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Exploring the impact of music on studying: A quantitative study on the perceptions of tertiary institutions students, using questionnaires.

Declaration

I hereby declare that the Research Report submitted for the IIE Bachelor of Arts Honours in Psychology degree to The Independent Institute of Education is my own work and has not previously been submitted to another University or Higher Education Institution for degree purposes.

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Abstract

The influence of music has been researched often and from different perspectives by researchers from different disciplines. There is however a gap in the research when looking at the perceptions of students' own experiences with regards to the influence that music has on studying. The study aimed to explore the beliefs of students regarding the relationship between listening to music and the influence that it has on studying. The study was conducted on a sample of 40 participants using an online SurveyMonkey, an online survey platform. This platform allowed participants to provide their own closed-ended answers to the questions. The study found that students perceive music to have a positive impact on their studying experience. The researcher is, however, of the opinion that this perceived positive impact is dependent on the correct combination between the genre, tempo, and volume of the music as well as the student's personality type and study method. Further research needs to be conducted into the role that specific South African cultures play in achieving these findings as well as determining the combinations of the influencing factors that are most beneficial for each student

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1. Introduction

1.1 Contextualisation

Stewart (2015) states, the power of music is something to which we can all relate, whether it's used for relaxation or as motivation while exercising. These are but a few examples of the functions of music. Music has a multitude of different functions that Schäfer, Tipandjan, and Sedlmeier (2012) summarised into seven main groups while studying the relationship between music and music preference. These seven groups are: background entertainment, prompt for memories, diversion, emotion regulation, self-regulation, self-reflection, and social bonding. The study conducted by Schäfer et al (2012) is relevant as the authors show how the function of music plays an important role in an individual's music preference and ultimately in when and where music is used. In exploring the impact of music on studying it is therefore important to consider the function that music satisfies.

This research study will be conducted with the aim to explore the perceptions of tertiary institution students regarding the impact of music on studying to expand on the knowledge that we have with regards to music. This research report will be structured as follows: The relevance of the study will be discussed followed by an explanation of the problem. The purpose of the research and the research question will then be discussed followed by the sub-questions and a review of literature pertaining to the study. The review will include the theoretical foundation, historic literature, and the conceptualisation of key concepts. Following the review, there will be a detailed discussion on the methodology of the research describing the research paradigm, population, sampling methods, data collection and analysis. The findings and the interpretation of the finding will then be discussed. The report will conclude with a discussion of the anticipated contributions, ethical considerations, and the limitations of the study.

1.2 Rationale

The influence of music has been researched often and from different perspectives by researchers from varying disciplines. There is, however, always a new perspective to consider, like analysing the perspectives of students within a new context, the South

African context. There are quite a few studies on the effects of background music on studying, and the effect that studying music has on neurological development.

There is however a gap in the research when looking at the perceptions of student's own experiences with regards to the influence that music has on studying, in addition, the lack of research with regards to the impact of music on studying is just as evident within the South African context. Even though there is a vast number of studies on the influence of music, the majority of the available research is specific to countries with cultures that are significantly different from those found in South Africa. South Africa has an estimated population of 59,62 million and has 11 official languages (Stats SA, 2020). This shows that South Africa is a country with a rich cultural diversity.

This research could not only provide valuable information about the way in which students think about music as an aid to studying but could also offer more information about the influence of music in a multicultural country where music is valued for different reasons – such as an art form or for symbolic reasons. The results of the research could inform the way society thinks of music as a study aid and even influence the development of new teaching and study methods. This is in line with the study on the promises of music in education conducted by Tervaniemi, Tao, and Huotilainen (2018) where they conclude that although more research needs to be carried out, consideration should be given to the affordances offered by music and other arts when teaching children global and transferable skills such as analytical thinking and problem-solving. The findings could consequently be beneficial to tertiary education students and educators.

1.3 Problem Statement

Specific study methods work well for different people depending on their individual needs, many people, for instance, appreciate listening to music while studying for an assessment yet we still have a limited understanding about how South African tertiary education students perceive music to influence their ability to study and retain learnt information. This study proposes that student perceptions be explored in the hopes of generating new data that aids in filling the research gap.

1.4 Purpose Statement

In line with the input provided above, the study aims to explore the perceptions of students regarding the relationship between listening to music and the influence it has on their studying.

1.5 Research Question

- What is the perceived impact of music on tertiary institution students' studying experiences?

1.6 Sub-Questions

In order to answer the research question, sub-questions have been generated to assist in this regard:

- Does the volume, genre or tempo of the music influence the perceptions of the students regarding their studying experiences
- Is there a difference in the nature of the findings when students listen to music whilst studying, as opposed to listening to music prior to studying?
- Do students have a specific preference on whether they listen to music or not dependant on the subject they are studying?
- Are the perceptions of students similar or do they differ largely?

2. Literature Review

2.1 Theoretical Foundation and How It Links to The Research Problem

Two theories provide the foundation for this study and the platform upon which the findings and other literature will be analysed. These theories have been selected because they are applicable to the goal of exploring students' perceptions of the relationship between music and studying. The first theory demonstrates that music has a beneficial influence on studying by way of mediation. The second theory selected contradicts the first by stating that music acts as a distraction to studying and, therefore, has a negative influence.

The nature of this research study is exploratory, and it is, therefore, beneficial to have theories that have opposing views. Consideration of alternative philosophies promotes understanding of the research results, irrespective of the outcome, and aids in keeping the researcher objective by not working towards a specific result. It is important to note that this research study does not aim to prove or disprove any theories, but rather to use the theories as a funnel through which to present the findings.

The Mozart Effect

To understand the first theory fully it is necessary to look at the Mozart Effect since this is the postulation that has led to the development of the arousal-mood hypothesis. The Mozart Effect was developed in 1993 after an experiment by Rauscher, Shaw, and Ky (1993) showed a significant improvement of spatial reasoning skills in typical participants after listening to Wolfgang Amadeus Mozart's Sonata for Two Pianos in D major, K. 448, which was composed 1781. The theory states that listening to classical music results in changes in neurophysiological activity and as a result can enhance the individual's performance on spatial reasoning tasks (Verrusio, et al, 2015). In cases where the results of this theory have been successfully replicated the improved performance has only been temporary not exceeding a period greater than ten to fifteen minutes (Rauscher et al, 1993)

There is controversy about the existence of the Mozart Effect as some researchers believe that the enhancement is due to arousal instead of the direct influence of the music. This leads to the discussion of the first theory "The Arousal-Mood Hypothesis."

The Arousal-Mood Hypothesis

The arousal-mood hypothesis was coined by Husain, Thompson and Schellenberg (2002) after they examined the Mozart Effect. These founding authors are of the view that the evidence available from Rauscher et al's study, favoured their hypothesis - that music is not directly linked to spatial reasoning, but rather that the link between music and spatial reasoning was, at the time of Rauscher et al's study having been carried out, mediated by the effects of the music on the participant's mood and arousal (Lehmann & Seufert, 2017). In their research, on the effects of musical tempo and mode on arousal, mood, and spatial abilities, Husain et al (2002) identified that mood

and arousal, which represent two different, but related aspects of emotional response, are each influenced separately by the mode and tempo of the music to which and individual is exposed. The results of their study showed that the best performances on spatial tasks were obtained by individuals, who were exposed to music with a fast tempo and a major mode. The worst performances in spatial tasks were seen in individuals exposed to the exact opposite music such as Albinoni's Adagio (Husain et al, 2002) which has a slow tempo and a minor mode.

According to McAuley (2010) tempo is generally defined as the rate of events in the environment, when looking at tempo in a musical sense it communicates the pace of a piece of music. Music with a fast tempo would then be fast paced with a fast pace of regular beats perceived by the listener. Bonetti and Costa (Bonetti & Costa, 2016) state that when all other aspects of music, such as intensity, tempo, rhythm, and timbre, are kept constant listeners tend to perceive music using major scales as relatively happy or bright while music using minor scales are perceived as sad or dark.

These findings indicate that one performs optimally when mood and arousal are both elevated. In the discussion of their study, Husain et al (2002) conclude that the arousal-mood hypothesis should be replicable with not only spatial reasoning tasks but also with tests assessing cognitive abilities.

The arousal-mood hypothesis, as a theory, is extremely relevant to this research study as it provides empirical evidence for the link between music and cognitive enhancement. The arousal-mood hypothesis is further relevant to the study because it shows that the music does not necessarily have to be present during the act of studying, but that listening to music prior to studying could yield the same results - ultimately, the same results could be obtained if the music was effective in elevating the individual's mood/ arousal or both.

The Seductive Detail Effect

The second theory upon which this study rests, the seductive detail effect - refers to the negative impact of adding stimulus to text that is not only irrelevant, but also interesting enough to distract the reader and reduce their comprehension of the

information (Sanchez & Wiley, 2006; Wang, Sundararajan, Adesope, & Ardasheva, 2017). In a review article on the seductive detail effect, Rey (2012) states that even though the initial studies examining the seductive detail effect referred to written text as the seductive details, later studies have included different kinds of stimuli, like music.

Several theories aim to explain the seductive detail effect, one of these theories is the cognitive theory of multimedia learning (CTML), which states that the working memory of an individual is limited, and seductive details in the form of a distracting stimulus, overloads one's working memory capacity, thereby hindering the individual's ability to attend to the relevant information (Rey, 2012; Wang et al, 2017).

Wang et al (2017) suggest note-taking as a way of overcoming the impact of seductive details. The seductive detail under investigation in the study by Wang et al(2017) is of a written nature, and whilst this specific research study's focus is on background music which may act as a seductive detail, it could be beneficial to take into account whether the findings between participants in this research study differ depending on whether the individual takes notes whilst studying, and listening to music.

