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Impact of studying practical instrumental music on the psychological well-being of disadvantaged university students

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Abstract

The impact of practical instrumental music instruction on students' psychological and sociological well-being is well documented in research literature. The extent to which these findings hold true for disadvantaged populations is unknown. Previous studies focused on young students with little to no research on disadvantaged young adults at university level. This study investigated the impact of group practical instrumental music instruction on the psychological well-being of disadvantaged university students. It particularly investigated changes in students' optimism, self-esteem and happiness after participation in a wind ensemble. The study further looked at possible relationships between optimism, self-esteem, happiness and participation in an instrumental music ensemble. Results revealed increases in participant's optimism, self-esteem and happiness and moderate to strong positive correlations between variables.

Keywords: music; optimism; self-esteem; happiness; well-being; instrumental music

Introduction

Psychological well-being refers to the absence of elements of human experience such as depression, fear and anger and to the presence of humanistic elements such as positive emotions, healthy relationships, meaning and engagement (Adler et al., 2017). According to Dar and Wani (2017) who conducted a study on university students, optimism, self-esteem and happiness are crucial to psychological well-being as they have a direct impact on students' academic performance, behavior, motivation and emotion. Weinberg and Joseph (2017) also found that engagement in music showed a positive improvement on the subjective well-being of individuals who participated in music versus those who did not participate in music.

The positive impact that studying music can have upon the psychological well-being of individuals is well documented in the literature with significant improvements in aspects such as self-esteem, optimism and happiness identified by researchers (Costa-Giomi, 2004; Getz, Marks & Roy, 2012; Hallam, 2010; Rickard et al., 2013; Schellenberg, 2004, 2005, 2006; Weinberg & Joseph, 2017). The majority of these studies had focused on very young or school-aged students with limited studies having focused on university-level students (Dolegui, 2013; Kämpfe, Sedlmeier & Renkewitz, 2010; Lehman & Seufert, 2017). Most of these studies were conducted in developed countries with few studies conducted on disadvantaged students such as those across the African continent (Devroop, 2009, 2012). There exists a lack of research in this area in developing countries and more importantly on students who are faced with economic, sociological and psychological challenges (Devroop, 2009, 2012; Getz, Marks & Roy, 2012).

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South Africa, like most countries on the African continent, faces tremendous societal challenges including unemployment, hunger, poverty and inequality (Statistics South Africa, 2019a). These problems are exacerbated when one considers that South Africa is one of the most unequal societies in the world with high levels of HIV and youth-headed households (Devroop, 2012). According to Statistics South Africa, youth unemployment (aged 15–34 years) rose to 63.4% in the first quarter of 2019 (Statistics South Africa, 2019b). Youth unemployment is expected to rise to unprecedented levels due to the onset of COVID-19 with many of the 'gig economy' jobs in jeopardy. According to the Aspen Institute (2017), gig economy jobs are typically jobs that employ temporary or freelance workers usually employed in the service industry. A large percentage of South Africa's youth are currently employed in the gig economy and are expected to be impacted by the COVID-19 pandemic.

Given the unique history of South Africa and the role played by Apartheid, the youth who attend university face overwhelming challenges. Some of these challenges include access to university, lack of financial resources, housing, transport and hunger (Chetty & Pather, 2015). These challenges have manifested in the recent student protests such as #FeesMustFall and #RhodesMustFall that brought tertiary education to a standstill in South Africa. These challenges place tremendous strain on university students across the country and have a direct impact on their physical and psychological well-being (Chetty & Pather, 2015; Getz et al., 2012). While the Department of Higher Education and Training has attempted to alleviate some of these challenges by introducing subsidised free higher education for poor and working-class students (DHET, 2018), many of the psychological problems still persist. The problems include issues such as depression, anxiety, bipolar disorder, alcohol use disorder and drug use disorder (Bantjes et al., 2020; Cheteni, 2019; Murray, 2014).

Recent studies have indicated that music can serve as a positive intervention in addressing the psychological and psychosocial well-being of individuals (Costa-Giomi, 2004; Devroop, 2012; Hendricks et al., 1999; Rickard et al., 2013). Most of these studies focused on children with one-on-one music instruction as the primary vehicle for music instruction with limited studies focusing on the impact of music on students in a group setting such as large ensembles (MacDonald, 2013; Steward & Lonsdale, 2016). Little is known about the impact of instrumental music on non-instrumental music majors such a vocal music majors.

