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BENEFITS AND DRAWBACKS OF MUSIC IN STRESS MANAGEMENT IN A
WORKPLACE

Bachelor's Thesis

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I have written this Bachelor's Thesis independently. Any ideas or data taken from other authors or other sources have been fully referenced.

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Introduction

Almost 50% of employees stated they felt stress in their workplace, as a 2021 report by State of the Global Workplace concluded (GALLUP, 2021). Constant stress influences significant well-being indicators – mental stability, mental health, and even physical health (Casey, 2017). Mental states such as anxiety, depression, burnout, and addictions or physical conditions such as cardiovascular disease, chronic pain, and migraines are strongly associated with high-stress levels (APA, 2017). These conditions negatively impact the health of both employees and organisations, leading to more than \$300 billion in losses only in the US due to causes of occupational stress, according to the American Institute of Stress (2020).

Although many scholars state that a minor amount of stress can benefit the productivity and motivation of employees as it assists in achieving goals and stimulate employees' hidden skills (Panigrahi, 2016; Hargrove, 2015). Nevertheless, work insecurity, high-performance expectations, increased workloads, tight deadlines, or unpleasant workplace culture are among the most evident causes of high occupational stress (Kathpaila & Tyagi, 2012). These poor work environment factors can lead to poor mental and physical health and cause weak productivity, increased staff turnovers, higher absenteeism and presenteeism levels, and decreased morale (Michie, 2002; Gosselin, Lemyre & Corneil, 2013).

Managing stress within an organisation is a crucial factor in the successful life of a company, which is why focusing one's attention on Stress Management practices is essential and beneficial for enhancing employees' work motivation and ability to handle stress. Therefore, the companies and their employees need to evaluate and understand what effective procedures they can implement to gradually reduce the stress quantity among the entity (Panigrahi, 2016). Moreover, there are several stress management practices that managers could take into account depending on their final goal – whether it is reducing stress via preventative measures such as redesigning a job to meet an employee's capabilities and rearranging physical work environment or following the stress management interventions that support the employee to handle stress after its occurrence through, for example, meditation, arts, dance, or music (Glazer & Li, 2022; Holman et al., 2018).

Specifically, music is known for its ability to calm down, encourage, lighten a day and many more. Previous research and meta-analysis have confirmed that music interventions reduce psychological stress-related symptoms (worry, anxiety, restlessness etc.) (Witte et al., 2020). Moreover, music can improve employees' mental stability, influence the integration of employee relationships, enhance inter-department connections between workers, and increase

employees' happiness (Gang Li, 2022). Furthermore, Mao (2022) proposes using music practices as music therapy as a more efficient way of stress relief without side effects for an employee and as a cost-effective measure for an organisation. However, music also holds a few potential drawbacks – firstly, an incorrect choice of music genre can distract employees from their tasks (Witte et al., 2019). Secondly, for example, the age of employees should be considered since the older generation sees music as a disturbance that leads to irritation (Mayfield & Moss, 1989).

Music as a workplace stress management technique and a way to regulate stress response in individuals is a relatively new field, although it has been quantitatively researched. However, the author has not found any qualitative studies on the usage, benefits, and drawbacks of different music intervention used in the companies. Moreover, all the studies previously conducted were based on a person's psychological and physiological response to music, without covering the perspective of knowledgeable and experienced professionals operating in the field of musical interventions. Therefore, this thesis's empirical analysis fills in the gap by conducting interviews with representatives of Music Therapy, Musical Workshops, and Background Music companies to investigate their viewpoints on music's positive and negative aspects based on their professional experience. Such an approach is novel since it contributes to the depth of understanding of music interventions as a stress management method by providing real-life examples of interviewees.

The aim of this thesis is to determine what stress-related benefits and drawbacks occur when an organisation uses music intervention services based on the music services providers' experience.

To achieve the aim of the research, the author set up the following tasks:

- Provide theoretical background on workplace stress, its management importance, and strategies
- Give an overview of previous empirical studies on the influence of music on psychological stress response and physiological stress markers
- Analyse the importance of music as a stress management technique through the theory review on the similar topics
- Depict benefits and drawbacks of music interventions as a stress management method
- Conduct interviews with representatives of companies that distribute music services to other entities

- Compare the interview results in terms of the benefits and drawbacks music usage has on employees based on offerors' perspectives, make conclusions based on that and the theoretical background

To start the comprehensive explanation of the issue of work-related stress in subchapter 1.1, the definition will be drawn, followed by the description of the stress process and its consequences for both employees' and organisations' health. Subchapter 1.2 will define two stress management levels by bringing several possible methods for each level. Subchapter 1.3 will investigate the influence of music on an individual's psychological and physiological stress response factors. Subchapter 1.4 will provide a background of the usage of music interventions, different strategies that can be employed, and their benefits and drawbacks. Subchapter 2.1 overviews the data collected, the methodology used for further analysis, as well as giving information about interviews. Lastly, subchapter 2.2 consists of the empirical analysis of interviews conducted with a total of seven companies from the Music Therapy, Musical Workshops, and Background music industries. This subchapter draws attention to the advantages and disadvantages of music on employees stated by the interviewees.

I would like to express my deepest appreciation to my supervisor, Anne Aidla, whose constant support and guidance have been crucial in successfully completing this thesis. Anne's expertise and enlightening feedback supported me in shaping my ideas and improving the quality of my work. I could not have accomplished this without her patience, encouragement, and an everlasting dedication to my academic progress.

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KEYWORDS: Workplace stress, music interventions, stress management in the workplace

1. Music Interventions for Workplace Stress Management: Benefits and Drawbacks

1.1. Stress in a workplace and its consequences

This subchapter focuses on work-related stress as a major issue of concern. For a logical and comprehensive discussion, the author will first provide a definition of work-related stress based on the world organisations connected to the labour market. Positive and negative stress will be explained, augmented with the factors that result in each type of stress.

Moreover, the author will discuss the harmful impact stress has on the health of both employees and organisations and the losses it brings in terms of costs. The mentioned points would help get a basic understanding of the stress problem at a workplace, the factors contributing to overstressed employees, and the adverse outcomes of stress.

Stress in a workplace is a prevalent and often overlooked issue that may have rather serious consequences for both individuals and organisations. Stress can be caused by a variety of factors, including heavy workloads, tight deadlines, conflicts with workers, and a lack of support or resources (Kathpalia & Tyagi, 2012). When left unchecked, stress can lead to mental problems, such as burnout, anxiety, depression, and physical issues, including high blood pressure, increased cortisol levels, or insomnia. It can also negatively impact job performance, leading to decreased productivity, motivation and an increase in mistakes. (Panigrahi, 2016)

In order to follow the discussion of work-related stress, the definition needs to be established. World organisations operating in health and labour sectors interpret occupational stress differently (see Table 1).

Table 1

Definitions of work-related stress by organisations

Name of the Organization	Definition
World Health Organization (WHO), 2020	“Work-related stress is the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope.”
International Labour Organization (ILO), 2016	“Work-related stress is determined by work organisation, work design and labour relations and occurs when the demands of the job do not match or exceed the capabilities, resources, or needs of the worker, or when the knowledge or abilities of an individual worker or group to cope are not matched with the expectations of the organisational culture of an enterprise.”
Health and Safety Executive, UK (HSE), n.d.	“HSE defines stress as ‘the adverse reaction people have to excessive pressures or other types of demand placed on them’. Workers feel stress when they can’t cope with pressures and other issues. Employers should match demands to workers’ skills and knowledge.”
National Institute of Safety and Health (NIOSH), 1999	“Job stress can be defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury.”

Source: compiled by the author based on sources presented in the table

For example, ILO (2016) believes that occupational stress is related to a company’s operational model and processes that, in turn, create a hard-to-cope environment for their

employees, while other organisations (WHO, 2020; HSE, n.d.; NIOSH, 1999) see job stress as an individual's perceived challenge to meet organisation's expectations and needs due to the lack of knowledge or skills. However, each has a common meaning that aligns them all together. Generalising the definitions given by the organisations, work-related stress can be identified as a person's harmful physical and psychological response to requirements and expectations that a company sets, which exceed the perceived capabilities, knowledge, or resources of an employee, causing pressure to cope and perform.

Additionally, HSE's (n.d.) definition briefly explains the process of general stress and that it results from excessive pressures on an individual from either of the environments. Moreover, while WHO (2020) uses the broad term "response" to show the relation of an employee's reaction to high company demands, HSE (n.d.) and NIOSH (1999) also add "adverse" and "harmful" to the description which emphasises the negative consequences on physical and mental well-being that accompany work-related stress. Overall, the combination of the definitions provided suggests that due to the extensive amount of pressure caused by a company's high demand, an employee can feel overwhelmed by the workload, which results in increased stress levels—in turn, leading to poor work motivation, productivity, mental health, and physiological difficulties.

Even though constant stress contributes to various damaging factors and is perceived as a negative outcome, scholars and psychologists also differentiate positive stress that leads to higher job performance and can stimulate employees' concealed skills (Panigrahi, 2016). According to Selye (1987), a pioneering researcher in the field of stress, eustress or good, desirable stress is a beneficial type of stress that helps people adapt to new challenges and demands (as cited in Hargrove, 2015). In a situation of a proper challenge presented by an organisation, when an employee is enthusiastic about the outcome yet slightly stressed, eustress and high performance are evoked (Quick et al., 1997). Although, the maximisation of an employee's performance and the optimal amount of stress they can handle depends on the individual ("susceptibility to stress, fatigue, psychological and cognitive skills, and physical capacity") and the task ("complexity, difficulty, duration, and intensity") (Quick et al., 1997, p.4). Thus, it is essential for managers to evaluate and understand the needs and capacities of their employees to achieve higher performance, excluding the possibility of burnout and excessive workloads that a worker cannot tackle.

