or near perfect manner. As opposite to optimal performance, maladaptive response to performance known as choking under pressure can occur. Choking under pressure is a critical deterioration of the performance due to extremely high levels of anxiety (Mesagno et al, 2008).

Research has demonstrated positive results using pre-performance routines such as imagery, self-talk or deep breathing as a part of mental preparation for performance. Pre-performance routines can help to improve focus, reduce anxiety and eliminate distractions (Weinberg & Gould, 1995). Eliminating distractions is important for an individual to be able to fully concentrate prior to performance. Ideal state of concentration and focus allows for pre-performance routines to be effective (Schmidt & Peper, 1998). Many authors (Lidor and Tenenbaum, 1993; Boucher, 1990) claimed that use of structured routines before competition can significantly enhance the performance.

Sport psychologists transferred the knowledge they gained in sport into other areas such as arts, military, business or education (Gould, 2002). We can therefore assume the methods and interventions used in sport work in other areas to similar extend. To support this claim, interviews with a selected group of skilled athletes, actors, classical musicians, and surgeons revealed that some pre-performance strategies were universal across domains. These included imagery, self-talk, focusing strategies, and techniques for arousal management (Cotterill, 2015).

There are several similarities between sport and art performance. Both require a high level of motor learning and control. Both sport and art are performed in front of the audience, therefore they provide

the same levels of pressure and stressful situations during which performance anxiety can occur (Yoshie et al., 2009).

Both athletes and artists must prepare to perform at their optimal level. Similarities exist not only in preparation for performance but also in physiological reactions that occur prior to performance. Consistency is one of the most important aspect of a successful performance (Gregg et al., 2008). Artists need both technical and mental skills to stay on top. Performers face challenges such as unfamiliar environment, scheduling changes, pressure from teachers and family (Hamilton, 1998).

Imagery is one of the most important methods for mental preparation of artists. Correct use of imagery can help improve self-confidence, motivation and reduce anxiety (Murphy, Nordin & Cumming, 2008). Hall et al. (1999) conducted a study and proved that use of imagery is positively related to decreased levels of anxiety. Imagery involves experiencing a situation that resembles the real situation without experiencing the real thing (Cumming & Williams, 2014). Imagery is different than dreaming because the individual is awake and aware of the situation (White & Hardy, 1998). Individuals can create experiences such as visual image, auditory image or kinesthetic image therefore imagery is a multisensory experience.

Four main imagery theories have been developed in recent years. The neuromuscular model, the cognitive account, the bio-informational theory and the PETTLEP approach (Holmes and Collins, 2001). The PETTLEP model has received the most attention as it is based on replication of environments as well as emotions experienced during the performance (Lavallee, 2012). PETTLEP refers to physical, environmental, task, timing, learning, emotional and perspectival aspects of mental imagery. Physical involves individual´s responses to the situation, environment is the setting in which imagery is performed, task and timing are self-explanatory, learning relates to memory, emotions involve all

emotions experienced prior to and during performance and perspective means if the image is from a first-person perspective or a third-person perspective (Smith et al., 2007).

The seven key elements of PETTLEP serve as a guide for integrating all components when preparing imagery scripts (Quinton et al., 2014). Smith et al. compared effects of PETTLEP compared to traditional imagery intervention and PETTLEP has been validated as a more effective because of the more accurate simulation of the environment (Cumming et al., 2014).

Mental Imagery can also influence exercise motivation and exercise experience (Short, Hall, Engel, & Nigg, 2004). Later also Hays (2002) described similarities and differences between dance and sport and different use of imagery. Both dancers and athletes use their bodies to perform at their fullest potential. They differ during performance, dance is a subjective form of art while sport is in most cases objective. Hence the difference in the use of imagery as a mental preparation (Overby, 1990).

If we look separately at musicians, the demands of being a professional musician can interfere with their mental well-being and health. Being a classical musician means being in a highly competitive field. Musicians report the highest job satisfaction but it goes hand in hand with one of the highest rate of mental illness (Brodsky, 1996). Musicians possess attribute such as determination, resilience, ambition or patience.