Lehmann, Hamm and Seufert (2019) state in their study, on the influence of background music in learners with varying levels of extraversion, that seductive details, in general, have a negative effect on learning. However, when looking at background music as the seductive detail consideration should be given to the influence it has on arousal. These authors highlight that consideration should be given to the varying levels of extraversion of each learner, as fast-paced music might be beneficial for extraverted individuals but could over-arouse introverted individuals (Lehmann, Hamm, & Seufert, 2019).

The seductive detail effect is, therefore, relevant to this research study as it opposes the possible positive effects proposed by the previous theory, the arousal-mood hypothesis, by showing that the level of arousal could be too much for a student, thereby negatively impacting the studying process. Whilst the seductive detail effect does offer a different perspective it also provides support for the possibility that music

is perceived as having either a positive or negative influence on the experience of studying depending on a student's extraversion.

2.2 Review of Previous Literature

According to Turner (2018), a literature review should provide new knowledge and synthesis of information, whether it is a stand-alone manuscript or part of a larger manuscript. In approaching this literature review the researcher has aimed to apply historic literature to this research study instead of just summarizing the information. The importance of a literature review lies in its ability to serve as the foundation of a research study by pointing out the gap in current literature.

This literature review will be broken into three main themes: Perceptions and Music, Memory, and Neurophysiological responses in mood and arousal. These themes have been selected because they provide a clear overview of each section while allowing the further elaboration of influencing factors.

Perceptions and Music

What is music? This seems like an easy question to answer and most individuals might have a half-decent answer to this question... until their answer is put under a microscope and applied in a variety of different contexts. Music, as highlighted, later on, is a challenging concept to define, especially when applied to different contexts. The definition is either too broad or too narrow. Davies (2012) does a great job at critiquing some of the definitions that exist and goes on to provide different methods that could be used to define music. The one thing he does not do is to provide a definition.

It is the opinion of the researcher that music is so difficult to define because there are differing perspectives on what constitutes music (Lidskog, 2016). This is an important consideration for this research study, as the individual participants' perspectives on music will undoubtedly contribute to their beliefs on the value of listening to music whilst studying. According to Lidskog (2016), music is a constitutive part of a culture, a belief that adds to the relevance of this study, and the South African context, given

the limited number of studies that have been conducted on this topic, especially in a country with such a diverse cultural and ethnic influence.

Although this research study aims to gather information regarding the perceived influence of music on studying, consideration should also be given to whether the student prefers to listen to music, and to what particular type of music does the student prefers to listen. These are important considerations because as seen in the study by Kumar et al(2016) listening to music can be beneficial for concentration, however, two points play a significant role in the outcome. These are, whether or not an individual enjoys listening to music, as well as their preferred genre.

Neurophysiological Responses in Mood and Arousal

The arousal-mood hypothesis suggests that the influence of music is mediated through arousal and mood. As defined in the conceptualisation section mood refers to relatively long-lasting emotions, while arousal refers to the level of physiological response. According to Hussain et al(2002), the physiological response can differ depending on the type of music that is listened. This corresponds to the idea that classical music can provide a soothing environment that facilitates cognitive processing by putting students at ease (Dolegui, 2013, as cited by Evangelista, et al, 2017).

This manipulation of an individual's arousal level through the type of music that is played is another important consideration, especially when linked to a student's music preference. Linking these ideas leads to the possibility of a situation where an individual prefers not to listen to a genre of music aimed at elevating their level of arousal, thereby counteracting the change in the level of arousal that should be seen. The music preference, therefore, can influence the way that students perceive the influence of music on studying.

A review of 44 studies done by Finn and Fancourt (2018) showed the stress-reducing effects that listening music has on an individual through the reduction of cortisol, a stress hormone that was most commonly used as a biomarker, these authors go on to suggest that the primary way that music affects an individual biologically is through

the modulation of their stress response. This could explain some of the benefits seen from listening to music if one considers the study done by Wolf (2017) which shows that the negative effects of stress last longer than previously thought and concern a broader range of memory systems.

Memory

There are different types of memory, the type of memory that is most often discussed when looking at the influence of background music on studying is working memory. Working memory can be defined as the processes and structures that are involved in holding information in the mind while simultaneously using it for another function (Kail, Cavanaugh, & Muller, 2019). This is however not the only definition for working memory, other definitions suggest that working memory is separate from long-term memory but still influenced by long-term memory or that working memory is an activated part of long-term memory (Baddeley, 1986; Cowan N., 1999).

Referring to the seductive detail effect knowing now what working memory is, a better understanding can be achieved with regards to how the working memory is overburdened. Lehmann and Seufert (2017) use the concept of working memory capacity to explain how the seductive detail effect can overburden the working memory. These authors refer to a previous study by Salamé and Baddeley (1989) in saying that it is impossible not to process auditory sounds. These sounds (the background music) could be beneficial for students by elevating their level of arousal. The issue comes in when a student has a limited working memory capacity and they are overwhelmed by all the information that needs to be processed.

The idea of working memory capacity is similar to the capacity model of attention used by Tze and Chou (2010) to explain the effect of background music on concentration. These authors stated that the sound of the distraction depends on how arousing the sound is and concluded that the best way for a student to study is in a quiet room.

2.3 Conceptualisation

- Music

Defining music is not as straightforward as one would think. The definition thereof is challenging to come by, as theorists believe there has been little interest in deconstructing the meaning of 'music' because, for the most part, it is easily identifiable (Davies, 2012). Levinson defines music as "sounds temporally organised by a person to enrich or intensify experience through active engagement (e.g., listening, dancing, performing) with the sounds regarded primarily, or in significant measure, as sounds." (Levinson 1990, 273, as cited in Davies, 2012). Another definition, provided by Kania, is that "music is (1) any event intentionally produced or organised (2) to be heard, and (3) either (a) to have some basic musical features such as pitch or rhythm, or (b) to be listened to for such features." (2010, p. 348)

These are both useful definitions, however, Davies (2012) offers a critique on both by demonstrating that they might be too narrow or too broad in their definitions of music. Keeping this in mind, for this study, an adapted version of the definition by Levinson will be used. Music will, therefore, be defined as sounds that have been arranged in such a manner that they are intended to be listened to either through active or passive engagement. This definition allows the researcher to broaden the scope in terms of one's understanding of music, to include background music, which is intended to be listened to but does not necessarily involve active engagement on the part of the participant. It does, however, not exclude active engagement that might be present if the music were to be a distractive stimulus.

- Working Memory Capacity

One model defines working memory as the mental workspace used for short-term storage and manipulation of information that the individual requires for cognitive tasks (Wiley & Jarosz, 2012). Furthermore, Wiley and Jarosz (2012) state that in one approach working memory capacity can generally be considered as a trait possessed by an individual that relates to their ability to engage with and use their working memory system. A different definition of working memory capacity is that it is the number of separate concepts an individual's working memory can hold at the same time (Cowan, 2012 as cited in Lehmann and Seufert, 2017).

Both definitions relate to how well an individual's working memory can process information and how much information they can process at the same time. Working memory capacity will, therefore, in this study refer to the amount of information an individual can process without experiencing cognitive overload.

- Mood

According to Lischetze (2014), moods are affective states that are diffused and not directed towards a specific object. The author, further, states that mood is continually present and shapes the background of our experiences, and differentiates between mood and emotion by stating that directedness and time patterns are characteristic differences between the two concepts. Mood, therefore, relates to feeling happy or unhappy for an extended period, while emotion refers to affective states directed at specific objects such, as happiness, pride, anger, or sadness. Mood can then be considered as emotions that are maintained for a longer period but are not directed at specific objects.

For this research study, the above definition will suffice as it can be applied to a participant's affective state with regards to how they perceive music to influence them, rather than gathering information about emotions that are directed at specific objects, such as learning material or a specific song.

- Arousal

Arousal has throughout the years been defined as the energy, degree of physiological activation or the intensity of the emotional response (Schellenberg, Nakata, Hunter, & Tamoto, 2007; Sloboda & Juslin, 2001; Thompson, Schellenberg, & Letnic, 2011). Even though the definition of arousal is to an extent considered dated, it is still relevant as there have been no significant changes in the definition. There have also been proposals that arousal needs to be experienced first and that the arousal is then labelled as emotion (Shott, 1979 as cited in Lim, 2016). If Arousal is indeed to be considered the basis for emotion mood can be seen as an extended period of arousal.

For the purpose of this research study the definition of arousal will not be changed or altered, as it has been sufficient for historic literature and should be sufficient for this research study as well. The notion that arousal is the basis for emotion will not be argued in this research study, but consideration will be given to the influence of arousal on mood when the participant refers to listening to music whilst studying.

- Studying

Studying can be divided into two subtypes, the behaviour associated with studying and the process of learning. According to Fowler et al (2017) effective studying depends on the content that will be studied and the learning style that will be employed. These authors further state that learning styles classically fall into four groups: Visual, Aural, Read/Write, and Kinaesthetic.

For the purpose of this research 'studying' will refer to the behaviour associated with studying, such as those incorporated into different learning styles, i.e. reading the study material out loud or writing out important information. As well as their engagement with the material and their ability to understand and apply the information. The behaviour of studying is included because it links to the possibility that an individual's behaviour might be influenced by their level of arousal or the distractions caused by the possible seductive nature of music.