With most university students in South Africa facing extreme financial challenges, access to musical instruments is a problem (Devroop, 2012). The result being that most Black students opt to become vocal majors due to either not having access to a musical instrument in high school or not being able to afford a musical instrument at university level. The South African Music Outreach Project (SAMOP) has attempted to address this shortfall by providing high school and university-level music students with musical instruments (Devroop, 2009). Over the past 10 years, the SAMOP has successfully established wind ensembles/concert bands at schools and universities across South Africa. The result has been the unprecedented growth of instrumental music ensembles across the country.

Since 2009 several studies have been conducted on the impact of instrumental music instruction on disadvantaged youth who have been part of the SAMOP (Devroop, 2009, 2012; Getz, Marks & Roy, 2012; Getz et al., 2012; Roy, Devroop & Getz, 2015). None of these studies were conducted on university students. All studies focused on high school students due to the focus of the project which was primarily on high school students. In recent years, the SAMOP began focusing on providing access to instrumental music to university-level students due to the lack of music instruments for primarily Black students at university level. This expansion of the project has enabled researchers to focus on the impact of instrumental music on university music majors in addition to the research that currently exists on high school students in South Africa.

The objective of this current study was to determine the impact of studying instrumental music on the psychological well-being of disadvantaged university music majors in South Africa. The study sought to investigate the psychological impact of practical instrumental music instruction

on a group of vocal majors who were recipients of the SAMOP that established a wind ensemble at the university. The study specifically set out to (1) determine what impact studying practical instrumental music had on students' optimism, self-esteem and happiness and, if so, how any impact was felt and (2) to determine if there were any relationships between the variables.

Optimism

Scheier and Carver (1985, p. 221) define optimism as 'the tendency to believe that people will generally experience good and positive outcomes rather than bad and negative ones'. When individuals reach for goals in life, optimistic individuals diligently work towards those goals expecting a positive outcome. According to Shaheen (2015), optimists tend to take better care of their health and exhibit greater persistence in the face of obstacles.

Optimism is associated with (i) improved academic performance (Aspinwall & Taylor, 1992), (ii) a predictor of psychological well-being (Parveen, Maqbool & Khan, 2016) and (iii) correlates positively with individuals' success (Shaheen, 2015). Optimism also correlates positively with happiness and self-esteem (Dar & Wani, 2017).

Self-esteem

Self-esteem is a reference to the amount of value an individual places upon him/herself and is a reflection of the individual's personal opinion of themselves and the amount of value they place on their worth (Dar & Wani, 2017). According to Shaheen (2015), self-esteem could be positive or negative and is the result of two internal evaluations of oneself: global and personal evaluations.

Individuals with high self-esteem tend to be happier, more sociable and perform better academically (Shaheen, 2015). Consequently, individuals with low self-esteem tend to be less sociable, more likely to take drugs and alcohol and are more prone to depression (Wiggins & Schatz, 1994). Self-esteem correlates negatively with anxiety, loneliness and depression (Westaway & Wolmarans, 1992).

Happiness

Happiness is associated with pleasurable and good experiences typically characterised by feelings of satisfaction and enjoyment (Dar & Wani, 2017). Happy people are generally cooperative and confident individuals who perceive the world to be a safe place (Dar & Wani, 2017). According to Myers (1992), happy people tend to achieve greater professional and personal success. Happiness is viewed as an important aspect in the lives of human beings and is considered to be one of the crucial variables when considering psychological health (Myers, 1992).

Happiness has a significant effect on physical and psychological well-being (Dar & Wani, 2017; Weinberg & Joseph, 2017), correlates strongly with optimism (Gorsy & Panwar, 2016) and promotes success in different areas of human functioning (Myers, 1992). According to Argyle (2001), people who are happy tend to earn higher incomes, are more active and productive in their work, therefore this study aims to identify whether practical music instrument learning could influence feelings of happiness and therefore be of significant benefit to participants in this study.

Methods

Setting

This study was conducted at a department of music at a large university in the central part of South Africa. The department of music had an enrollment of approximately 300 students with 21 full-time faculty members. The music programme at this university was well known nationally and internationally for its outstanding vocal studies with the majority of students being vocal

majors. A small number of students majored in piano with only three students (one bassoon player and two clarinet players) majoring in wind instruments. The academic programme at the department catered for undergraduate and postgraduate studies with majors primarily in performance, music education, musicology and music theory.

The SAMOP established a wind programme at the department with the donation of wind instruments from sponsors abroad and some regional sponsors who provided financial assistance for the purchase of music instruments. Approximately 40 wind instruments including trumpets, flutes, clarinets, saxophones, trombones, euphoniums, one tuba and percussion instruments; music scores and method books were donated to the department of music. A wind ensemble was established that comprised 38 students. The ensemble was composed of 35 students who were primarily vocal and piano majors and also included the three wind instrument majors.