However, there is a fine line between when eustress can become distress. Once the duration of stress continues, an individual's inner resources to cope with this state are depleted (Colligan & Higgins, 2005). Distress or bad, undesirable stress is "the degree of

physiological, psychological, and behavioural deviation from an individual's healthy functioning" (Quick et al., 1997, p.5). A stressor is a physical or psychological stimulus that activates an individual's response (Quick et al., 1997). Although no single stressor resulting in distress can be named, yet it is rather an accumulation of different harmful experiences an individual undergoes. High workload, long hours, tight deadlines, demanding or complex tasks, lack of breaks, unpleasant working environment, and inadequate physical work conditions are among only some causes increasing the likelihood of high-stress levels (Michie, 2002).

Constant upcoming stress significantly influences an employee's well-being in general. It can damage a person's physical health by causing high blood pressure, increased heart rate, headaches, fainting, dizziness, and shortness of breath. Moreover, stress may affect the human immune system leading to vulnerability to infections such as the common cold. (Panigrahi, 2016) Psychological health is also negatively impacted due to distress. Such conditions as depression, anxiety, burnout, restlessness, and nervousness are highly associated with elevated stress (Blaug, Kenyon & Lekhi, 2007). Not to mention that highly stressed individuals are also more prone to extensive smoking, alcohol, and drug abuse (Conway et al., 1981), violent behaviour and eating disorders (Quick et al., 1997). With health under stress being influenced, employees may struggle to concentrate on job tasks and productivity.

The research done by Cropanzano, Rupp and Byrne (2003) confirmed a direct link and strong correlation between emotional exhaustion and decreased employee job performance in terms of in-role performance and organisational citizenship behaviours. This finding suggests that when either of the stress factors in a work environment impacts an individual's physical or mental state, they tend to lose their ability to perform and stay motivated. Other alarming findings of the mentioned research are the increased employee turnover and the lower job attitudes due to stress, proposing that stressed employees are less committed to the organisation's processes. Therefore, stress not only affects an individual's mental and physical well-being, but it also influences job commitment and job satisfaction.

From a broader picture, since a company is largely dependent on its employees, and once they feel a decline in health, a decrease in job satisfaction, productivity, and commitment, an organisation could experience a crisis. One reason for this crisis can be higher absenteeism due to occupational stress (Michie, 2002). With poor work attitudes, dissatisfied employees are more likely to be unreasonably absent from work. As previously mentioned, high employee turnover can also be associated with high-stress levels. As a result

In a nutshell, the process of work-related stress starts with a specific stressor which launches a human's system to react in either a positive or negative way. The amount of workload, breaks, support, deadlines intensity, working environment (culture, college relationships), and physical work conditions are among stressors influencing employees' natural state leading to if in optimal amount, eustress and, if in surplus, distress. Positive outcomes that follow eustress are an employee's well-being, job commitment and identification, role engagement, and high performance. Excess stress (distress) induces negative consequences – an employee's burnout, mental and physical problems, withdrawal behaviour (absenteeism), and high employee turnover. These harmful outcomes account for \$300 billion in losses in the US.

1.2. Different stress management interventions for occupational stress

This subchapter will cover two levels of stress management interventions in the workplace. The techniques of each level will be discussed with an explanation of methods and the reason for choosing them. Moreover, the author will bring an example of creative arts interventions as innovative stress management, which could be a new stress management intervention with several benefits.

With all the previous points being drawn to our attention, it is evident that companies and managers must confront the facts and take further action to combat the issue of overstressed employees. A plethora of vast majority of possible stress management techniques can benefit a company. However, the first and the most crucial step for an employer is accepting the growing over stress problem and acknowledging the sharp necessity for these techniques (Kathapalia, 2012). Only after recognising the alarming pattern that stress brings into the picture for employees' and companies' well-being can employers create a pleasant working environment.

Scholars identify two stress management interventions – primary interventions (preventative stress management (PSM)) and secondary interventions (stress management interventions (SMI)) (Kröll C., 2017). Although several scholars identify three levels of interventions – the primary (PSM), secondary (coping), and tertiary (stress management) (Glazer & Liu, 2022; Holman et al., 2018), this thesis will combine secondary and tertiary interventions into one category, SMI, for simplicity. The key difference between these interventions is that PSM concentrates on organising the working environment in a way that minimises any possible adverse effects from job stressors, while SMI's goal is to help an organisation and its employees cope with and manage work-related stressors after they happen (Glazer & Liu, 2022). Glazer and Liu (2022) depicted that both techniques are closely

connected and can be used interchangeably or simultaneously and may also be implemented to target either “the entire workforce, a subset of the workforce, or a specific person” (p. 12). Executing either or both PSM or SMI can potentially give a company a competitive advantage by achieving higher performance and better employees’ health.

Preventative stress management was introduced by Quick et al. (1997). It was described as “an organisational philosophy and set of principles that employs specific methods for promoting individual and organisational health while preventing individual and organisational distress” (Quick et al., 1997, p. 149). The key principle of PSM is not to execute all stress since it could damage employees’ performance when they are under eustress, but to eliminate potential severe stressors that could negatively influence individuals leading to distress (Hargrove et al., 2011).

Some of the most prevalent techniques of PSM are (Glazer & Liu, 2022):

- **planning and time management:** proper time management allows employees to establish short-term goals and plan their time and tasks according to deadlines without overloading and damaging their health.
- **job redesign:** to avoid inadequate job performance and poor employee well-being, work characteristics such as skill variety, task identity, task significance, autonomy, and feedback should be modernised. Such modifications should promote a sense of responsibility and meaningfulness and raise motivation, satisfaction, and performance.
- **physical setting:** assessing the suitability of the physical working environment is also crucial since it significantly affects employee satisfaction, attitude, and connection with others. The type of work (collaborative or individual), comfortable furniture, and overall environment (temperature, lighting, sound, ventilation, and cleanliness) must be considered to provide workers with the most beneficial equipment and surroundings.
- **person-organisation fit:** individuals and companies should aim at finding the right place and person. When an organisation challenges an employee to achieve and fulfil the expectations, it drives them to work and perform, while the right person for an organisation satisfies the company’s needs.

- communication: designing research through group discussions, pools, or questionnaires allows managers to recognise problems in organisational processes and implement new policies to overcome potential stressors.

As was mentioned above, in this thesis, coping and stress management will be considered secondary interventions, and the reason for such a decision will be explained further. Firstly, coping is an “intervention focusing on resources people can use to mitigate the risk of a work-related illness or workplace injury” (Glazer & Liu, 2022, p.15). This intervention aims at raising employees’ awareness about stress and helping them find valuable tools for fighting with consequences. Secondly, stress management is a technique that helps treat and slow the harmful impacts of stressors and slow them; thus, it focuses on employees already in distress (Tetrick & Winslow, 2015). Therefore, the interventions and techniques of coping and stress management can be combined since they both deal with the repercussions of stress and aim at improving employees’ and the organisation’s health.

Once an employer acknowledges the need for SMI, there are many ways to assist individuals or organisations with the necessary practices. Scholars differentiate changes that can be done into organizational-level and individual-based methods (Glazer & Liu, 2022; Holman et al., 2018). If a company recognises a downfall in productivity or increased costs for healthcare, a reassessment of organisational structure and factors should be done in order to reverse the negative impacts (Glazer & Liu, 2022). For example, Holman et al. (2018) suggested such strategies as conflict management, peer support groups, and interpersonal skill development as they help employees regulate their emotions, communicate their needs, and cope with stress effectively. Another organisational change that can be arranged when increasing stress is noted are Flexible Work Arrangements (FWA) (Glazer & Liu, 2022). FWA benefits employees and organisations by giving the former more freedom over time and place of their work and allowing the latter to decrease the number of stressors (Kröll C., 2017). Even though many more practices can potentially be enforced, it is essential to understand that executing organisational-level interventions can be rather complex and problematic. However, with the correct planning of activities for implementation, it is possible to increase a company’s performance without causing harm.

SMI’s individual-based practices aim to develop skills to cope with and manage stress for employees so they can resist stress more efficiently (Holman et al., 2018). Glazer and Liu (2022) suggest following an employee assistance program, which helps with many issues, such as time management, mindfulness, goal setting, etc. Moreover, such practices for stress

management as yoga, exercise, and meditation have also been growing in popularity and can be a useful option to assist employees through stressful times (Holman et al., 2018).

For the past decades, there has been a strong need for new and innovative interventions to match the fast-developing life and growing demand in today's society. The attention of many managers worldwide has been caught by one of the latest modern interventions to combat stress – Creative Arts Interventions (CAT) (Martin et al., 2018). CAT is defined as “the creative use of the artistic media (art, music, drama and dance/movement) as vehicles for non-verbal and/or symbolic communication, within a holding environment, encouraged by a well-defined client-therapist relationship, in order to achieve personal and/or social therapeutic goals appropriate for the individual” (Karkou & Sanderson, 2006, p. 46). These types of intervention differ from conventional therapies, such as psychotherapy, counselling, or support groups, as CATs promote imagination and support their clients to create and generate. Moreover, CATs enable people to express, explore, and perceive on different levels by encouraging attention and concentration, which has been proven by the research of Martin et al. (2018), stating that after interventions, anxiety levels were reduced, and the individuals' mood was improved. Thus, CATs could be potentially effective in stress management.