3. Research Design and Methodology

3.1 Outline of Worldview/Paradigm/Tradition

Objective, observable facts are according to supporters of the positivist paradigm the only basis for scientific research (Jansen, 2020). A positivist view of the world is ideal for purposes of this research study as it leaves little room for researcher bias. According to Šimundić (2013), bias is any trend or deviation from the truth that can result in false conclusions, such as deviations in data collection, data analysis, interpretation and publication. Even though a positivist view does not eliminate all potential sources of bias, it does eliminate any bias that may be present when interpreting the answers provided by participants. The main objective of the study is

to gather information regarding the perceptions of students about the influence that music has on their ability to study.

The positivist perspective might not be viewed as being the best framework for research that is not inherently objective - gathering data on the perceptions of students. The use of another perspective, such as interpretivism might be better suited as it aims to gain an understanding of others' perspectives. It is vital for the researcher to consider all aspects of a paradigm and to find the most appropriate fit. So even though this research is exploring the perceptions of students, framing the study withing the positivist paradigm will allow the researcher to gain insight into the experiences of students when listening to music during the learning process, whilst still maintaining a level of accuracy and integrity during the data analysis phase and when drawing conclusions – ensuring a greater degree of transferability.

The research study will, therefore, be guided by positivism throughout. Ontologically the research will be conducted from a realism perspective and the assumption will be made that there is only one reality. The idea of a single reality can be explained in as follows: reality exists externally from the beliefs and understanding that people have regarding it. Furthermore, the author assumes that this reality remains stable and is governed by laws and relationships (Nieuwenhuis, 2020). This ontological position is beneficial in answering the research question as it supports the idea that the perceived relationship between music and studying from the perspective of tertiary institution students can be explored. Regarding the axiology of the study, the researcher will also attempt to maintain objectivity throughout to collect data that is as accurate, objective, and value-free as possible.

3.2 Research Approach

The chosen methodology for this research study is quantitative in nature as it allows for numerical data to be collected objectively and greater generalisation of the results from the sample to the target population. The research question is explorative as the researcher seeks to learn more about the perceptions students have of the relationship between two variables. An inductive approach has been used to guide the research because there is limited understanding of the perceptions of tertiary institution students

regarding the nature of the relationship between music and studying. The inductive approach is therefore useful as it allows for the exploration of a relationship without knowing the exact essence of the relationship as well as the generalisation of the information to a larger population. A deductive approach, on the other hand, would require knowledge of a phenomenon that is already present in the larger population and then determining if it is valid for specific individuals. The study is cross-sectional in nature, as data will only be collected at one point in time. The researcher is not interested in considering a change in perspective over time.

3.3. Population

Given that the framework for this research study has been established it is important to define the population that will be used for the purposes of answering the research question.

3.3.1 Unit of Analysis

According to Du Plooy (2009, p. 56), the units of analysis are the smallest elements that can be investigated in order to gather data for a research study. For the purposes of this research study, the units of analysis will be stated as 'individuals'. These individuals will specifically be regarded as students that meet the criteria set out in the population parameters.

3.3.2 Target and Accessible Population

The target population refers to the entire group of individuals to which the researcher wants to generalise the findings of the study. The accessible population refers to the research participants, who are practically available to the researcher (Christensen, Johnson, & Turner, 2015).

The target population in this study on the perceived impact of music on studying refers to students currently enrolled in tertiary education in South Africa. It is, however, impossible to gather data from all these students; the accessible population is, therefore, limited to students studying at tertiary institutions located in Johannesburg and Pretoria

3.3.3 Population Parameters

Du Plooy-Cilliers, Davis, and Bezuidenhout (2014, p. 133) state that the population parameters refer to the, “nature, size, and unique characteristics of the population” used in a research study. Given that this research study is aimed at gathering information on the perceptions that students at a tertiary level have regarding the impact that music has on studying the population would need to adhere to the following population parameters:

- Must be studying at a tertiary institution
- Must be a South African citizen.
- Must be able to read and understand the English language.

3.4 Sampling

With the population for this study clearly set out it is necessary to describe the method that the was used to select the sample from the population.

3.4.1. Sampling Method

The sampling method used in this specific research study was non-probability sampling, more specifically convenience sampling. This method is appropriate because the researcher does not know all the individuals that make up the target population and must use the population to which they have access. Christensen et al (2015) state that convenience sampling is the use of people who are readily available and easily recruited for inclusion in a sample. This method was ideal for the purpose of the research study, especially when taking the Coronavirus pandemic into account. The national regulations places great restrictions on the researcher’s access to different potential samples within a population (Government Gazette, 2020). Convenience sampling, therefore, allowed the researcher to adapt to the regulations that accompanied the state of disaster.

3.4.2. Sample Size

The sample size is the number of elements, or in this research study individuals, who make up the statistical sample collected from the accessible population. The decision of how many individuals are needed is dependent on the design of the research study

(Christensen et al 2015). In this study, the sample will comprise of thirty students in total. Fifteen students will be sampled from a private tertiary institution in Johannesburg, and fifteen from a public tertiary institution located in Pretoria. The number of participants has been influenced by the recommendations for an Honours level study as well as the amount of participants required to reach some level of data saturation. The quantitative design also requires a larger number of participants than would be required in a similar qualitative research study as quantitative research needs a representative sample to generalise findings to the larger population.

3.5 Data Collection

3.5.1 Data Collection Method

The exploratory nature of this research study, with the title exploring the impact of music on studying: A quantitative study on the perceptions of tertiary institutions students, combined with the quantitative design meant that the findings need to provide as much rich information as possible. This is why a closed-ended questionnaire will be used as the data collection methodology. Questionnaires are appropriate for measuring the attitudes of individuals and eliciting the content required for the study. They can also be inexpensive and useful for the exploration of participants' subjective perceptions and ways of thinking (Christensen et al, 2015). The closed-ended format allows the participant to answer the questions based on their own experiences and beliefs while keeping them focussed on the question at hand. Using closed-ended questions also simplifies the data analysis process, as there is little room for interpretation from the researcher's perspective, ultimately avoiding researcher bias

Questionnaires have many strengths, but it is necessary to consider the limitations they have in terms of the research study. Validity refers to the extent to which a measure/ 'tool' actually measures what it is supposed to measure (Pietersen & Maree, 2020). In the case of this research study, validity would refer to whether the questionnaire actually gathers information on the perceptions of students with regards to the influence of music on studying. Thus, for moderately high measurement validity to be attained, the questionnaire needs to be validated to ensure questions are well-constructed. to prevent participants from feeling confused, or that they may need to

present themselves in a desirable way (Christensen et al, 2015). Creating a sense of anonymity also helps in gathering accurate data, as the participant is unlikely to feel the need to overthink their answers.

Regarding this research study, the questions provided in the questionnaire will focus on the preferences of students with regards to music whilst studying and will aim to answer the sub-questions, and ultimately the main research question. The questions will be kept short and easy to understand, to avoid confusing the participants or causing them to lose interest and answering just for the sake of finishing. The overall length of the questionnaire will also be kept short.

The data collection process will be discussed below:

- The researcher will approach students from the respective tertiary institutions, that satisfy the criteria for the accessible population, and ask if they are willing to take part in this research study.
- Participating student will be informed of the details regarding the research and complete an informed consent form.
- A total of 30 students will be asked to complete the questionnaire.
- The questionnaire will be administered by the researcher but will be straightforward and easy to understand, so as to limit the researcher's involvement while the participant is answering the questionnaire.
- The questionnaires will be collected, recorded, and interpreted by the researcher.

3.5.2 Data Collection Application

In order to collect the data from each respondent, the questionnaire was developed. The questions contained in the questionnaire were all closed-ended in nature aside from the final question which allowed the participants to provide an alternative answer should theirs not have been in the list of possible answers. The questions used in the questionnaire were all aimed at the preferences of students regarding music and listening to music whilst studying. The questionnaire used for the collection of the data has been attached as appendix 1.

The questions were programmed into the online survey tool named Survey Monkey. This online tool was used as it allowed respondents to complete the survey with ease, without having to be in face-to-face contact with other individuals, such as the researcher or other participants, to mitigate against spreading the Coronavirus. The participation of all individuals regardless of their COVID-19 status contributed to the sample being more representative of the population, as no one had to be excluded from the study due to a positive infection status. The use of the online survey tool did, however, pose a limitation as it limits the number of questions that the researcher could ask the participants. The number of questions posed to the participant was for this reason limited to ten.

Once the questionnaire was programmed into the online tool the researcher contacted individuals that adhered to the population parameter of the study through the use of WhatsApp, a messaging application commonly used in South Africa (Clement, 2020). The individuals were then informed of the research and invited to participate using a message that contained a link to the questionnaire on the Survey Monkey web site.

Individuals who were willing to participate in the research followed the link to the questionnaire. The first page of the questionnaire contained all of the information required for the participant to provide informed consent, the first page also contained the contact details of the researcher and the researcher's supervisor should the participants have any unanswered questions before they completed the questionnaire. Once a participant proceeded to answer the ten questions contained in the questionnaire, they provided passive consent. The answers provided by the participants were recorded by the online survey tool and stored for the researcher to access when needed.

Due to the large number of receptive students more than thirty questionnaires were completed. All the questionnaires were examined and those that were only partially completed were excluded from the analysis. After excluding the incomplete questionnaires, a total of forty completed questionnaires remained. The sample size was for this reason changed to forty participants.

3.6 Data Analysis

3.6.1 Data Analysis Method

Descriptive statistics will be used to explore and describe the perceptions held by students. Descriptive statistics is a collective name used for a number of statistical methods used to describe and summarise data so that it is understandable and meaningful (Christensen, Johnson, & Turner, 2015; Pietersen & Maree, 2020). To attain the most accurate representation of the data, the researcher will use a statistical software program such as Statistical Product and Service Solutions, commonly abbreviated as SPSS.