Musical performance anxiety has been connected with increased performance quality, little career opportunities and negative impact on well-being.

In conclusion being a dancer or a musician is very demanding both mentally and physically. Based on the theory, imagery intervention will be developed to lower levels of anxiety resulting in more confident and satisfied artists.

<u>Method</u>

Participants will be students of the first and the second year of undergraduate study of music and dance, both male and female. Their ages range between 17 and 21 years old. They practice for 40-60 hours per week, for 48 weeks per year. Dancers are trained in classical of ballet and contemporary dance. Musicians are representatives of classical and jazz music. Students study either dance or music as their major but some dancers have music as a minor and vice versa. When they will be split into groups, students will be split based on their major and not their minor.

The Juilliard school agreed to schedule a welcome event at the beginning of the school year. First and second year students majoring in dance and music will be participating. We will measure anxiety 24 hours, one hour and 10 minutes prior to performance based on study by Kramer and Williams (1987). Levels of anxiety in gymnasts were measured prior to the competition. As there as similarities between art performance and gymnast performance we can expect similar results. The results showed an increase in cognitive and somatic anxiety and a decrease of self-confidence prior to performance. During this study Competitive state anxiety (CSAI-2) was used to measure the anxiety, but we will use the revised version of the original one. The competitive state anxiety inventory –2 revised (CSAI-2R) is a 17-item scale that measures cognitive state anxiety, somatic state anxiety and self-confidence (Craft et al., 2003). Several studies raised concerns about the factorial validity of the original competitive state anxiety inventory – 2 (CSAI-2). Cox et al. (2003) improved the measure by deleting 10 problematic items in the original CSAI-2.

The CSAI-2R measures anxiety before performance. Respondents rate their feelings on subscales, 5 items measure cognitive state anxiety, 7 items somatic state anxiety and 5 items stand for self-confidence. (Terry et al., 1999). We will sum items in each subscale and then divide by the numbers of items and multiple by 10. The score ranges 10-40 for each subscale (Cox et al., 2003).

This will set up our baseline for comparing progress at the end of the semester.

Group sessions will be conducted every week during the whole fall semester. Students will be split into groups of 10 people based on their major. During the first week they will learn about the importance of pre-performance routines, in this case imagery. Imagery has been proven as an effective method to lower anxiety in dancers and musicians (Pavlik et al., 2016). Different imagery scripts will be created for dancers and for musicians. In order to determine the effectiveness of interventions, imagery measures will be used to evaluate the progress during the time given to implement the interventions.

Imagery intervention for dancers will be based on results of Nordin & Cumming (2005) study. Semi-structured interviews in the 4 Ws framework (Munroe, Giacobbi, Jr., Hall, & Weinberg, 2000) with 14 dancers were conducted. 4 Ws describe Where, When, What and Why dancers image. For the purpose of this study another question, How dancers imagine was added. The 4Ws method was previously successfully used to evaluate imagery use in sport (Munroe et al., 2000) and exercise (Hausenblas et al., 1999). Where refers to the location, When refers to the timing, What relates to the content and Why explains the reasons of use of imagery. It is important to differentiate between content (What) and function (Why). How refers to the process of creating images.

Guide based on questions created by Munroe et al. (2000) and White and Hardy (1998) was designed. The results were divided into separate sections. Dancers described that although imagery has a potential to be used everywhere, the best locations to implement imagery are at home and at the dance studio. Most of the dancers were using imagery before and during practice sessions to visualize every movement and remember the choreography. Some of the dancers mentioned avoiding imagery before performance to perform more spontaneously. Types of images involved executive images such as planning, strategy, short term goals; methaphorical images such as themes, colours, environment; context images such as people in the audience and places; body-related images such as injury and

healing and role/character images such as behaviours and emotions of the character. Dancers employed imagery to learn and improve, to memorize movement, to plan and to stay motivated. Based on these findings, two imagery scripts will be created for dancers. One will be delivered through weekly session at the dance studio and will be oriented on performance, memorizing choreography and building confidence to lower anxiety. The second imagery script will be recorded for dancers´ use at home. The main purpose of this one will be to focus on dancer´s body, fear of injuries, healing injuries and motivation. We decided to create a script for home use as there is not enough time to incorporate everything in one script without making it too long. Both scripts will be 10-15 minutes long.