Music intervention (or music therapy) is one of the CAT techniques of CATs that can be implemented in an organisation to fight a stressful environment. Implementing music into the work environment is cost-effective and engaging since it induces employees' concentration (Mao, 2022). Furthermore, Gang Li (2022) depicts such benefits as improved work efficiency, alleviated work pressure, enhanced feelings between employees, and energised employees due to music interventions employed in the organisational environment.

Overall, many stress management methods can be employed to tackle the growing occupation stress issue. Depending on the goal and the objectives a company is aiming to reach, two levels of stress management techniques can be pursued – PSM and SMI. For the correct choice of method, an employer should both recognise the root cause of overstressed employees and establish the way to face it – either by preventing or by fighting the stress. Numerous interventions exist to support organisations through this problem, from arranging a more pleasant working environment to providing employees with useful tools to improve mindfulness. One of the innovation methods is Creative Arts Interventions, which are found to be effective and helpful in improving creativity, engagement, and collaboration.

1.3. Music's influence on human physiological and psychological factors

As music interventions are considered a branch of Creative Arts Interventions, it is vital to concentrate one's attention on establishing the music's influence on humans' psychology and physiology. Finding correlations and contrasts in the results of scholars would provide this thesis with a more profound background on the advantages and disadvantages of music interventions on the human body and mind, which should help to conclude if music can regulate stress and emotions.

Lately, scholars from all around the world have questioned if music could influence not only subjective stress perception (mood and feelings) but also physiological stress markers (salivary cortisol, alpha-amylase, blood pressure, heart rate etc.) and psychological stress-related experiences (anxiety, restlessness, nervousness etc.). Through quantitative analysis of these markers, we could conclude if music can influence subjective stress perception and objective factors related to stress.

The studies that this research brings together have been compiled in a comprehensive table (Appendix A) by the author. The sections are divided into the source, sample, aspects, methods, measurement tools, results, and limitations. The reason for choosing these articles is their similar aspect being analysed (psychological, physiological, subjective stress response) with music interventions. The researchers that have analysed the markers mentioned above and how they are influenced by music are Linnemann et al. (2015), Terraviemi et al. (2021), Thoma et al. (2013), Lai & Li (2011), Witte et al. (2019), with similar methodologies. The former four studies explored a certain number of individuals (sample from 37 to 60 healthy volunteers) with different amounts of music experience (little to significant experience).

Although these studies focused on analysing different settings and fields (daily life, home vs laboratory setting, operational staff), they all aimed at finding the correlation of music influence on the physiological markers and subjective stress perception. In addition, Thoma et al. (2013) also explore subjective stress perception. The latter study by Witte et al. (2019) was two multilevel meta-analyses with all randomised controlled trials of music interventions. This study concentrated on physiological markers (blood pressure, heart rate, hormone levels) and psychological stress-related experiences (anxiety, restlessness, nervousness).

Even though they might consider different environments and settings, this way, they still provide the research with the broader picture of music interventions. Not to mention that they investigate factors of physiological, psychological, and subjective markers of stress, which should also be valuable for research in the future. Since music as a stress management

technique is a major topic of this research, music's influence on leading stress indicators should be examined to give a background and a prior understanding.

To find the correlation between physiological stress markers and music interventions, definitions of salivary cortisol and alpha-amylase, blood pressure and heart rate needed to be given. Simply put, cortisol is a hormone of stress, indicating whether we consider different changes in the environment and our experiences stressful (McEwen, 2019). Alpha-amylase (sAA) is "a sensitive biomarker for stress-related changes in the body that reflect the activity of the sympathetic nervous system" (Nater & Rohleder, 2009, p.486). Blood pressure and heart rate can also be considered indicators of stress. When a variety of hormones related to stress is produced, it causes an increased heartbeat, leading to a temporary rise in blood pressure (Marmot, 1985).

Linnemann et al. (2015) found that cortisol concentrations were lower when the reason for music listening was "relaxation". This means that when music listening is associated with a 'relaxation' purpose, it leads to more significant stress relief. Similarly, Terraviemi et al. (2021) stated that cortisol levels decreased after music listening both at home and laboratory. Additionally, Lai & Li (2011) concluded that soothing music had a stress-relieving impact on highly stressed workers, such as newly hired nurses, in a short period. Nevertheless, Thoma et al. (2013) claimed that the highest cortisol concentrations were found in the group that was listening to relaxing music before the stress task, in contrast to the group that listened to the rippling water sounds, in which cortisol levels were the lowest. However, the sounds of rippling water were perceived as relaxing music by the participants. Moreover, listening to either music still resulted in a faster autonomic recovery after stress. (Thoma et al., 2013) Through these findings, the conclusion that can be made is that music indeed has an impact on the stress hormone of cortisol when music listening is associated with relaxation. At the same time, music listening before the intense stressor might have a minor effect.

When it comes to alpha-amylase (sAA), both studies by Linnemann et al. (2015) and Thoma et al. (2013) concluded that listening to relaxing music decreased sAA activity, and the baseline values were reached considerably faster due to the intervention. In addition, music that was perceived as low in arousal led to lower sAA activity (Linneman et al., 2015). Thus, listening to music that is seen as soothing or relaxing helps the human nervous system to adjust and overcome stressful changes better.

Witte et al. (2019) conclude that music interventions reduce physiological stress symptoms of heart rate and blood pressure, with more significant effects on heart rate than

blood pressure. Similarly, Lai & Li (2011) gathered lower post-test heart rates and meant arterial pressure in high-stress nurses after listening to music compared to the chair rest group. On the other hand, Thoma et al. (2013) claimed that heart rate and blood pressure did not significantly differ between investigated groups listening to relaxing music and the sound of rippling water.

From these studies and analysis, we can conclude that music interventions are helpful regarding physiological indicators since music results in lower cortisol concentrations, faster recovery and decreased alpha-amylase activity, and lower heart rate and blood pressure.

In addition to the physiological aspect, psychological experiences also should be analysed regarding how music interventions affect the stress perception of a listener. Music is believed to have the power to modulate our emotions and mood, reducing stress (Tervaniemi et al., 2021). For example, Witte et al. (2019) found that music interventions had a significant effect on stress reduction in psychological outcomes in different kinds of settings (mental healthcare, polyclinic medical settings, during medical surgery, daily life etc.), indicating that worry, state anxiety, restlessness, and nervousness reduce due to music intervention. In addition, another study by Granot et al. (2021) focused on the influence of music during COVID-19 and how it helped reach well-being goals. This study found that music was highly efficient in regulating mood, defining self-identity, reducing feelings of loneliness and creating a sense of togetherness. However, those findings contradict Thoma et al. (2013) since this study did not find significant differences after an intense stressor between groups that went through music intervention or rested without it. Suggesting that prior listening to music may not have a desirable stress-regulating effect if a strong stressor was applied to the music-listening group.

Nevertheless, Lai & Li (2011) research examined the effect of soothing music on first-line nurses, a profession marked by high stress and occupational burnout rates. The results illustrated that participants listening to music for 30 minutes had significantly lower levels of perceived stress than those undertaking chair rest without any intervention. These findings correlate with the study of Kacem et al. (2020) that focused on the influence of music therapy on operating room staff and their occupational stress perception and burnout risk. Music intervention was discovered to improve perceived stress, with emotional exhaustion decreasing significantly. Moreover, 73.5% of participants found music a beneficial and effective method for regulating stress. Therefore, these studies confirm that even such high-stress professions as nurses and operating staff can benefit from music intervention and decrease their self-perceived stress levels.

When it comes to such conditions as anxiety and depression, music can also be a helpful treatment method. Leubner & Hinterberger (2017) investigated the effectiveness of music interventions in treating clinical depression through a review of randomised controlled trials. It was found that a significant reduction in depression levels occurred in music intervention groups, especially those individuals who participated in group music experiments rather than in individual settings. Additionally, Malakoutikhah et al. (2020) concluded that music, with no difference in genre, decreased anxiety in the participants. However, Thoma et al. (2013) did not find a differential effect on anxiety perception, suggesting that music intervention neither increased nor reduced anxiety.

After analysis of several research, music interventions seem to have an overall positive effect on regulating stress and reducing anxiety and depression while serving as an effective method for relaxation. Music is effective in managing cortisol while decreasing heart rate and blood pressure. Moreover, it can be a helpful method for regulating stress in high-stress professions such as first-line nurses and operating room staff. However, some research had a contradictory finding on the efficacy of music interventions, stating that music did not significantly affect stress perception, cortisol levels, heart rate, and blood pressure. The methodology of this study suggests that playing music interventions before a robust stressor occurs may be less effective than playing music during stressors or after. The author of this paper believes that using music interventions for regulating stress can be considered an effective method if music is correctly chosen in terms of time and task.

A growing number of evidence of the efficacy of music intervention has been presented for the past few decades. The following subchapter will further examine the effects, implications, and different methods for companies to use music to manage stress, as well as the benefits and drawbacks music intervention could bring when employed by organisations.