Due to the categorical nature of the data that will be gathered, it will be challenging to represent the data in terms of measures of central tendency. Measures of Central tendency refer to the numerical value that expresses the typical expression of a numerical variable, the most common measures of central tendency are the mean, the median, and the mode. The mean refers to the arithmetic average, the median refers to the centre point in a set of values that have been arranged in order, and the mode refers to the number that most frequently occurs for a variable (Christensen, Johnson, & Turner, 2015). The data will, therefore, be represented in the form of frequency tables and graphs so that it can be easily understood and compared with similar data.

3.6.2 Data Analysis Application

The online survey tool used for the collection of the data from the participants not only saved the responses provided by the participants but also provided the analysis of the data. As mentioned before the data collected in this research was difficult to represent in terms of central tendency. Survey Monkey does, however, consolidate the data collected in such a manner that it provides detailed percentages of the number of respondents that selected a specific answer for a question. This is useful as it allowed the researcher to interpret the findings, with ease, by comparing the answers provided from different questions and drawing conclusions from these comparisons. Survey Monkey also provided the researcher with graphs that are compiled using the data the respondents offered. These graphs clearly indicate the frequency with which answers were selected. An example of these graphs can be seen in Figure 1 and 2. These

graphs simplify the comparison of answers provided by the respondents and allow the researcher to identify the relevant findings.



Figure 1



Figure 2

4. Findings and Interpretation of Findings

This research has been conducted with the aim of answering the main research question which asks what the perceived impact of music is on the studying experiences of tertiary institution students. To reach this goal data was collected from a sample of the target population, using questionnaires. For the purposes of this research study the target population refers to all the students currently enrolled at a tertiary institution in South Africa, the sample used consisted of forty participants studying at tertiary institutions located in either Johannesburg or Pretoria.

Answering the research question from the start is challenging as there are multiple factors that influenced the answer. In order to answer the research question, sub-questions were generated that will assist in this regard. The sub-questions will, therefore, be answered first, as they provide steppingstones which will aid in determining the answer to the main research question.

In the first section, Presentation and Interpretation of Findings, each of the questions used in the questionnaire will be discussed with its results and will include an interpretation of said results. In the second section, Research Question and Sub-

questions addressed, the results will be used to answer the sub-questions and subsequently the research question.

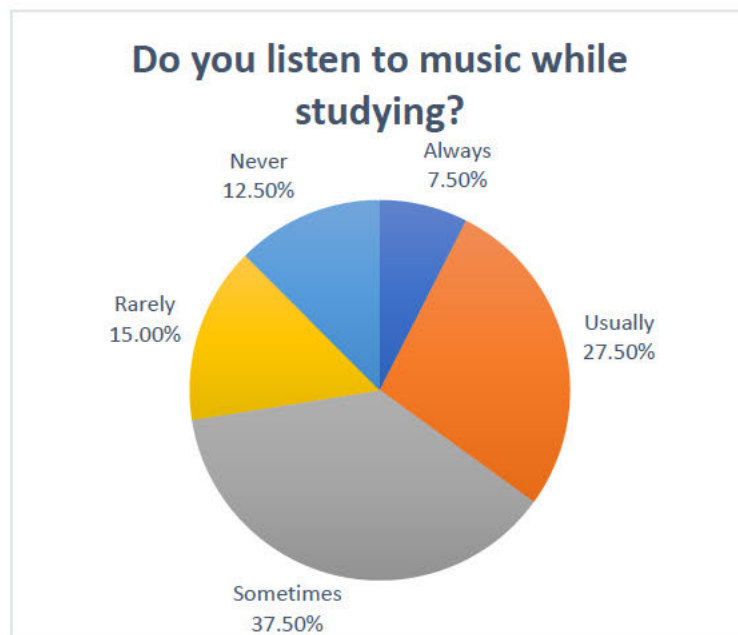


Figure 4 - Results from question 1.2.

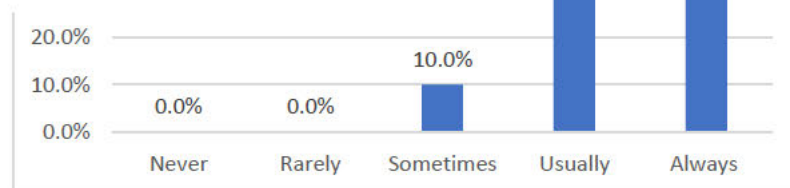


Figure 3 – Results from question 1.1.

The first question of the questionnaire was aimed at establishing whether a participant listened to music regardless whether or not they are studying. This is crucial information, because if a participant does not listen to music in general, they are less likely to listen to music while studying regardless of the impact that they believe music has on studying. As seen in Figure 3 all the participants listen to music in general with most of the participants, 57.5%, stating that they always listen to music.

4.1.2. Do You Listen to Music While Studying?

After determining the number of participants who do listen to music in general, it was necessary to determine how many of them listen to music while studying. When comparing the result from Figure 3 and Figure 4 it becomes evident that although all the participants listen to music in general, not all participants listen to music while

studying. Figure 4 indicates that 37.5% of participants sometimes prefer to listen to music while studying, and 27.5% of participants usually prefer listening to music while

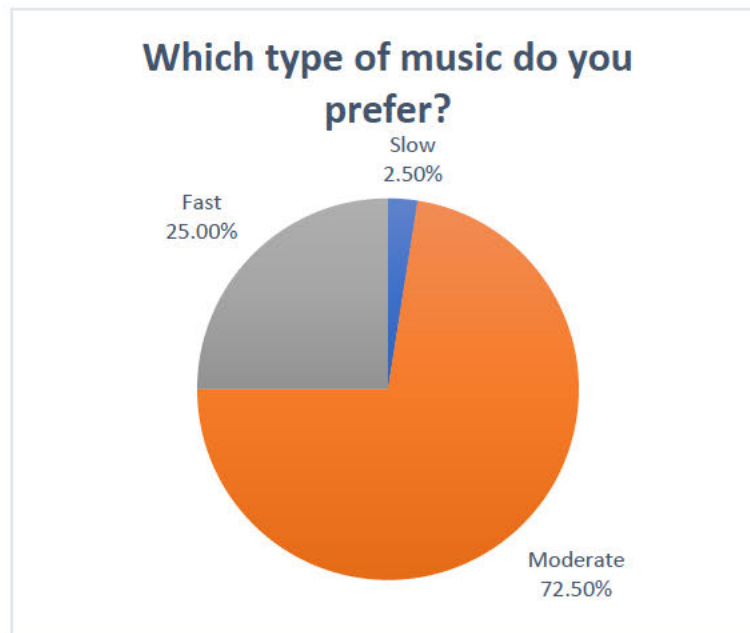


Figure 5 – results from question 1.3

studying. This indicates that most participants, 65%, do prefer listening to music while studying on a regular basis, but do not listen to music every time they are studying.

4.1.3 Music Tempo

The results from Question 1.3 are useful as they indicate the music tempo that is mostly preferred by participants. Knowledge of the preferred music tempo is useful as it speaks to one of the aspects of the arousal-mood hypothesis as tempo is an influencing factor of mood and arousal, which in turn influence the study experience. (Husain, Thompson, & Schellenberg, 2002). In Figure 5 it can be seen that 72.5% of participants prefer music with a moderate tempo. This is in line with the results from Husain et al's (2002) research that indicates that a fast tempo combined with a major mode yield the best performance on spatial tasks. Despite this insight it is not known if the preferred tempo actually 'worked' in favour of the respondents.

4.1.4 The Volume of Music While Studying.

Figure 6 clearly indicates that the majority of students, 77.5%, prefer music that is either soft or moderate with regards to volume. This could indicate that listening to music at a loud volume, while studying, is experienced as being disruptive whilst studying, seeing as only 7.5% of participants listen to music at this volume level while studying. It is also necessary to note that there is a difference in the number of participants who claim not to listen to music while studying when comparing Figure 4 and Figure 6, the difference in the figures correlates to one individual changing their position regarding this statement. This could be due to a mistake or an increase in self-awareness.