The wind ensemble rehearsed two times per week for two hours per rehearsal. In addition to the group rehearsals, students took practical instrumental lessons in a group setting once per week. The group instrumental lessons were instrument specific accordingly all trumpet players met with a trumpet instructor for a group lesson. The same was the case for saxophones, flutes, clarinets, trombones and low brass which included the two euphonium and one tuba player. The lack of individual lessons was due to a lack of teachers and funding to afford students individual lessons. Some of the instrumental teachers were not full-time teachers but rather performers who held non-music jobs at the university but offered to assist students once per week.

The wind ensemble rehearsed in a group setting and worked on technical exercises and wind ensemble arrangements during rehearsals. Occasionally, the rehearsals were divided into sectional rehearsals (woodwind, brass and percussion) in order for sectional rehearsals to take place. The ensemble gave their inaugural performance after approximately eight months since inception. The level of literature performed was approximately grade two to grade three on a JW Pepper (USA) literature grade level which ranged from grade one to grade six.

Data collection

A questionnaire that was utilised by Devroop (2012) was used to capture data for this study. The original questionnaire was adapted for the population under investigation, and slight modifications were made in terms of content and language. Similar to the original instrument, this instrument measured items on a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree' where 'strongly disagree' = 1 and 'strongly agree' = 5. The variable constructs (optimism, self-esteem and happiness) were obtained by composite scores of sub-questions. This was consistent with the original questionnaire. Validity was obtained with the original questionnaire being submitted to a panel of experts. The revised questionnaire that was utilised by Devroop (2012) was used for data collection in this study. Ethical clearance was obtained from the institutional research office prior to administration of the questionnaire. The study was also discussed and approved by the Dean of the Faculty of Arts. Students were informed that participation was voluntary and that they could withdraw at any point.

Administration of the questionnaire was done by the researcher during rehearsals in order to obtain a response from all participants in the ensemble. Data were collected over one week at the start of full ensemble rehearsals. This resulted in a 100% response rate from participants. Collected data were coded to ensure anonymity and stored on the researcher's computer to maintain confidentiality. All data were analysed using a statistical package (SPSS version 25).

Participants

Participants for this study (N = 35) were composed of primarily disadvantaged vocal majors who participated in a wind ensemble established by the SAMOP. The average age of participants was 21 years (M = 21.88, SD = 2.27) with a range of 18–27 years. Three participants who were

principal instrument majors were excluded from this study. In keeping with the purpose of this study, the goal was to focus on the vocal majors who previously had no access to a wind instrument and had not played a wind instrument previously. Prior to this, SAMOP project being established, none of the students had participated in a wind ensemble.

All of the students in the wind ensemble had come from disadvantaged backgrounds with many coming from single parent households or households with no parental support. All of the students struggled financially with the majority of students barely able to pay for tuition, accommodation and food. Students were able to attend university due to financial assistance from the government such as the National Student Financial Aid Scheme or through financial support from the university. The funding was extremely limited and barely covered tuition. Accommodation was a major problem with occasionally eight to ten students sharing accommodation meant for single or double occupancy. There were many incidences of students coming to classes not having had a meal. The university and department of music attempted to assist students as much as possible especially with food.

Design

This study utilised a quantitative design which is in keeping with previous studies that investigated psychological well-being. The population under investigation was composed of a convenience sample due to the establishment of the wind ensemble by the South African Musical Outreach Project (SAMOP). Due to the small size of the group under investigation and the fact that this was one of the first studies to address this topic, a simple study design was employed that used just one group rather than multiple groups such as control and experimental groups. While this yielded less robust statistics, it was in keeping with the goal of this study that was more descriptive and exploratory in nature. Statistics included descriptive and correlational statistics.

Results

All participants were undergraduate music majors with males accounting for 66% and females accounting for 34% of the total group. The largest group of respondents (57.1%) were enrolled in the Bachelor of Music degree, followed by the Bachelor of Arts degree (11.3%) and the Diploma in Music qualification (31.4%).

The first analysis of this study focused on the impact that studying practical instrumental music had on participant's optimism, self-esteem and happiness. These variables were included because they were found to be of importance in previous studies. Changes in optimism, self-esteem and happiness were measured by obtaining composite scores on sub-questions that related to these three constructs. Each variable was measured based upon respondents rating themselves on a series of statements that contributed to the overall score of the variable. For example, the variable optimism was based upon candidates responding to a series of sub-questions such as 'Playing a musical instrument will provide me with greater opportunities in the future' and 'I feel I will achieve more due to my ability to play a musical instrument'. The means of each of the variables namely optimism, self-esteem and happiness were calculated by averaging the scores on the sub-questions for each of these variables. The means ranged from one to five.