1.4. Music as a solution for managing stress in a workplace, its benefits, and drawbacks

With the above-analysed research findings being drawn to our attention, it is evident that stress harms companies due to decreased employees' motivation, performance, and job morale leading to increased costs. Therefore, in this subchapter, the author introduces different music interventions as a workplace stress management technique worth focusing on. Moreover, various benefits music brings to workers and organisations in terms of stress regulation, improved mood, enhanced job satisfaction, and communication will be discussed, supplemented with possible drawbacks due to individual factors (age, genre influence, etc.) and specifics of music. Therefore, this subchapter aims to improve the understanding of music as a stress management method that a company can implement, which should give a

better comprehension of music intervention's advantages and disadvantages for managing stress.

Music has long been recognised as a tool for managing stress, venting emotions, and promoting relaxation. It might also be helpful for work stress management, as it can help reduce anxiety and improve mood, increasing employee productivity and concentration. Studies have shown that listening to music can help lower stress hormone cortisol levels, fight anxiety and depression, and relieve emotions (Linnemann et al., 2015; Terraviemi et al., 2021; Witte et al., 2019). Music can also distract from negative work-related tasks and provide a temporary mental break, allowing individuals to return to work with renewed energy and focus. In addition, the act of creating music, such as singing or playing an instrument, can be a therapeutic outlet for expressing and releasing work-related stress (Martin et al., 2018). Overall, incorporating music into the work environment or using it as a personal coping strategy can be an effective solution for managing stress at work.

Music interventions as a tool for stress management in the workplace is a broad subject that includes various techniques to help employees handle stress. Depending on the type of organisation and needs of workers, such kinds of music interventions as background music, music therapy, musical workshops, music while breaks, or the use of noise-cancelling headphones could be one of the options to employ in the working environment (Nao Mao, 2022; Schwartz et al., 2017). However, while some methods could work for one organisation, it does not necessarily mean they would benefit another. In order to employ the proper music intervention, managers and companies should align the characteristics of an intervention with the employees' needs and the already existing work environment to get the most benefit.

As for the qualities of each mentioned music intervention, we can divide them into two groups: active music intervention (music therapy, musical workshops) and passive music intervention (background music, music while breaks, headphones music listening) (Leubner & Hinterberger, 2017). The reason for such classification is logical and straightforward – music therapy requires active working with planned music interventions given by a professional music therapist (Gang Li, 2022), as well as during musical workshops, the music is produced through active participation. While all the passive interventions do not require active part-taking and happen as a background to an individual's main activity.

Music Therapy (MT) was introduced as a professional therapeutic field in the middle of the 20th century. It was the first art therapy to reach the stage of professional grouping. (Karkou & Sanderson, 2006) According to American Music Therapy Association (n.d.), Music Therapy “is the clinical & evidence-based use of music interventions to accomplish

individualised goals within a therapeutic relationship by a credentialed professions who has completed an approved music therapy program.” It supports physical, emotional, cognitive, and social functioning while addressing a wide range of issues, including stress, anxiety, depression, and trauma (Nao Mao, 2022). The methods of MT may include singing, playing an instrument, and composing music pieces such as songs or melodies to help people express themselves and reach their therapeutic goals (Karkou & Sanderson, 2006). Music therapists work with people and groups of all ages and with various conditions, including developmental delays, autism, depression, anxiety, dementia, and trauma (Witte et al., 2019).

For organisations, offering music-based stress management workshops such as music therapy is proven effective in mitigating employees’ stress and work pressure, improving employees’ moods, and enhancing interpersonal relationships in a workspace (Gang Li, 2022). Furthermore, as MT also promotes relaxation and reduces tension by slowing down the heart rate, it creates a motivating and energised environment, which can improve productivity and morale in the workplace (Witte et al., 2019). Nao Mao (2022) has compared standard psychotherapy with music therapy and concluded that MT has a more significant effect on the staff and is more cost-efficient with no side effects. Such findings may show that while psychotherapy is done through regular conversation and is aimed at shifting an employee’s incorrect views, MT recognises the past trauma and, using the healing qualities of music, goes through the healing process.

Musical workshops are group sessions where participants participate in various musical activities such as songwriting, singing, playing instruments, or making music together. These workshops can be implemented in a variety of settings, although, within this thesis, the author will concentrate on musical workshops for companies and their employees. Participation in musical activities relieves stress and anxiety by offering destruction from daily stressors, supporting relaxation and improving mood (Linnemann et al., 2015). Moreover, musical workshops not only can reduce stress but also enhance social connections and a sense of unity among the team members (Rabinowitch, 2020). Not to mention that the musical creation process assists a team with creativity enhancement since it encourages participants to experiment and explore different ideas while collaborating with others to create their own music pieces (Sawyer, 2006).

Background music is one of the choices for music intervention implementation. This type of music is usually played at a low volume and aims to create a pleasant and enjoyable atmosphere for employees and customers (Kämpfe et al., 2011). Background music is widespread among service-based companies such as hotels, restaurants, banks, and shops but

might also be used in offices and hospitals (Lim et al., 2022). It is believed to have several potential benefits, including helping reduce stress and anxiety, improving mood, and increasing productivity and customer satisfaction (Shih et al., 2012; Huang et al., 2011). However, with all the possible advantages, background music can reverse affect the concentration of workers regarding the type, tempo, and volume of music played, which will be further discussed. Thus, managers should pay close attention to music preferences for both their employees and customers and evaluate if it is appropriate for their company to employ music in the work environment to benefit performance and concentration while not distracting from the main tasks.

Alternative to playing background music in offices could be implementing personalised interventions via headphones or allowing employees to listen to music while breaks. Firstly, the benefits of listening to music via headphones should be the same as for the background music, with the right of a single employee to choose the music to be played (Sanseverino et al., 2022). Therefore, listening to self-selected songs should increase performance as it energises employees. Secondly, using music while relaxing has been said to improve anxiety and depression, relieve stress, and increase attention, concentration, and performance (Witte et al., 2019; Landay & Harms, 2019). Creating a space for breaks where staff can listen to music should allow staff to feel rested quicker while helping them with their emotional well-being by elevating stress (Kacem, 2020).

Although bringing music into the workplace through different interventions is believed to bring positive outcomes for productivity and satisfaction, it is necessary to clarify how different types of music can influence the attention and concentration of an employee. Many music genres exist in the modern world – from rap to rock, classical to electronic music. It has been proven that slow and relaxing music with a tempo of 60-80 beats per minute has a more significant relaxation effect on an individual (Witte et al., 2019). In contrast, upbeat music distracts and annoys people more (Witte et al., 2019). For example, in a study by Odeh et al. (2018) where 64 participants were assigned into one of the groups of different music genres – classical, reggae, rhythm & blues (R&B), and country genres. The study's results confirmed that classical music was the most effective in obtaining information, while Country music was the least efficient. However, a study by Mayfield & Moss (1989) argued that a slow tempo could cause poor performance compared to rock music since it has such a calming effect that participants took more time to complete a task and felt less hurried. This finding suggests that playing relaxing music with a tempo close to the human heartbeat may not be effective if the quantity produced is vital for a company's success. Nevertheless,

the results of this study also depicted a high concentration of stress in the group entitled to rock music, which made them perform tasks faster. All in all, results from both studies suggest that soothing music is more beneficial for relaxation and concentration.

Another vital factor that could influence the music intervention efficiency is whether participants choose music by themselves or are already given a specific type of music to listen to. For example, a study done by Huang et al. (2011) showed that participants that were listening to music that they saw as extreme “like” or “dislike” scored lowest on the attention test, suggesting an undue preference for the music could result in a distraction factor. On the other hand, Cassidy & MacDonald (2009) reported that high-arousal self-selected music had a significant positive effect on participant’s performance (accuracy, time, and speed) and experience (distraction, enjoyment, and tension-anxiety), whereas the poorest performance was found in the group that listens to experimenter-selected music. Therefore, whether self-selected music for a workplace is beneficial or more destructive is still debatable. Thus, it is essential to choose or give a choice of music depending on the desired outcome.

Furthermore, opting whether to implement music in a workplace, a manager should analyse the demographic of employees. For instance, several researchers (Sanseverino et al., 2022; Lesuik, 2005) found that an older generation tends to react to music negatively played on a background, finding it distracting and annoying. Moreover, lower use of music is reported among older people (Lesuik, 2005; Sanseverino et al., 2022). Therefore, if a company’s workforce demographic is predominantly people from an older generation, a manager should carefully analyse the possible drawbacks music listening could cause.

To conclude the discussion on various music interventions and see the potential benefits and drawbacks they can bring to the workplace, the author has compiled a figure (see Figure 2) to visually show a few of the reasons implementing music into a work environment can be either a good or bad decision. For example, each music intervention (background music, music via headphones, music while breaks, and music therapy) can reduce stress and anxiety, improve mood and emotional well-being, and enhance productivity and morale (Witte et al., 2019; Lesuik, 2005). Moreover, since music therapy may include group interventions, it also strengthens communication and teamwork between employees (Nao Mao, 2022), while background music, since it can be broadcasted in retail, banks, restaurants and more, improves customer satisfaction (Huang & Shih, 2011).