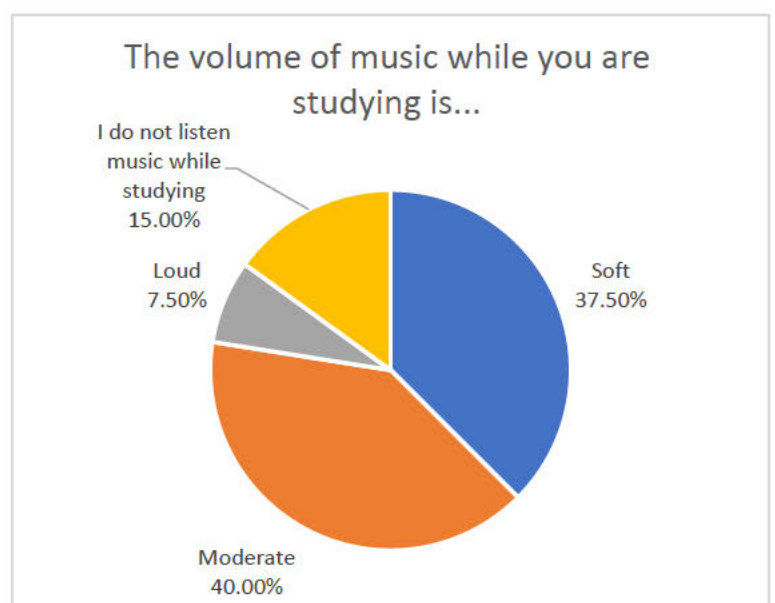


Figure 6 - results from question 1.4

4.1.5 Influence of Subjects

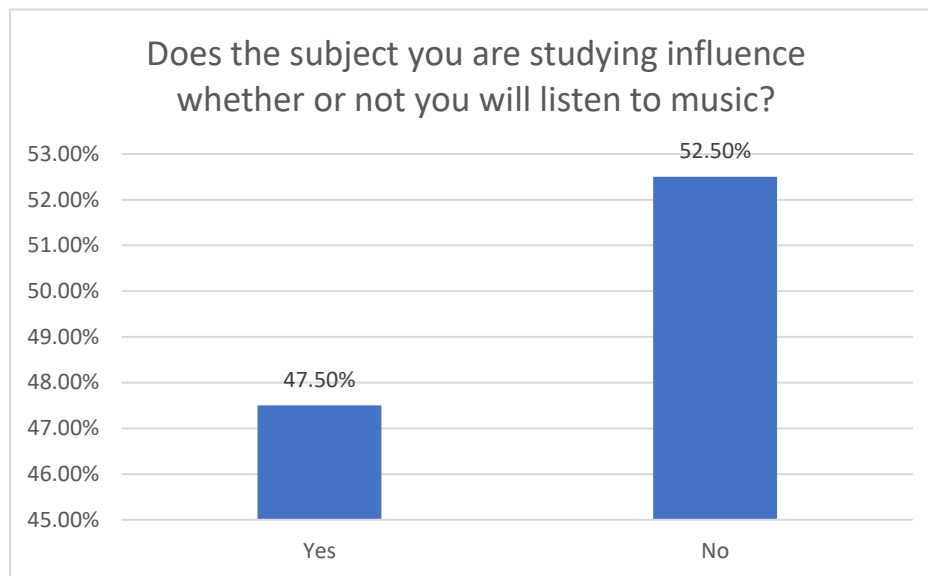


Figure 7- results from question 1.5

According to the results seen in Figure 7, most of the participants believe that the subject they are studying does not influence whether or not they will listen to music while studying. The difference between the two groups of participants is, however, only 5%. If one of the participants selected yes instead of no there would be no difference as both categories would have 20 participants and thus a 50/50 ratio. It can thus be said that the perceived influence of the subject type is different from person to person.

4.1.6 Subject Type

Although Figure 7 indicates no large difference in the perceived influence that subject type has on whether a participant will listen to music while studying, Figure 8 does indicate a trend in likeliness. In Figure 8 it can be seen that 45% of participants are less likely to listen music while studying subjects related to theory, and 30% when studying Mathematics. Participants are, therefore, most likely to listen music while studying for subjects that are related to Languages or Practical application.

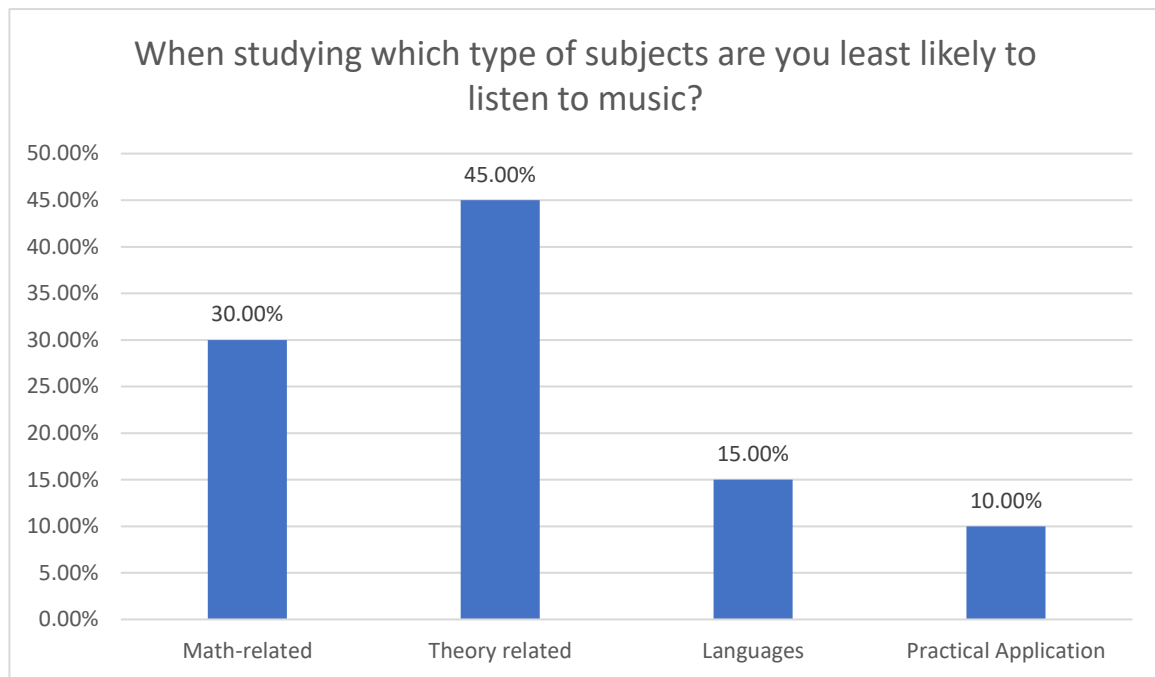


Figure 8 - results from question 1.6

4.1.7 The Opinions of Participants

This question was aimed at directly asking the participants their opinion of listening music while studying. They provided valuable information, which allowed the researcher to gain insight into the beliefs that the participants hold regarding their own perceptions. This information should however still be combined with the results from other questions when answering the research question and the supporting sub-questions. This is necessary as some participants may not have been aware of all influencing factors, such as music volume, tempo and genre when answering the questions regarding their overall opinion. Figure 9 shows the results that portray the opinions of the participants. As indicated in Figure 9 the majority of participants, 75%, attributed a level of helpfulness to music while studying. The level of helpfulness varied from somewhat helpful to extremely helpful, with the largest number of participants highlighting that listening to music whilst studying is somewhat helpful.

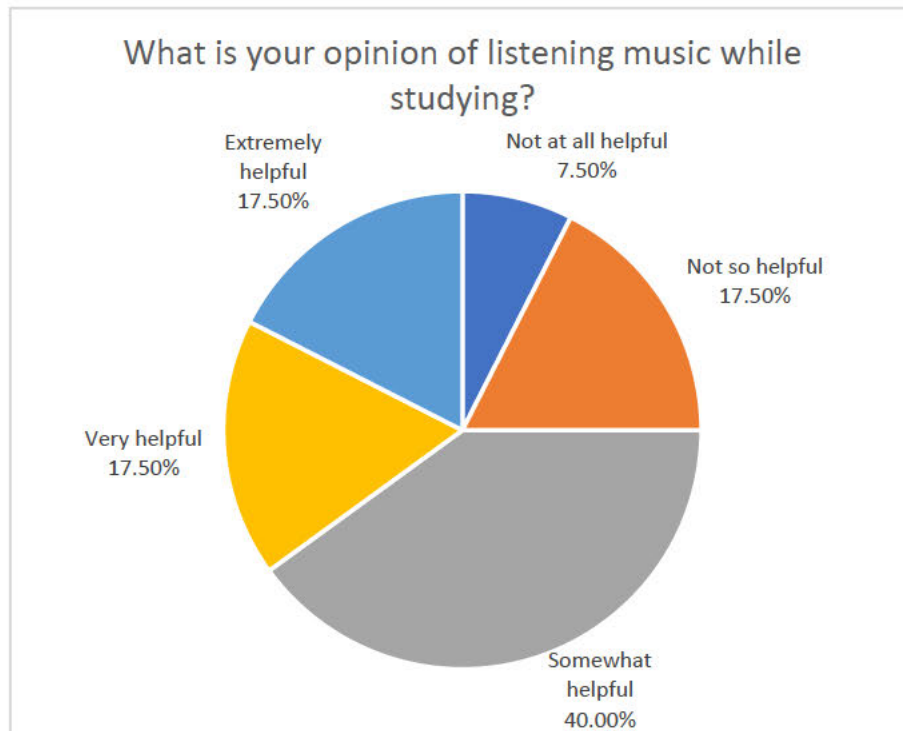


Figure 9 - results from question 1.7.

4.1.8 Note Taking

Question 1.8. was aimed at determining the participants' note taking behaviour. This is important to consider as Wang, Sundararajan, Adesope and Ardasheva (2017) suggest note-taking as a way of overcoming the impact of seductive details. As seen in

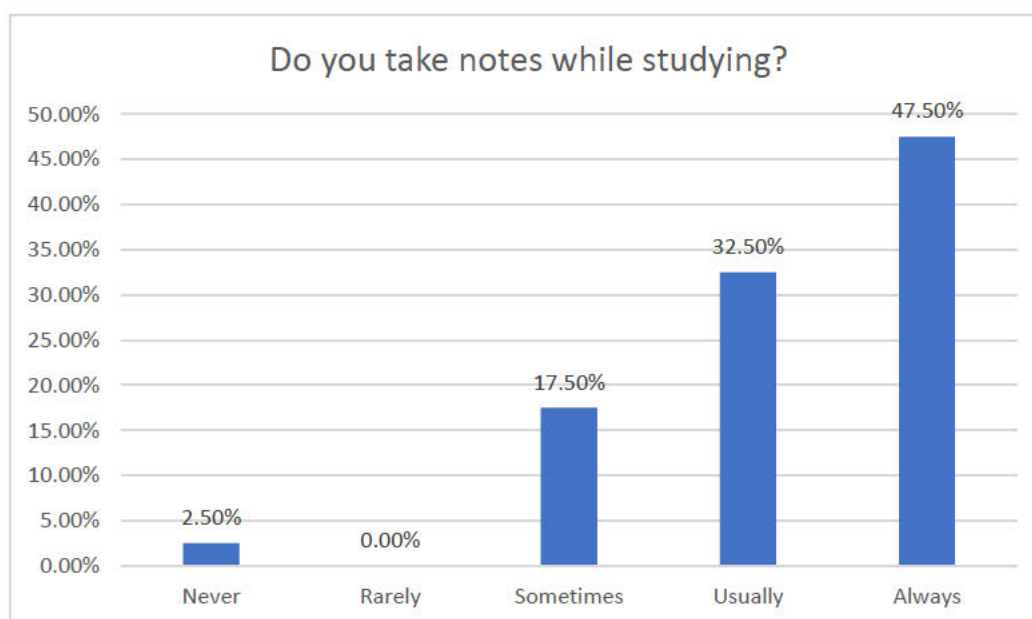


Figure 10 - results from question 1.8.