The intervention for musicians will be similar, yet slightly different. Esplen et al. (1999) conducted a study to investigate the effect of guided imagery on students of music to manage performance anxiety. The guided imagery script was developed specifically for this study. The script consisted images of students performing and incorporated images of control and mastery over the performance, feelings of confidence, relaxed states and others. The script was 10 minutes long. The results showed guided imagery as a useful tool to lower anxiety in musicians. Ninety five percent of the students reported significant difference in anxiety level and satisfaction with the intervention. As the impact of guided imagery was proven as positive we will use the same script with only minor changes tailored to needs of Juilliard students. The imagery script will be delivered through weekly sessions at school.

When suggesting imagery as an intervention we need to measure dancers´ and musicians´ employment of imagery and identify its effectiveness. There are different ways how to measure vividness and effectiveness of imagery. Three most popular measures are Sport Imagery Questionnaire, Movement Imagery Questionnaire and Vividness of Movement Imagery Questionnaire.

Dancers images are indirect, they involve external objects and ideas (Overby, Hall, & Haslam, 1998). Several studies showed using Sport Imagery Questionnaire for dancers as problematic (Hall, Mack,

Paivio, & Hausenblas, 1998). Sport Imagery Questionnaire does not include types of images mentioned by dancers, such as methaphorical images (Fish et al., 2004).

Movement Imagery Questionnaire – 3 (MIQ-3, Williams et al., 2012) was developed to measure participants´ imagery ability. MIQ-3 is the most recent version of Movement Imagery Questionnaire (Hall & Pongrac, 1983). MIQ-3 consists of 12 questions to evaluate an individual´s imagery ability. Participants are asked to perform 4 tasks and then visually or kinesthetically image each task. After that participants are asked to rate how well they were able to visually or kinesthetically image the task based on their opinion on a 7-point Likert scale.

Vividness of Movement Imagery Questionnaire – 2 (VMIQ-2: Roberts et al., 2008) is a revised version of Vividness of Movement Imagery Questionnaire (VMIQ: Isaac, Marks, & Russell, 1986). VMIQ-2 consists of 12 items measured on a 5-point Likert scale. Participants are asked to imagine items using internal visual imagery (from first person perspective), external imagery (third person perspective) and kinesthetic imagery (physical feeling of movement) (Callow, 2013). Because dance and music are expressive art forms we want to focus on vividness of images, therefore we find VMIQ-2 as the most suitable to measure the ability of imagery in dancers and musicians.

Treatment of results

Intervention effectiveness will be evaluated by measuring levels of anxiety at the beginning of school year in September and at the end of the fall semester in January. Based on the results, the decision will be made on how to continue with interventions during the spring semester as a preparation for school performance at the end of the school year. If the change in the score of results will be positive we will continue with interventions. In case there is no change we will adjust the plan for the next semester.

Qualitative methods

Semi-structured interviews will be conducted with 10 professors of dance and music and 25 randomly chosen students. Semi-structured interview is a conversation based on prepared questions with an option to ask other questions if some of the answers need clarification or more depth. We will use semi-structured interviews because of their flexibility. Semi-structured interviews also provide a more appropriate format for discussing sensitive topics (Whiting, 2003). The set of questions for professors will be based on their observation of students´ anxiety level pre- and post-intervention. Other questions will include their opinion about the usefulness of interventions and possibility of continuing with interventions. The set of questions for student will be based on their experience with imagery, their levels of anxiety and if they wish to continue with the intervention. Miles and Huberman (1994) suggest that qualitative data analysis consists of three procedures: data reduction, data display, conclusion drawing/verification. In the phase of data reduction, it is important to reduce and organize the data obtained through interviews. We will discard the irrelevant data but we will keep them for further access in case we need them. To display and code the data we will use charts, networks and other graphical formats. Based on analysis of the data we will be able to develop conclusions. Biddle et al. (2001) suggest to organize coded data into common themes. We will group similar themes into first order or high order themes. Then we will take each first order theme separately and we will group similar themes into second or low order themes. This will be repeated as many times as needed. Based on organizing data into themes we will evaluate answers and results will be used as a part of decision on effectiveness of the intervention. Based on the answers, a plan for next semester will be created.