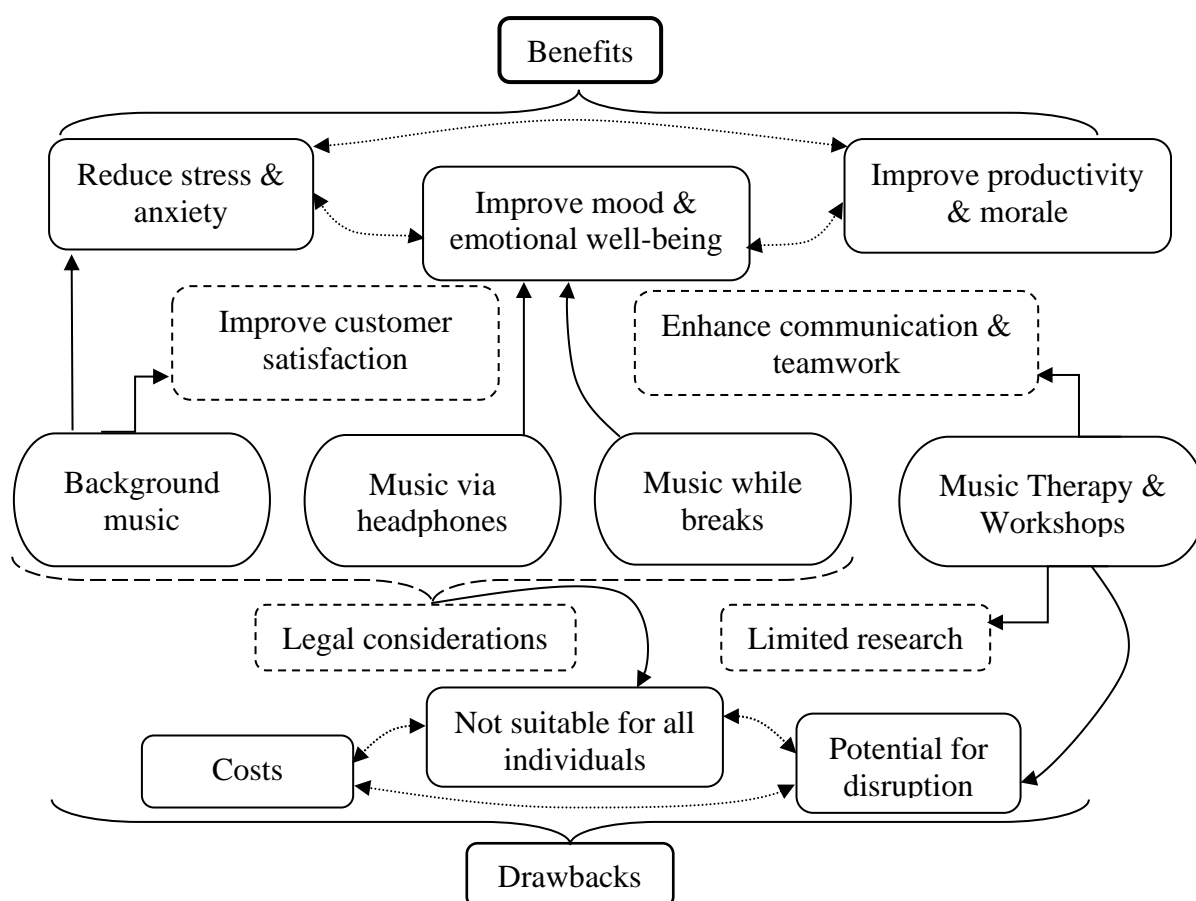


Figure 2. Potential benefits and drawbacks of different music interventions

Source. Compiled by the author based on Witte et al., 2019; Lesuik, 2005; Sanseverino et al., 2022.

However, several possible drawbacks should be considered as well. Firstly, each of the music interventions can be expensive to employ. For example, music therapy can require high costs depending on the length and frequency of sessions, and qualifications of the therapist (Witte et al., 2019), while background music, music while breaks and music via headphones can demand a particular sounds quality equipment for pleasant music experience (Huang & Shih, 2011). Secondly, not all individuals may find music helpful in concentrating and, in contrast, see it as destruction while working or on breaks (Sanseverino et al., 2022).

Also, some employees may not appreciate using headphones since they may block out important sounds and communications. Moreover, to follow legislation, a company cannot broadcast music without a license since it would infringe on copyrights. Thus, the company should obtain permits to play music or subscribe to special services that work with music distribution. Furthermore, there is limited research on the effectiveness of music therapy for specific conditions or settings, so it may not be suitable for all individuals or organisations.

Therefore, the most effective music intervention for a particular organisation will depend on a range of factors, including employees' needs and preferences, the nature of the

work being performed, and the overall goals and objectives of the organisation. It may be helpful to consider a variety of different music interventions and to carefully evaluate their advantages and disadvantages before deciding which approach is most appropriate for a particular organisation.

With previous points being made, not only the author but also several companies consider music to have a positive influence on employees' well-being. Multiple organisations focus their activity on music interventions for corporate clients, such as music therapy and musical workshops, as well as background music companies distribute music to various workplaces – offices, gyms, wellness centres, restaurants, banks, retail and more. The former aims to provide groups and individuals with support for different organisational issues resolvable or creativity enhancement, while the latter provides tailored music services that improve the working environment and boost employees' productivity and motivation while enhancing creativity and reducing noise. Therefore, such companies could contribute to this research by providing a real-life example of music interventions' benefits and describing potential drawbacks.

2. Empirical Research on Benefits and Drawbacks of Music for Workplace Stress Management

2.1. Methodology of the empirical study and data collected

Music intervention's influence on employees' well-being has become a more researched topic worldwide. However, most studies concentrate on quantitative measures (cortisol, anxiety, stress perception etc.). This thesis's empirical part aims to measure qualitatively how music is used in companies, what the main strategies interviewed organisations employ for successful interventions, what benefits and drawbacks it brings into the workplace, and how music influences employees' stress. All of the above mentioned points will be analysed from the music service providers' perspectives based on their experience and opinion.

In order to achieve the answers to these questions, interviews are taken with the representative of the companies in the fields of Music Therapy, Musical Workshops, and background music. The reason for choosing these companies is their specific focus on music that aims to enhance an individual's well-being through different music interventions (active vs passive). Moreover, since each of the representatives interviewed has had a long-lasting experience in the industry, their reflections and opinions can be considered professional. Their objective is to operate with a wide variety of people and businesses with different

backgrounds and feelings about music, which should give an in-depth overview of the perception of music as a stress management technique.

The initial stage of the empirical part was to contact the companies' representatives from three of the mentioned categories (Music Therapy, Musical Workshops, and Background Music). The chosen approach was reaching the companies through the email available on their websites. One criterion that the author was mindful of was the concentration of a company on corporate wellness or organisational teambuilding programmes that use music during the process. A total of 48 companies were contacted, with 7 of them accepting the interview offer, 6 declining, and 35 staying out of reach. One point worth mentioning is that the author avoided stating the topic's relation to stress management so that the responses and further interviews would not be biased.

The following stage was agreeing through email on the date and time of the interview so that it was suitable for both participants. After that, the interviews were conducted between February and March. The names of the companies, dates, positions of the person interviewed, duration, and pages transcription are described in Table 2 below.

Table 2

The list of interviews

Industry	Company's Name	Position of interviewee	Date	Duration	Pages transcription
Music Therapy	MusicWorx, USA	Program Director, Music Therapist	08/02/2023	62 min	10 pages
Music Therapy	Get In Tune, USA	Founder, Music Therapist	09/02/2023	68 min	14 pages
Musical Workshops	The Song Team, USA	Founder, facilitator, songwriter	15/02/2023	69 min	14 pages
Background Music	Bubuka, Russia	Public relations	17/02/2023	Written responses	2 pages
Background Music	RadioBox, Ireland	Founder, CEO, Sales Director	22/02/2023	37 min	9 pages
Musical Workshops	Sosyal Muzik, Turkey	Founder, facilitator	13/03/2023	82 min	11 pages
Musical Workshops	Sounds Of Change, the Netherlands	Director, founder, musician	15/03/2023	61 min	12 pages

Source: compiled by the author based on interviews conducted

The sample included 7 interviewees with a broad experience in their work (more than ten years of professional operation). Five countries were represented: three participants were from the US, one from Russia, one from Ireland, one from Turkey, and one from the

Netherlands. Not to mention, 5 out of 7 participants' positions in the researched company were the Founders, proving that they are experts in the music industry and knowledgeable to share their opinions and beliefs on the music's influence on employees or people in general. The period of time that the interviews were conducted was beginning February 2023 to the second half of March 2023. The duration of interviews varied from 37 minutes to 82 minutes, a total of 379 minutes (approximately 6.32 hours), with the interviews transcribed from 9 to 14 pages. The only exception was the written responses given by Bubuka, which agreed to provide the answers only in written form. The reason behind it was the inconvenient time zone difference for the interview. Thus, the total length of the interview transcription was 72 pages.

The interview plan and questions were approximate (Appendix B). Since the field of the companies interviewed slightly differed, questions had to be adjusted to a company's field of work and focus.

Since three categories of organisations are being analysed (Music Therapy, Musical Workshops, background music), the interview questions were divided into four sections (general information about the company, general strategy for music intervention, benefits and drawbacks of music, music and stress). The interviews were semi-structured, as there were specific topics to be discussed, although the author had an opportunity and right to ask additional clarifying questions if necessary. The interview questions are based on the theoretical background discussed in subchapters 1.3 and 1.4 for further coherent analysis and connection of theory to empirical.