Figure 10 the prevalence of note-taking differs with only 47.5% of participants always taking notes while studying. The majority of the participants do, however, take notes on some occasions as only 2.5% of participants claim to never take notes while studying, and none of the participants claimed to take notes only on rare occasions.

4.1.9 Personality Type

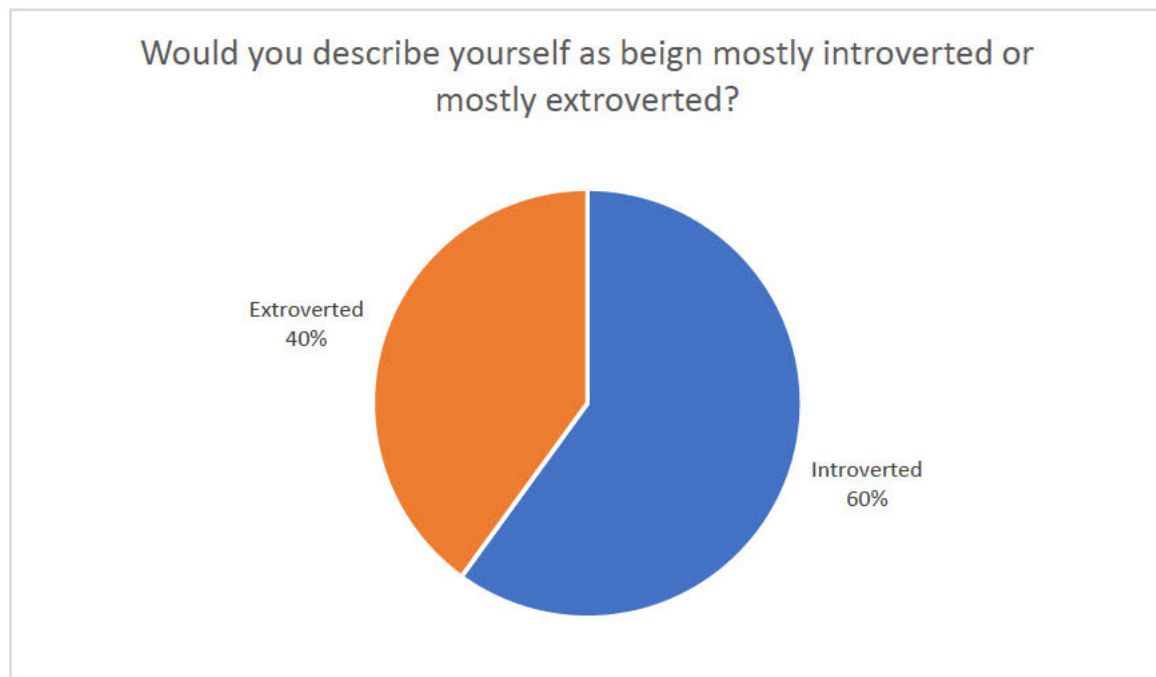


Figure 11 - results from question 1.9

The aim of Question 9 was to gather information about the personality type of the participants. The importance of personality type lies in the statement made by Lehmann, Hamm and Seufert (2019) who, in their study on the influence of background music in learners with different levels of extraversion, state that, although fast paced music might be beneficial for students with high levels of extraversion, it may over-arouse introverted individuals. If over-aroused the benefits of listening to fast paced music as stated by the arousal-mood hypothesis, could be oppressed. In Figure 11 it can be seen that the majority of the participants, 60% to be more specific, would describe themselves as being mostly introverted. This should be taken into consideration along with the results from Question 1.3. and Question 1.4. when answering the sub-questions.

4.1.10 Music Genre

The final question was aimed at gathering information regarding the music genres that are most often preferred by participants when they are studying. This is important as the genre of music can influence the mood of an individual and some genres can be seen as distracting. The genres most often preferred, as seen in Figure 12, are Instrumental, Pop, and Classical. Figure 12 indicates the number of times a genre was selected as participants were allowed to select multiple genres. Participants were allowed to select multiple genres to allow for the possibility that they switch between genres while studying or when studying different subjects.

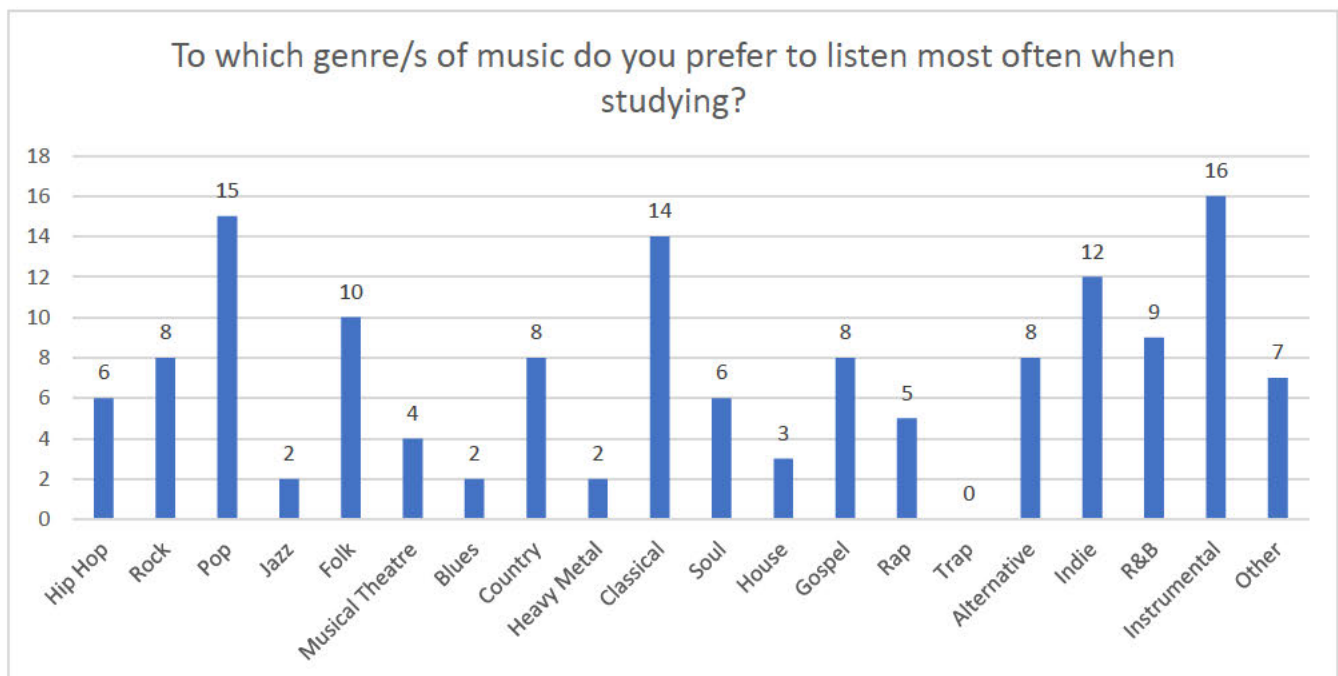


Figure 12 - results from question 1.10.

4.2. Research Question and Sub-Questions Addressed

4.2.1 Sub-Questions

- Does the Volume, Genre or Tempo of The Music Influence the Perceptions of The Students Regarding Their Studying Experiences?

The volume, genre and tempo of music does seem to influence the perceptions of students regarding the studying experience, given that the results from Question 1.3, Question 1.4, and Question 1.10 that pertain to these three factors all have answers that are clearly selected more often by the respondents. With regards to the volume

and tempo of the music participants seem to favour the moderate option. This could in part be due to the majority of the participants, 60%, being introverted, therefore, a faster tempo or louder volume might be too overwhelming for them.

- Is There A Difference in The Nature of The Findings When Students Listen to Music Whilst Studying, As Opposed to Listening to Music Prior to Studying?

Based on the results from Question 1.1 and Question 1.2 it can be seen that although all of the participants listen to music at least sometimes, not all of them listen to music while studying. In Figure 3 it can be seen that a 57.5% majority of the participants always listen to music. Based on this it is likely that at least 57.5% of participants would listen to music prior to studying, even if not intentionally. In Figure 4 it can be seen that 72.5% of participants listen to music at least sometimes when studying. Figure 9 indicates that 75% of participants attributed a level of helpfulness to listening music while studying.

When taking the above information into consideration it could be possible to say that there is no difference in the findings when listening to music prior to or whilst studying. The researcher does however not have information to indicate whether or not listening to music had the desired effect of helping participants with retaining the information in memory. This would, therefore, be better proved through an experiment in future research.

- Do Students Have A Specific Preference on Whether They Listen to Music or Not Dependant on The Subject They Are Studying?