Quantitative methods

Descriptive statistics will be used to examine the sample. Based on the participants´ answers a paired t-test will be run to compare pre- and post- intervention imagery ability and levels of anxiety of the same group 24 hours, 1 hour and 10 minutes prior to performance. Repeated measures ANOVA test will be run to determine whether there is a difference between groups and their levels of anxiety 24 hours, 1

hour and 10 minutes before performance pre- and post- intervention. Statistical analysis will be conducted using the SPSS statistical software package (Esplen et al, 1999).

Repeated measures ANOVA will be conducted to determine differences between groups of musicians and dancers 24 hours, 1 hour and 10 minutes prior to performance. Repeated measures ANOVA is used to compare three or more means, in our case time points where the participants are the same in each group, a group of dancers and a group of musicians. To analyze our data using repeated measures ANOVA we have to pass 5 assumptions that are required. The first assumption is that our dependent variable is measured at the continuous level, our groups will be measured at 3 different time points. Second assumption says that our independent variable should consist of at least two related groups or matched pairs which means that same subjects are present in both groups, our group of dancers and musicians pre- and post- intervention. To be able to check next 3 assumptions, we need to run it through SPSS. There should be no significant outliers, simply data that does not follow usual pattern. The distribution of the dependent variable should be normal and the variances of the differences between all combinations of related groups must be equal. If all 5 assumptions pass we continue to input data into SPSS, run ANOVA and then we will interpret the data. We will be interested in the tests of within-subjects effects table that will tell us whether there is an overall significant difference between the means at different time points. We will look at the F value and its association with significant level and effect size. To determine whether there is a significant difference between means, we will compare the p-value to our significant level to evaluate the null hypothesis. Our null hypothesis will be that the means are the same. If the p-value is less than or equal 0.05 we reject the null hypotheses. If the p-value is greater than 0.05 we do not have enough information to reject the null hypotheses. If we know there is a significant difference but we do not know where the differences are, we will run Bonferroni post hoc test where we can find the differences between means (web source 1).

A paired sample t-test, also known as dependent sample t-test is a statistical procedure used to determine the mean difference between two sets of observation. The paired sample t-test has 2 hypotheses, the null hypotheses and the alternative hypotheses. In our case the null hypotheses will assume that the difference between means pre- and post- intervention is zero. The alternative hypotheses will assume that there will be a difference between scores (Fields, 2013). We will measure the vividness of imagery before intervention. We will save the results and at the end of the semester after implementing the intervention, we will measure it again. The same procedure will be used for levels of anxiety. A paired t-test will be used to compare differences between the mean anxiety scores at the two observation times. We will measure anxiety 24 hours prior to performance pre- intervention and we will compare it to the mean of results of anxiety 24 prior to performance post-intervention. Same will be repeated for 1 hour prior to performance and 10 minutes prior to performance. This will show use the difference of means in the time points separately. Before we run the test, we have to check assumptions again. They remain the same as for ANOVA with only one difference and that is skipping assumption number 5. We will input the data into SPSS and run a paired sample t-test. We will be interested in the paired samples table and the significance level value (Sig., 2-tailed), our p value. If the value is less or equal than 0.05 there is a significant difference between means and we can assume the intervention helped to lower the levels of anxiety (web source 2).

Because of the intervention, each participant should report decreased levels of anxiety based on implementing imagery as a mental preparation. This intervention would be considered successful if the result of semi-structured interviews would show positive outcome of the intervention and if the participants would show reduced levels of anxiety post-intervention compared to pre-intervention scores. In that case we would continue with the intervention and we would recommend to expend the intervention into the rest of undergraduate and postgraduate programs.

Resources

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