Since the type of data collected is qualitative, the author used Trint for transcribing the interviews and for creating comprehensive empirical research, with proper analysis of answers and correct response grouping, the author used MAXQDA software. This software allows effective assigning codes to elements of an interview, as well as analysing, organising, and summarising the responses. Thus, this tool should be helpful in the research for this bachelor's thesis. The main goal for empirical part analysis and results interpretation is logically constructing and grouping the answers to get a broader picture of music intervention usage in different companies while linking the received information with the theoretical part.

For a transparent and more precise picture of further coding, the author has established some rules to follow while selecting parts of texts valuable for the analysis:

- The scope of selected segments – can vary from one phrase to a couple of sentences;

- Dealing with repeated segments – within one interview, the repeated segments can be added to the code system (with a probability of an interviewee additionally clarifying their thoughts);
- The author should not mention stress before the interviewee states it or the author eventually comes to the topic.

After the coding rules had been established, assigning to the segments began. Firstly, large portions of the text were allocated to the general topics discussed in the interviews and followed by adding categories and subcategories (codes), which will be discussed in the subchapter further.

2.2. Empirical analysis, results, and discussion on the findings of music as a way for stress management in a workplace, benefits and drawbacks of such intervention

For further comparison, the interviews were assigned into three main categories – 2 interviews for Music Therapy, 3 for Musical Workshops, and 2 for Background music companies. The reasoning behind the decision is possible differences in intervention strategies, type of activities used, and various encounters the interviewees could have since they might work with different populations throughout their careers. Therefore, their experience and opinion should depend on the situations they observed in their professional life, which gives a broader perspective and more room for comparison to the scope of this empirical analysis.

First, the codes were hard to predict since the author had the initial topics to be covered, and the respondents had their contributions and answers. Therefore, the analysis method was a hybrid of deductive and inductive approaches. Meaning that the themes of topics and categories were assigned before the analysis began, while the codes were derived during the analysis process.

As mentioned earlier, the topics' themes were settled before the coding began. The main interview themes derived were:

- Theme 1 – General information about the company
- Theme 2 - Objectives and issues addressed
- Theme 3 – Strategy and process of interventions
- Theme 4 – Benefits and drawbacks of music
- Theme 5 – Music & Stress

The author created short coding tables for each theme for a further comprehensive explanation.

The 1st Theme, “General information about the company”, should give a general understanding of the reasons behind the creation and the clients with which a company works. The codes taken from the interviews and the categories assigned to them can be seen in APPENDIX C. Not many references can be retrieved since this theme is solely based on experiences of interviewees.

When asked to explain the idea and reasons behind the company’s creation, the most common answer (4 out of 5) was the connection of personal passion for music and musical education within the Music Therapy and Musical Workshops industries. Moreover, the respondents from these industries also mention their willingness to assist people needing mental or physical support. What is interesting to notice is that the reason behind the Background Music company was the founders’ noticing the gap that could be improved within this industry. Both interviewees stated they saw the pauses in music translation in some shops and a large amount of advertising, which spoils the experience of customers and employees.

As for the clients the companies work with, Music Therapy interviewees are the only ones working with clinical needs patients (cancer, pain, dementia, etc.) and patients with mental health issues (depression, anxiety, addiction, etc.). The reason for that is the specific education and certification that a person should obtain before being able to support a highly challenging patient. This is proved by the American Therapy Association definition, where it is stated that music therapy interventions could only be given by “a credentialed professions who has completed an approved music therapy program”. However, similarities can be noticed between Music Therapy and Musical Workshops. The representatives stated that their clients include companies from the healthcare industry (hospitals, healthcare staff, healthcare agencies, etc.), the educational sector (universities, teachers), and different institutions (legal, financial services, IT companies, banks, and real estate companies). Although some types of companies were not mentioned by Music Therapy but were stated by Musical Workshops, for example, people-oriented organisations such as refugee camps, non-profit organisations, governmental organisations such as the police force and the Ministry of internal affairs. Regarding Background Music, their clients were mainly businesses where music plays a significant role in customer satisfaction, such as bars, restaurants, gyms, shopping centres, and supermarkets.

The second theme is “objectives and issues addressed”, which aims to understand better the goals of interventions and the issues they are trying to combat. The codes that were derived from the interviews are shown in APPENDIX D.

For background music companies, the objective was relatively straightforward: to provide a client with a high-quality music choice for each business while adding advertisement to the audio track. The goal, if we look at employees' perspective, addresses the stressful work environment since, as the respondents stated, relaxation and better mood are brought up when the familiar song is being played. Such an objective goes in accordance with Kämpfe et al. (2011) statement, which explained the background music's aim as creating a pleasant and enjoyable atmosphere for employees and customers.

When it comes to music therapy and musical workshops, since these companies are tightly connected to working with individuals in a face-to-face setting, their goals and issues addressed might as well represent this characteristic. For example, both industries shared the aims of connecting with others, developing social skills, and expressing oneself, which has also been mentioned by previous research done by Gang Li (2022). According to the interviewees, interpersonal relationship problems are one of the main reasons for elevated stress in an organisation. Such preconditions for the stressful work environment as departmental misunderstandings, the merge of two companies, poor leadership, and many deadlines were mentioned as possible harmful events likely to cause stress later. Kathapalia & Tyagi (2012) also indicated that tight deadlines, conflicts with fellow colleagues, and lack of support could trigger stress. Therefore, interpersonal issues are one of the prominent topics to be covered during the musical sessions. Furthermore, one of the matters approached is a team's poor or unsatisfactory creativity. As Sawyer (2006) also explained, since the process of making music is an artistic and free way of expressing oneself, it tends to elevate the team spirit and achieve new innovative and creative decisions.

Nevertheless, two new previously undiscussed subcategories of objectives were derived solely from music therapy interviews – music-based tools and guiding through experience. The former refers to music therapists teaching the clients suitable methods of using music to decrease stress and anxiety outside of the session. For example, tools like music paired with meditation, deep breathing, or using available objects to create a rhythm for physical tension elimination. Guiding through experience describes the music therapist's ability and responsibility to support identifying a client's emotions and feelings to work through the issues.

The third theme, "General strategy of intervention process", investigates what main points of strategy, the rules of effective intervention, and the type of activities the companies use to achieve the previously stated objectives and support the issues solving can be seen in APPENDIX E.

As for the main points of strategy, the common thing that each interviewee stated was that before working with either client, they would first assess the needs of an organisation. This includes different methods such as background checks, sending questionnaires to employees, asking managers about possible issues etc. For music therapy and musical workshops, such points of strategy as a creative and interactive intervention process and questions throughout the sessions were pinpointed.

Firstly, as previously mentioned, the creative and interactive process comes from the nature of music and the objectives of such interventions, which is a collaboration between participants. Secondly, the music therapy and musical workshops strategy included questions in different session stages –beginning, middle, and end. Such a method allows the facilitator to understand the issues and feelings of the participants from the start. It also lets people get involved in the process and feel valuable and heard as a team player.

This brings the discussion to the next category – rules of effective interventions. This category explains the essential principles that must be followed to support all the individuals engaged in the session. As for music therapy and musical workshops, one of the most vital points the interviewees highlighted was creating a safe space and freedom of choice during sessions, which means that the facilitator should assign rules of no judgement of, for example, music preferences or different new ideas, therefore, creating a comfortable environment for sharing creative notions, as well as being open to those. The freedom of choice comes from the right of participants to select the words, theme, or genre of a song.

Two more points necessary for a productive musical session are the warming-up stage and the contribution of each member. As was previously mentioned, the pre-session questions are essential for both facilitator and the individuals. This stage occurs at the beginning of a session and is essential for listening to each other's needs and feelings and hearing the similar problems each team player can have in a company. Therefore, it creates an atmosphere where every voice and opinion counts and everyone's feelings are heard and valued. In turn, creating a sense of freedom and safe space as well.

Another valuable point made by one of the interviewees was the positive reinforcement strategy, which explains changing an individual's perspective from negative to more positive. For example, instead of focusing one's attention on the weaknesses, concentrate on the strengths.

Nevertheless, the rules of effective intervention massively differ for the background music companies. Such companies need to adjust their strategy according to the demographics of a client (younger or older audience, atmosphere of a place). Thus, they have

to create a playlist with the correct music genre individually for each client. Moreover, it is necessary to keep the music constantly playing and delete all the songs with expletives from a client's music library, creating a brand identity for the customers coming to the place.

Last but not least, in this theme are the types of interventions each industry uses during the music sessions. Generally, the interventions can be divided into two main categories – passive music intervention and active music making. This classification aligns with Leubner & Hinterberg's (2017) statement since they also divided the interventions into active and passive types. The perspective that intervention types are analysed is from the employees' (or individuals') angle, whether they actively participate or passively listen to music.

For the background music industry, passive music listening is the only activity involved in the process. This is a rather logical conclusion since employees hear the music in the background during their workday without any involvement in the music-making. Such a point drastically differs from music therapy and musical workshop intervention types that mainly concentrate on active music-making and require engagement from each session member, which was also depicted by Gang Li (2022). The most mentioned technique of active participation was songwriting – it was stated by five interviewees from music therapy and musical workshops. As the respondents indicated, the songwriting process helps the participants reflect on their feelings or problems in their workplace. It also enhances team creativity by brainstorming ideas and listening to different team members' perspectives.

Even though the songwriting process could rarely be the single intervention used during a music therapy session, it is not the case for musical workshops. Playing an instrument, singing together, and performing the song at the end of a musical seminar are tightly connected activities for musical workshops' objectives because the result should be a song completed together with a team. Moreover, Social Music (musical workshops) also provides organisations with band coaching services and companies' choir sessions, which are also considered an active intervention since all the participants of a band or a choir are involved in the process.