Based on the results in Figure 7 it seems as though the opinions of the participants regarding whether they listen to music is dependant on the subject they are studying are quite balanced with an almost equal answer ratio. This could mean that the subject does not have a large influence on whether music would be present or not. When participants were forced to select a subject type that would most likely exclude music from the study experience there was a clear difference between theory/ mathematical

related subjects and language/ practical application related subjects, with the latter being more favoured in terms of listening to music whilst studying.

Based on the above information the researcher could conclude that although subject type is not a main influencing factor, participants are inclined to exclude music when studying certain subjects.

- Are the Perceptions of Students Similar or Do They Differ Largely?

Although there are questions where participants have largely differing views, most of the questions resulted in a majority answer. This indicates a level of similarity in the perceptions of students.

4.2.2 Research Question

4.2.2.1 What Is the Perceived Impact of Music on Tertiary institution Students' Studying Experiences?

Based on the answers to the sub-questions it seems that students perceive music to have a positive impact on their studying experience. This conclusion can be reached based on the percentage of student who listen to music at least sometimes while studying, 72.5% to be exact, as well as the percentage of students (75%) that are of the opinion that music is at least somewhat helpful when studying.

The researcher is, however, of the opinion that this perceived positive impact is dependent on the genre, tempo, and volume of the music as well as the student's personality type and study method. The researcher has formed this opinion by considering the interaction between these different factors and concludes that music seems to have a positive impact when these factors are combined in the right ratios.

It is important to note that this study did not take into consideration the degree to which students could actually retain the information they studied. This would need to be explored further in future studies in order to determine whether the perceptions of students regarding the helpfulness of music are accurate.

5. Validity and Reliability

Validity

As described earlier in the report validity refers to whether a measure actually measures what it intends to (Pietersen & Maree, Standardisation of a questionnaire, 2020). There are however different types of validity namely face validity, content validity, construct validity, and criterion validity. The different types of validity are described below as well as the steps that need to be taken to achieve a valid measure for this research study.

Face Validity is the extent to which a measure looks valid with regards to what it seems to be measuring (Pietersen & Maree, Standardisation of a questionnaire, 2020), face validity has been achieved within this research study by continuously keeping the research question and the sub-questions in mind while developing the questionnaire.

Content Validity refers to whether the measure assesses all the aspects of the construct that the researcher wants to measure (Pietersen & Maree, Standardisation of a questionnaire, 2020), regarding this research study content validity refers to the different perceptions students might have with regards to the influence of music on studying. The questionnaire was, therefore, developed to gather information not only related to positive perceptions but also related to negative and even neutral perceptions.

Construct Validity refers to need for a measure to measure all the different factors that make up the construct being measured (Pietersen & Maree, Standardisation of a questionnaire, 2020), regarding this research study there are a few factors that would need to be considered such as, the preference of a student to listen to music, the preferred genre of music, the student's cultural background, and the subject that the student is studying. These factors have been incorporated during the development of the questionnaire in an attempt to achieve a higher level of construct validity.

Criterion validity speaks to the correlation between the results from one measure and another recognised measure of the same construct when both have been used on the same sample (Pietersen & Maree, Standardisation of a questionnaire, 2020). Even

though a high level of criterion validity could show that the measure truly measures the intended construct, it was unfortunately not possible to measure this during an Honours level research study as the time and resources are too limited when considering the required time and resources to use two different measures on the same sample.

When looking at the different types of validity it becomes evident that there are many influencing factors that contribute to the overall validity of a research study. In addition to considering the different types of validity, it is important to look at things that pose a threat to validity. Some of the things that could threaten the validity of a questionnaire are the reliability, response sets, social desirability, and item bias. These threats can be controlled for by formulating items both positively and negatively, formulating items in such a way that the participant does not try and select the 'expected' answer, and formulating questions in a way that accounts for cultural differences (Pietersen & Maree, Standardisation of a questionnaire, 2020).

Reliability

Reliability refers to whether the instrument would yield the same results when used at a different time or administered to a different group of respondents. To be reliable a measure, therefore, needs to be repeatable and consistent (Pietersen & Maree, Standardisation of a questionnaire, 2020). Just as there are different types of validity, there are also different types of reliability.

The first type of reliability is test-retest reliability. This type of reliability is determined by administering the same measure to a participant and calculating the correlation coefficient to compare the results of the first and second set of results (Pietersen & Maree, Standardisation of a questionnaire, 2020). The second type of reliability is equivalent form reliability, which is determined by administering a measure to a participant and then administering an equivalent measure on a second occasion (Pietersen & Maree, Standardisation of a questionnaire, 2020). The third type of reliability is split-half reliability. This type of reliability is obtained by dividing a single measure into two separate measures and then comparing the results of the two measures (Pietersen & Maree, Standardisation of a questionnaire, 2020).

These types of reliability are however not well suited to the measure required in this research study, as they require multiple measures to be administered or require a measure to be long enough to be divided into two. Both requirements are impractical due to the limitations on time and resources that accompany this research study.

The fourth type of reliability is internal reliability. This type of reliability is obtained by formulating multiple items that measure the same construct (Pietersen & Maree, Standardisation of a questionnaire, 2020). This type of reliability is much better suited to this research study as it does not require the measure to be too lengthy and does not require multiple measures to be administered. This type of reliability can be implemented by including multiple items that measure the same construct i.e. music preference.

6. Conclusion

6.1 Summary of Findings as They Relate to The Research Question

The researcher found that the majority of participants preferred music that had a moderate tempo and volume, although this could be due to the majority of participants being mostly introverted. The researcher also found that the subject type did not have a significant impact on whether students listen to music while studying, but they were more inclined to listen music when studying subjects related to language and practical application.

The findings of this research study indicate that the majority of students perceive music to have a beneficial impact on studying. This is however dependent on a combination of other factors, such as the genre, tempo, and volume of the music in addition to the student's personality type and study method.

6.2 Anticipated Contribution of The Study (Implications of Findings)

The anticipated contribution of this study is not in any way the results, it is merely a description of the information that the researcher expects to collect and how that information contributes to the larger body of knowledge currently available. The

researcher expects that this study will provide valuable knowledge regarding the perceptions that South African students have about the relationship between music and studying. Even though similar studies have been conducted in the past, there remains a gap in current literature regarding the perceptions of students in the South African context. The main contribution that the researcher expects is in filling this gap in the literature and opening a door for future research to be conducted based on the results obtained. This research could be beneficial in future studies that aim to determine whether the perceptions of students are accurate with regards to the beneficial impact that music has on studying. Future research could also be conducted with regards to differences between the perceptions of introvert and extroverts. Similarly there is still a large gap with regards to the perceptions of students from different cultural backgrounds that needs to be addressed in future research.

6.3 Ethical Considerations

Research ethics are the guidelines set in place that assist researchers when they are deciding how to conduct ethical research (Christensen, Johnson, & Turner, 2015). Regarding the participant, it is important to get signed informed consent. The participant should also be informed of their right to withdraw from the study at any moment without any ill consequences to them. From an ethical point of view, it is important to keep the identity of the participant anonymous and to treat their responses as confidential to protect their privacy. Given that this is a cross-sectional study it is unnecessary to collect any identifying information, such as names, surnames, or ID numbers, from the participants. The information collected from the participants is also not of a sensitive nature and there should be no problem with keeping the information obtained from the participants confidential. The lack of identifying information as well as the confidentiality of their responses should be enough to keep the identity of the participants anonymous.

The researcher should refrain from influencing the participant and should promote non-maleficence and beneficence throughout the study. This should be easily attainable as the questions are not of a sensitive nature. Using a questionnaire that is easily understandable will also minimise the influence that the researcher has on the

answers that the participants provide. The researcher must also take care not to falsify the data to fit their beliefs.

6.4 Limitations of The Study

A limitation that needs to be considered is access to participants. Given the current state of disaster in South Africa, due to the Coronavirus pandemic, sampling has been affected. At the time of data collection national regulations were put in place limiting the movement of people, the data collection therefore had to be conducted using online questionnaires instead of printed questionnaires. This has influenced the generalisability of the results as the sample may be skewed towards individuals that have internet access. The second limitation is data saturation, seeing as the sample size is too small when compared to the population to achieve a high level of data saturation. Another limitation of this study is the consideration given to different cultural backgrounds, as the large cultural diversity in South Africa might limit the generalisability of the findings. The use of SurveyMonkey also resulted in a limitation as the number of questions were limited and as a result so was the amount of information that could be gathered.

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8. Annexures

8.1. Annexure A – Questionnaire

To whom it may concern,

My name is Paul Michael Bennett, and I am a student at the IIE's Varsity College Sandton. I am currently conducting research under the supervision of Megan-Lee Coetzee about the perceptions of tertiary students regarding the impact that music has on their study experience. I hope that this research will enhance our understanding of the relationship between music and studying in the South African context.

I would like to invite you to participate in my study. In order to explain to you what your participation in my study will involve, I have formulated questions that I will try to fully answer so that you can make an informed decision about whether or not to participate. If you have any additional questions that you feel are not addressed or explained in this information sheet, please do not hesitate to ask me for more information. Once you have read and understood all the information contained in this sheet and are willing to participate, please provide consent below.

What will I be doing if I participate in your study?

I would like to invite you to participate in this research because you meet the population criteria and I believe that you could provide valuable insight relating to my research question. If you decide to participate in this research, I would like to fill out a short questionnaire relating to your personal experiences and opinions.

You can decide whether or not to participate in this research. If you decide to participate, you can choose to withdraw at any time or to decide not to answer particular interview questions.

Are there any risks/ or discomforts involved in participating in this study?

Whether or not you decide to participate in this research, there will be no negative impact on you. There are no direct risks or benefits to you if you participate in this study. You might, however, indirectly find that it is helpful to talk about your perceptions of music and studying. If you find at any stage that you are not comfortable with the line of questioning, you may withdraw or refrain from participating.