In order to determine scores on these variables, participants responded to items on a five-point Likert scale with lower scores indicating they strongly disagreed with the statement and higher scores indicating they strongly agreed with the statement. The results shown in Table 1 suggest that participants demonstrated increased levels of optimism, self-esteem and happiness after participating in the instrumental wind ensemble. The overall mean scores on the three variables ranged from 4.28 to 4.62. When considering that mean scores had a minimum and maximum range of one to five, the results suggest that participant's participation in the wind ensemble had a strong positive impact on their sense of optimism, self-esteem and happiness.

	Mean	Std. Deviation
Optimism	4.62	.546
Self-esteem	4.51	.562
Happiness	4.28	.710

Table 1. Mean Distribution of Change in Optimism, Self-esteem and Happiness

Table 2. Correlation Matrix of Participation in Music, Self-esteem, Optimism and Happiness

	Participation in Music	Self-esteem	Optimism	Happiness
Participation In Music	1.00	.91	.77	.48
Self-esteem	.91	1.00	-	-
Optimism	.77	_	1.00	_
Happiness	.48	_	-	1.00

The interpretation of scores was consistent with the manner in which Devroop (2012) interpreted scores on the original questionnaire upon which this questionnaire was modelled. Accordingly, higher mean scores suggested that participants agreed-to-strongly agreed that participation in the wind ensemble positively impacted their sense of optimism, self-esteem and happiness.

The second series of analyses attempted to determine if there were any relationships between participant's participation in the instrumental wind ensemble and their optimism, self-esteem and happiness. To address this goal, correlation statistics were utilised to determine if there were any relationships between variables. Correlation statistics measure the strength and direction of relationships between variables on a scale of -1 to +1 with lower scores indicating little to no relationship and higher scores representing strong positive relationships between variables. The Pearson r correlation coefficient was used to measure the correlations between the variables under investigation Table 2.

Results suggested that there was a very strong positive relationship between participation in instrumental music and self-esteem (.91) followed by participation in instrumental music and optimism (.77). A moderate yet positive relationship (.48) was found between participation in instrumental music and happiness. It is important to note that all three relationships were found to be positive thereby suggesting that participation in the wind ensemble had a positive impact on the psychological variables under investigation; the suggestion being that over time, the continued participation in instrumental music would positively contribute to the psychological well-being of the students.

Discussion

This purpose of this study was to determine the impact of studying practical instrumental music on the psychological well-being of disadvantaged university music majors in South Africa. The study specifically set out to determine (1) what impact, if any, studying instrumental music had on students' optimism, self-esteem and happiness and (2) to determine if there were any relationships between the variables. Optimism, self-esteem and happiness were found to be important variables that contributed to the psychological well-being of individuals in previous studies (Aspinwall & Taylor, 1992; Dar & Wani, 2017; Gorsy & Panwar, 2016; Myers, 1992; Shaheen, 2015; Westaway & Wolmarans, 1992; Wiggins & Schatz, 1994). Accordingly, they were included in this study.

Results suggested that there was an increase in the mean scores on participant's optimism after participation in the wind ensemble established by the SAMOP. This finding is consistent with the findings by Devroop (2009) who studied the impact of instrumental music on disadvantaged high school students in South Africa. That study found a significant increase in the means of students' level of optimism. The result from the current study is also consistent with the findings by Getz, Marks and Roy (2012) and Hallam (2010) who found increases in participants' optimism levels after participation in instrumental music. The increase in optimism levels could be attributed to a number of factors, including the novelty of performing in an instrumental ensemble which was a new and unique experience for participants, the social setting where the participants were collaborating with other musicians in the ensemble, or the notion that candidates were able to overcome certain obstacles such as learning to play an instrument which generally made them more optimistic about other aspects of their lives. It needs to be pointed out that almost all of these students came from economically disadvantaged backgrounds. Accordingly, this finding is important and could be viewed as a potential intervention measure in addressing the role music plays in contributing to increased self-esteem in economically disadvantaged youth.

The increase in mean scores on self-esteem after participation in instrumental music is also substantiated in the literature by Costa-Giomi (2004), Devroop (2012) and Rickard et al. (2013). While the latter three studies were conducted on younger students, primarily very young and school-aged youth, the findings from the current study point to the possibility that participation in instrumental music may increase self-esteem in older participants such as university-level students. The increase in self-esteem could be attributed to the notion that candidates felt a sense of accomplishment after performing in the ensemble. This could have translated in a sense of general accomplishment in their personal lives. Replication of this study on similar populations would need to be done to verify these results.