Furthermore, other activities that classify as active music intervention are reflections on feelings through words and meditation paired with music, which music therapists officially use. The former activity may include lyric analysis and aims at exploring the meaning behind words and the interpretation by a client, which encourages one to reflect on a personal connection to the words to help an individual understand themselves more. Meditation paired with music includes deep breathing, guided meditation, virtual

mindfulness, and music assisted with creative arts such as dancing or drawing. During sessions with such objectives, a music therapist teaches clients music-based tools to regulate anxiety and stress if it occurs later after the session.

Passive music interventions are rarely used on their own by either music therapy or workshops, although some cases can go into this category. One of the examples brought up by MusixWorx (music therapy) was the medical staff support in the hospital hall, where the company team performed various music pieces (from upbeat to relaxing music) for the health personnel during their workday to improve their mood. Another example of Social Music (musical workshops) mentioned was playing the concert for various corporate events such as a company's anniversary, annual meetings, or conferences. Therefore, the employees do not participate in the music making but rather passively listen to music played by the company. In general, those examples could be seen as background music services even given by music therapy and musical workshops companies.

The following theme is the benefits and drawbacks of music in the workplace (Table 3). This topic is essential to analyse in order to recognise the advantages music could bring to employees and organisations and which contraindications a company or a person should consider.

Table 3.

Theme 4 – Benefits and drawbacks of music

Theme of the topic	Codes from interviews	Category
Benefits and drawbacks of music	<ul style="list-style-type: none"> - Better mood - Connection with other people - Closely tied to brain functions - Productivity increase - Creativity increase - Turns routine tasks into fun - Form for recovery - Universal language - Highlighting situations in the music game 	Benefits
	<ul style="list-style-type: none"> - Bad emotional experience - People lacking confidence - Hard translation into practice - Wrong genre or volume For background music: - Costly 	Drawbacks

Source: compiled by the author based on coding

The most mentioned category for music's benefits among all the interviewees was that music helps people improve their mood by either serving as a relaxation technique or

decreasing tension, anxiety, or stress, which goes in accordance with Gang Li's (2022) findings. In the background music industry, music was said to be lighting employees' workday, for example, when they heard a familiar or their favourite song playing. However, a better mood is not always a separate cause when music is listened to or made. It might as well occur due to an improved connection or communication with teammates. As was also discovered by Rabinowitch (2020), music-making tends to bring people together during its creative process, allowing them to share their experiences, understand each other, and feel like a team, creating a sense of unity and making a person feel valuable as a team member.

Moreover, in a music creation environment where the safe space and opinions of each participant matter, everyone is encouraged to share, which makes people equal in music creation. Therefore, those factors undoubtedly improve employees' moods and break down the barriers between teams or departments, leading to better unit communication.

Another advantage of music is that it is a universal language that the overwhelming majority of the population share.

"Have you ever in your entire life run into someone who says, I hate music? No. They might be passionate about it as you, or they might not camp out for the tickets to see Rihanna like you do. But everybody likes music to some degree or another, even if they're not someone who's crazy about it. So, it's universal." The Song Team

Most people enjoy listening to music while doing different activities such as running, cooking, cleaning, working, and many more. Such music function highlights the music's ability to transform some tedious or routine tasks into more enjoyable ones. As one of the interviewees mentioned, music makes it more bearable when some part of the job is less pleasant.

Furthermore, music can also be a tool for productivity and creativity increase, let it be music in the background during work or a musical workshop. The point mentioned by several interviewees but not covered by the author before is that music activates most of our brain and supports the "happy" hormone release (dopamine, serotonin, and oxytocin), which can improve motivation and new ideas generation. As music workshop facilitators stated, creativity enhancement is relevant since music creates more playfulness in organisations thanks to music creation. The participants would have to think outside the box and find new ways to create and communicate so that the team could achieve the song performance. Sawyer (2006) also noted the increase in creativity during a musical session due to the encouragement of participants to invent and explore.

Another new aspect of music function is a tight connection to our brain activity and its assistance in retaining new information or recalling old one. For example, music is widely used to teach little children the alphabet due to this music function. Music is also applied in the music therapy setting with people experiencing memory loss or Alzheimer's patients. Since music is closely attached to emotional memory, such patients may not remember their relatives, but they still could remember the song from their childhood. These points could mean that music can be used for new information remembering in the workplace.

Finally, an interesting and novel point that the interviewee made from the Sounds of Change organisation was the ability of music to highlight the situations in the music game. The meaning behind this is that during the musical workshop, for example, managers tend to occupy the responsible role where they try to lead people and help them in music creation, just like they would in their workplace. In contrast, their employees tend to follow the pattern. However, the facilitator can reverse the roles during musical workshops to give space to create for lower position employees and let them show their responsible attitude.

Despite all the mentioned advantages, music also has some disadvantages that are vital to be mindful of. Firstly, although close music's attachment to a person's emotions could be considered a benefit, it would have a reverse effect in some situations. For example, some songs could be associated with an individual's bad emotional experience, drastically affecting their emotional stability and resulting in a breakdown. If a piece of music is linked to someone who passed away or another unpleasant situation, it could trigger a person and throw them back to these times. Even though several representatives from music therapy and background music mentioned this drawback, the author has not previously found it in any previous research.

Another issue that could occur during a music therapy session or musical workshop is a lack of confidence in participants. If a person were shamed for their musical skills or favourite music genre, they would most likely feel uncomfortable during the music session. Hence, creating a safe and non-judgmental space is essential for facilitators. Although such an issue can be easily fixed – a longer warm-up stage could be done or explained that the environment is safe so that attendees feel valued and supported.

As for music therapy and musical workshops, participants sometimes do not know or understand how to use the techniques learnt during the sessions in their lives. An interviewee from Get In Tune (music therapy) brought an example of a session about setting boundaries. When after the session, a person feels confident about speaking up about their needs, and it does not go the way they wanted, it could arise many feelings and emotions that this person is

not ready to deal with on their own, so they feel like the music therapy is not that practical and valuable. Another point drawn by the Sounds of Change (musical workshop) representative was the inability of people to translate what they learnt into the work setting. However, the music-making itself could be a separate activity worth enjoying as it is without a necessity to put it into practice.

“So also, just the music itself can also do something that you don't have to translate everything as a practical tool that you can use in your daily life, but it's also just having one hour or a few hours, just playfulness together is already something very important.” Sounds of Change

As was also found by Sanseverino et al. (2022), the wrongly selected genre or music volume could disturb the employees negatively, as the interviewees stated. For music therapists, it is vital to be aware of the environment when they are performing music. For example, in a hospital setting, the medical personnel should be able to hear each other in case of an emergency which makes it inappropriate to continue playing upbeat or loud music. For the background music industry, the music genre should be picked according to the demographics of customers' clients so that the type of music would be popular and pleasant for people's ears. For example, if the target audience is mainly older people, according to Lesuik's (2005) findings, the company should carefully consider the music to be broadcasted. Moreover, the costs for implementation, which were also stated by Huang & Shih (2011), is another point that companies should consider since the organisations would have to pay royalties for the music license. The more square meters the place is, the more the price gets. Although companies can use non-licensed music, it is still plain and boring compared to different hit songs or songs from the charts.

The last theme, “Music and stress”, is focused on getting interviewees' opinions and possible experiences on the influence of music on stress and the possible reason for such effects (see Table 4). As for the impact of music on stress, all the respondents stated that music drastically decreases stress due to its various functions, which were already mentioned in the benefits theme. Although, some points could still be added. Music-based tools taught during music therapy sessions can support stress reduction through meditation paired with music or other relaxation techniques. Music therapy assists people with anxiety, depression, and addiction to help them through their hard times. As well as, just listening to a favourite music piece that might raise some good memories generally tends to diminish stress levels.

Table 4.

Theme 5 - Music and Stress

Theme of the topic	Codes from interviews	Category
Music & Stress	- Decreases stress - Music-based tools lower stress - Reminds of good memories - Connection through music lowers stress - Listening to music lowers stress - Depression & anxiety decreased	Music influence on stress levels
	- Affects both - Stress goes into emotions - Stress goes into the body	Psychological & phycological
	- Highly individual - Wrong music genre can increase stress - Limited words music is good for stress decrease & better concentration	Genres

Source: compiled by the author based on coding results

Moreover, making music together, sharing through music, or finding a connection in music leads to enhanced communication between team members. When there are issues or misunderstandings in the organisation, it helps workers to connect. All these music functions stated above have been mentioned and explained by many researchers from this thesis's theoretical background review. Witte et al. (2019), Nao Mao (2022), Linnemann et al. (2015), and Lesuik (2005) depicted that stress reduction happens as a result of music supporting relaxation, the connection between people, as well as anxiety and depression decrease.

When it comes to the phycological and physiological responses, and which one of these is more critical in terms of music and stress response, it was stated by all the interviewees that music affects both. The explanation is the tight connection between our emotional state and physical well-being. So, when there is any physical pain in a person's body, most of the time, it influences the mental state as well, and vice versa. Even though such codes as stress impacts the body and stress impacts emotions were still depicted, interviewees used them to demonstrate their close relationship with one another, and not as a single cause. Another point is that it is difficult to distinguish between what goes first, a psychological or physiological stress response, which makes it harder to describe which factor music influences first. Therefore, music affects both phycological and psychological factors of a human since these are tightly linked. Such answers could be proved by drawing the connection between the studies of Witte et al. (2019), Terraviemi et al. (2021), Thoma et al. (2013), and Lai & Li (2011), which all concentrated on finding the phycological and

psychological stress response. The connection would be that when a person feels stress relief psychologically, their body response becomes less intense. In reverse, when the body reacts to a stressor, a person feels stressed mentally as well.