Do I have to participate in the study?

- Your inclusion in this study is completely voluntary;
- If you do not wish to participate in this study, you have every right not to do so;
- Even if you agree to participate in this study, you may withdraw at any time without having to provide an explanation for your decision.

Will my identity be protected?

I promise to protect your identity. This questionnaire is completely anonymous and I will therefore not use your name in any research summaries to come out of this research and I will also make sure that any other details are disguised so that nobody will be able to identify you.

What will happen to the information that participants provide?

Once I have finished all interviews, I will write summaries to be included in my research report, which is a requirement to complete my IIE Bachelor of Arts Honours in Psychology. You may ask me to send you a summary of the research if you are interested in the final outcome of the study.

What happens if I have more questions about the study?

Please feel free to contact me or my supervisor should you have any questions or concerns about this research, or if there is anything you need to know before you decide whether or not to participate.

My contact details are as follows:
Paul Michael Bennett

The contact details of my supervisor are as follows
Megan-Lee Coetzee

By proceeding you agree to participate in the research

1. Do you listen to music while studying?
 - ☐ Always
 - ☐ Usually
 - ☐ Sometimes
 - ☐ Rarely
 - ☐ Never
2. How often do you listen to music in general?
 - ☐ Never
 - ☐ Rarely
 - ☐ Sometimes
 - ☐ Usually
 - ☐ Always
3. The volume of music while you are studying is...
 - ☐ Soft
 - ☐ Moderate
 - ☐ Loud
 - ☐ I do not listen to music while studying
4. Which type of music do you prefer
 - ☐ Slow,
 - ☐ Moderate
 - ☐ Fast
5. Does the subject you are studying influence whether you will listen to music?
 - ☐ Yes
 - ☐ No

6. When studying which type of subjects are you least likely to listen to music?

- ☐ Math-related
- ☐ Theory related
- ☐ Languages
- ☐ Practical application

7. What is your opinion of listening to music while studying?

- ☐ Not at all helpful
- ☐ Not so helpful
- ☐ Somewhat helpful
- ☐ Very Helpful
- ☐ Extremely helpful

8. Do you take notes while studying?

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Usually
- ☐ Always

9. How would you describe yourself in general?

- ☐ Introverted
- ☐ Extroverted

10. Which genre of music do you prefer most often when studying?

Hip Hop	Country	Trap
Rock	Heavy Metal	Alternative
Pop	Classical	Indie
Jazz	Soul	R&B
Folk	House	Instrumental
Musical Theatre	Gospel	
Blues	Rap	
Other (please specify):		

8.2. Annexure B – Permission Letter

8.3. Annexure C – Ethical Clearance Letter

29 July 2020

Student name: Paul Michael Bennett

Student number: 20106766

Campus: IIE's Varsity College Sandton

Re: Approval of Honours in Psychology Proposal and Ethics Clearance

HONOURS/PGDIP ETHICAL CLEARANCE LETTER

Your research proposal and the ethical implications of your proposed research topic were reviewed by your supervisor and the campus research panel, a subcommittee of The Independent Institute of Education's Research and Postgraduate Studies Committee.

There are some aspects that you still need to address in your proposal. You will need to address these aspects in consultation with your supervisor before you may proceed (see below):

Please discuss with your supervisor/navigator/lecturer how you will address these issues listed below:

Please note: **Your fieldwork may only proceed once you address the following issues:**

- [REDACTED]
- [REDACTED]
- [REDACTED]

In the event of you deciding to change your research methodology in any way, kindly consult your supervisor to ensure all ethical considerations are adhered to and pose no risk to any participant or party involved. A revised ethical clearance letter will be issued.

We wish you all the best with your research!

GENERAL CONDITIONS TO BE FULFILLED IN RELATION TO RESEARCH

Permission is granted to proceed with the above study subject to the conditions listed below being met and may be withdrawn should any of these conditions be flouted.

Permission is granted subject to the following conditions:

1. The researcher(s) will need to obtain informed consent in writing from all of the participants in his/ her sample if the study is not anonymous.
2. The researcher(s) may only use the data collected for research purposes and in no other way.
3. Photographs of human subjects may only be taken if relevant to the research, informed consent was obtained, and even with informed consent, the photographs may not be published on any online platforms.
4. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
5. No names or identifying information of participants may be used within the research and the research must be voluntary.
6. Please make it clear that the information will not be used punitively in any way and participants may in no way be counselled/advised based on this.

Supervisor: Megan Coetzee

Campus Postgraduate Coordinator (CPC):

JENNA-LEE RAMNARAIN

8.4. Annexure D – Examples of Data Collected

1. Do you listen to music while studying?
 - Usually
2. How often do you listen to music in general?
 - Sometimes
3. The volume of music while you are studying is...
 - Soft
4. Which type of music do you prefer
 - Moderate
5. Does the subject you are studying influence whether you will listen to music?
 - Yes
6. When studying which type of subjects are you least likely to listen to music?
 - Theory related
7. What is your opinion of listening to music while studying?
 - Very Helpful
8. Do you take notes while studying?
 - Usually
9. How would you describe yourself in general?
 - Introverted
10. Which genre of music do you prefer most often when studying?

Jazz	Classical
Folk	Soul
Musical Theatre	Indie
Instrumental	Gospel
Other (please specify):	Electronic upbeat White noise

8.5. Annexure E – Originality Report

Blackboard

SafeAssign Originality Report

RESEB419_VCS01 • Safe Assign Plagiarism Practice

View Originality Report - Old Plagiarism

Paul Bennett

Submission UUID: 899dd87-722e-0f48-1096-9c3ae9575c7d

Total Score:

High risk

72 %

Total Number of Reports	Highest Match	Average Match	Submitted on	Average Word Count
1	72 %	72 %	28/10/20	14,944
	RESEB419_Research Report_20194766.pdf		12:48 GMT+2	Highest: RESEB419_Research Report_20194766.pdf

Attachment 1

72 %

Word Count: 14,944

RESEB419_Research Report_20194766.pdf

Institutional database (16)

72 %

1 My paper	2 My paper	3 My paper
16 Student paper	8 Student paper	11 Student paper
2 Student paper	5 My paper	20 Student paper
2 Student paper	16 Student paper	12 My paper
10 Student paper	4 Student paper	22 Student paper
21 Student paper		

Internet (5)

0 %

16 solelo	15 semanticscholar	14 noiseandhealth
15 frontiersin	17 abacademies	4 epdf

Top sources (3)

1 My paper	2 My paper	3 My paper
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Excluded sources (0)

8.6 Annexure F – Final Research Report Summary Document Table

Research Purpose/ Objective	Primary Research Question	Research Rationale	Seminal Authors/ Sources	Literature Review – Conceptual Framework	Paradigm	Approach	Data Collection Method(s)	Ethics	key Findings	References
Exploring the impact of music on studying: A quantitative study on the perceptions of tertiary institution students, using questionnaires.	What is the perceived impact of music on the studying of tertiary institution students?	The researcher believes that the current knowledge is limited as most of the research regarding the topic has been conducted in countries with vastly different cultural influences than those found in the South African context.	Lehmann & Seufert, 2017. Verrusio, Ettore, Vicenzini, Vanacore, Cacciafesta & Mecarelli, 2015. Wang, Sundararajan, Adesope, & Ardasheva, 2017	Theme 1: Perceptions and Music Theme 2: Memory Theme 3: Neurophysiological responses in mood and arousal	For this research the paradigm that fits best is positivism. Realism has been selected as the ontological position Regarding the axiology of the study, the researcher will try to maintain objectivity.	Quantitative Population Target population: Students studying at a tertiary institution. Accessible population: Students studying towards a degree at tertiary institutions located in Johannesburg and Pretoria	Closed-ended Questionnaires will be used to gather the information that is objective and rich enough to explore the topic.	The study does not require any identifying information and the confidentiality and anonymity of the participant should be easily maintained. The study does also not require any information that may be sensitive and, therefore, poses no risk of harm to the participants.	Student perceived music to have at least some beneficial impact on studying.	Lehmann & Seufert, 2017. The Influence of Background Music on Learning in the Light of Different Theoretical Perspectives and the Role of Working Memory Capacity Verrusio, Ettore, Vicenzini, Vanacore, Cacciafesta & Mecarelli, 2015. The Mozart Effect: A quantitative EEG study. Consciousness and Cognition Wang, Sundararajan, Adesope, & Ardasheva, 2017. Moderating the Seductive Details Effect in Multimedia Learning with Note-Taking
Research Problem	Secondary Research Questions			Key Concepts	Key Theories	Sampling	Data Analysis Method(s)	Limitations	Anticipated Contribution	
The limited knowledge we have about music as an environmental factor in the South African context and the impact it has on South African tertiary institution students and their studies.	Does the volume, genre or tempo of the music influence the perceptions of the students regarding their studying experiences? Is there a difference in the nature of the findings when students listen to music whilst studying, as opposed to listening to music prior to studying? Do students have a specific preference whether they listen to music or not dependant on the subject they are studying? Are the perceptions of students similar or do they differ largely?			Music, Working Memory Capacity, Mood, Arousal, and studying	The arousal-mood hypothesis The seductive detail effect	Non-probability sampling Sampling method: convenience sampling Size: 40 people	Descriptive statistics will be used to analyse the data and present the result in a graphical manner. The unit of analysis will be students (human beings.)	The sampling method could be a limitation as convenience sampling may not yield a representative sample	It could provide crucial information about the relationship between music and studying from a South African perspective and by doing so may aid in the development of new study methods.	