The data from this study suggest that happiness levels increased after participation in the wind ensemble. This finding is consistent with the findings of other researchers (Devroop 2012; Hallam, 2010; Rickard et al., 2013; Schellenberg 2006 and Weinberg & Joseph, 2017) who found an improvement in happiness after participation in music. The study by Devroop (2012) focused on instrumental music instruction, while the other researchers did not restrict the intervention to instrumental music but included interventions such as classroom music. In all of the studies, some form of participation in music formed the basis for the intervention. The result of this analysis suggests that the findings from this study are similar to the studies done on non-musicians (Dar & Wani, 2017; Dolegui, 2013; Kämpfe, Sedlmeier & Renkewitz, 2010 and Lehman & Seufert, 2017) in the sense that happiness levels increased after the intervention. The increase in happiness could be attributed to the novelty of performing in the ensemble, the joy of interacting with other musicians or the satisfaction that one receives when making music. Irrespective of the reasons though, this study adds further weight to the evidence base suggesting that happiness can be increased by the provision of music participation in whatever guise.

Results suggest that participant's sense of optimism was most impacted due to their performance in the ensemble. This could be attributed to a number of things including the novelty of being able to play a wind instrument or the idea that their ability to play a wind instrument increased their outlook to be able to achieve other successes in the future. Results suggest that candidate's self-esteem was also positively impacted with an increase in mean scores. This could be attributed to the idea that when individuals achieve tasks such as mastering the ability to perform on an instrument this enhances their self-worth and reinforces their faith in their own abilities thereby improving their self-esteem. The third finding that participants happiness increased could be attributed to the social environment of the ensemble most importantly their interaction with other students. It could also be attributed to the music making process in an ensemble that can be very enjoyable and stimulating.

The second series of analyses in this study focused on the relationships between optimism, self-esteem, happiness and participation in instrumental music instruction. This study found

moderate to strong positive relationships between the variables assessing psychological well-being and participation in the instrumental wind ensemble. This finding is substantiated extensively in the literature (Costa-Giomi, 2004; Devroop, 2009; Devroop, 2012; Getz, Marks & Roy, 2012; Rickard et al., 2013).

The finding of a strong positive relationship between participation in instrumental music and self-esteem is a very important one given the background of these students and their social circumstances. With many of these students impacted by poverty and hunger that could have a possible subsequent impact on their academic success, any intervention that could positively impact their self-esteem should be viewed in a serious light and warrant further investigation. It is important to note that the relationship between participation in instrumental music and self-esteem was not just positive but extremely strong in some instances on the range of the correlation coefficient (-1 to +1).

In the study by Getz et al. (2012), researchers found statistically significant correlations between optimism and music, which is supported by the strong positive correlations in the current study. The researchers also found that optimism through participation in music could be a regulator for stress, a variable that was not considered in the current study but could be of importance in future studies. In another study by Weinberg and Joseph (2017), researchers found significant differences in levels of happiness between participants who engaged in music and participants who did not engage in music. This finding is also supported by the findings in the current study that found a moderate yet positive correlation between participation in instrumental music and happiness. The implications being that instrumental music instruction in a group setting could serve as a vital intervention in improving the optimism, self-esteem and happiness of disadvantaged young adults impacted by social and psychological problems.

In general, the findings from this study are widely substantiated in the literature and point to the notion that instrumental music instruction could benefit disadvantaged youth in developing countries such as South Africa. More importantly, the findings point to the notion that instrumental music can be viewed as a potential intervention in bringing about social and psychological change in disadvantaged university-level students. In a country such as South Africa where the remnants of Apartheid are still vivid in society and economic disparity together with high levels of youth unemployment remain problematic, any such intervention that shows promise should be welcomed.

Results from this study need to be viewed with caution given the weaknesses of this study that include a small sample size, sample selection and the fact this is one of a handful of studies conducted on disadvantaged populations in South Africa. Additionally, the fact that these were music majors (primarily vocal majors) could have impacted the findings because the novelty of studying a 'new instrument' could have contributed to the findings from this study. Accordingly, it is very important that this study be replicated with similar populations in order to lend credibility to the findings. Additionally, this study utilised a convenient sample rather than other more robust techniques such as random sampling. These weaknesses need to be considered when interpreting the findings of this study.

Despite the potential limitations of this study, it is worth noting that the findings provide valuable insight into this unique population. Given the circumstances that these students and several other similar students find themselves in worldwide, any intervention that shows promise to be beneficial should be welcomed. It is highly recommended that this study be replicated as the findings could significantly impact the psychological well-being of students in South Africa and beyond.

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