The music genre can also affect the stress levels of an employee. Although the respondents said that the genres are very individual, and if one genre works for one person, it does not necessarily mean it would work for another. Some interviewees mentioned a couple of music types that are generally considered ineffective for stress reduction. For instance, heavy metal and “angry” rap music are among those which are believed to increase stress, which is proven by Mayfield & Moss (1989), who state that rock music increases stress levels. On the other hand, relaxing music with limited words tends to decrease stress and improve productivity and concentration, which was also found by Witte et al. (2019). Nevertheless, as research by Lesuik (2005), Huang et al. (2011), and Sanseverino et al. (2022) also concluded, cultural, age, or music preference differences are among the reasons the music is so individual. For this reason, no particular genre is used during musical sessions. The facilitators allow the participants to follow the spontaneous decisions on the types of music they would want their song to be as long as they contribute to the process.

To conclude, the author has compiled a table to represent the key findings based on the empirical analysis (see Table 5).

Table 5.

Results of empirical findings and their correlation with the theoretical background

Aspect	Key empirical findings	Correlation with theory	Additional features found
Benefits	- stress decrease - mood regulation - depression & anxiety decreased	Linnemann et al. (2015) Lai & Li (2011) Witte et al. (2019) Granot et al. (2021) Terraviemi et al. (2021)	- recalls good memories - closely tied to brain functions - stress decrease via music-based tools
	- creativity & productivity increase - collaboration increase	Granot et al. (2021) Gang Li (2022) Witte et al. (2019) Rabinowitch (2020) Sawyer (2006)	- Highlighting work situations in the music game - Turning routine into fun
Drawbacks	- highly individual - wrong genre	Witte et al. (2019) Huang et al. (2011) Sanseverino et al. (2022) Lesuik (2005)	- bad emotional experience associations

Source: compiled by the author based on empirical results

The table contains aspects that were aimed to be analysed (benefits and drawbacks), the empirical findings that were found, the previously done studies that correlate with the

thesis's results, and the additional features that have not been discussed before or found by the author. Table 5 concludes the empirical results while drawing the connection to previously explained research of theoretical background.

The key music benefits that the author found based on the empirical analysis were the ability of music to decrease employees' stress, anxiety, and depression and regulate mood. Linnemann et al. (2015), Witte et al. (2019), and Terraviemi et al. (2021) also establish that music promotes lowering stress by decreasing cortisol levels while supporting mood enhancing and fighting anxiety and depression. Moreover, Granot et al. (2021) stated that music promoted improved mood by reducing feelings of loneliness and creating a sense of togetherness. Although, the findings of the empirical analysis also suggest the ability of music to tightly connect to the brain and emotions, which leads to better information retaining and reminding of good memories that could also indicate higher spirits. In addition, music-based tools that are taught during music therapy sessions support individuals in handling their emotions through an efficient and relaxing meditation.

Another group of advantages that were found were that music encourages music session participants to create innovative ideas while working as a team, which improves employees' performance, productivity, and communication in the workplace. Such music's function was also established by Witte et al. (2019), Sawyer (2006), Granot et al. (2021), and Rabinowitch (2020), which indicated that the act of creating music together enhanced social connection and collaboration between the members, which increased creativity and understanding within the team, leading to decreased stress. However, one of the interviewees also discussed an interesting point regarding the social roles – the ability of music to highlight the work situations in the music game. Such ability of music is helpful to switch roles within an established team in order to give freedom and more responsibility to employees in lower positions. Another point is that while completing tedious, less likeable tasks, playing music helps turn the routine assignment into more bearable and fun.

Even though, with all the previously mentioned positive aspects of music, some of the drawbacks are needed to be indicated by the interviewees. Firstly, music preferences can widely vary between individuals, which makes it harder to find a universal genre of music. Age might also be detrimental to cause disruption of employees and should be carefully considered as well. Such statements are supported by the findings of Huang et al. (2011), Sanseverino et al. (2022), and Lesuik (2005), which generally opted for individual characteristics (age, music preference) being essential for music choice to be helpful rather than harmful. Moreover, Witte et al. (2019) found that overall upbeat music tends to distract

people more than slow music, which should be considered by managers as well. Additionally, the interviewees stated that music might lead to harmful consequences if a certain song is associated with past trauma.

Overall, after the analysis of theory and interview results, the author believes that implementing music interventions as a stress management practice is a creative, novel, and efficient way to both prevent stress from occurring or provide support after the stress happens via promoting a better mood, increasing productivity and creativity. Not to mention that music therapy and musical workshops encourage collaboration and communication within a team or several departments, which benefits a company's organisational culture. Therefore, the author sees music interventions as worth trying and pursuing to enhance a more pleasant working environment.

The author would like to draw one's attention to this thesis's possible limitations. Since the empirical analysis chosen was qualitative based on interviews, the sample size could be considered rather small, and the interviewees' answers could be biased. Regarding the sample size, the author should acknowledge that the two companies of the background music industry that had been interviewed were not working with providing music in offices. Even though the author attempted to contact office music providers and still gathered the necessary information from interviewed companies, the study could be more precise if there were more representatives of the background music industry. The biased answers could take place since the interviewees' professional career is tightly connected to music, and their views are based on their passion for music. However, the author still considers their opinions and viewpoints valuable and insightful in the frames of this thesis.

Conclusion

The issue of work-related stress cannot be underestimated since it brings drastic consequences for individuals and organisations. Depending on an employee's coping abilities, psychological and cognitive skills, and physical capacities, the result of faced challenges can evolve into either positive (eustress) or negative (distress) stress. While the former supports a worker to reinforce their motivation and productivity, the latter is proven to cause disbalance, damaging individual mental and physical health. Anxiety, depression, restlessness, and burnout are only several of the mental issues associated with high-stress levels, followed by physical problems such as high blood pressure, headaches, cardiovascular disease, dizziness and many more. Consequently, when an employee faces such stress-related issues, their productivity, motivation, and job morale tend to decrease, resulting in absenteeism or presenteeism behaviour, leading to a downfall in organisational health.

Therefore, it is vital for companies and their managers to recognise the signs and problems stress brings so that they can effectively address the issue by implementing stress management techniques and promoting well-being in the workplace. Two levels of stress management interventions exist preventative stress management and secondary interventions. Depending on the goal and the circumstances, an organisation can opt for implementing either or a combination of both.

Preventative stress management interventions aim to prevent stress from occurring in the first place by addressing the underlying causes of stress and promoting healthy work environments. Some of the most common methods of preventative stress management are teaching effective time management, redesigning a job to match an employee's skills and abilities, rearranging the physical working environment to create a pleasant atmosphere and more. Secondary interventions are designed to support individuals to cope with the stress that has already happened and can include stress management practices such as relaxation, cognitive-behaviour therapy, or physical activity.

Incorporating creative arts interventions, such as music interventions and music therapy, is also considered an innovative and effective way to manage occupational stress. Current research findings suggest that music results in improved attention span, higher productivity levels, better concentration abilities and emotional well-being among individuals.

Human physiological and psychological aspects are strongly influenced by music, which can affect a wide range of bodily and brain functions. Music has been found to influence physiological factors such as heart rate, blood pressure, and cortisol levels and psychological processes, such as mood, anxiety, and depression, leading to better mental and physical health. Moreover, music may also have therapeutic benefits for those suffering from physical or mental illnesses (brain injuries, Alzheimer's, learning disabilities etc.). In addition, in daily life, music can be used to encourage mood improvement, stress reduction, and relaxation, and it may have similar benefits in the workplace.

There are many music-based services that a company could consider for regulating stress in its employees – Music Therapy, Musical Workshops, Background Music, Music via headphones etc. Music Therapy and Musical Workshops not only improve people's moods but also encourage collaboration within a team, which could be beneficial if an organisation faces issues in departmental or co-workers communication. Background Music and music via headphones can benefit the concentration and productivity of employees, while also creating a pleasant atmosphere for the customers.

As a part of this thesis's empirical research, the author has conducted seven interviews with representatives of Music Therapy, Musical Workshops, and Background Music industries. All the people interviewed have had more than ten years of experience, which proves their vital contribution to this thesis. The total duration of interviews was approximately 6.32 hours, with 72 pages of transcription. The software used for the analysis were Trint (for transcribing) and MAXQDA (for coding and analysis).

Based on this thesis's empirical analysis, music can be an effective solution for managing stress in a workplace, with a range of potential benefits for employees and organisations. Music interventions, such as music therapy, musical workshops, and background music, can assist individuals with managing their stress levels. The stress is being alleviated due to the ability of music to improve mood through listening to a favourite music piece or participating in active music making. Moreover, music therapy and musical workshops encourage tight collaboration, leading to close connections between team members, breaking down communication barriers, and enhancing understanding. Furthermore, music not only lightens the day but also can be used for anxiety and depression decrease, which has been proven effective throughout some studies.

However, it is essential to consider the potential drawbacks of music intervention derived from both theoretical review and empirical analysis. Firstly, music could interfere with an individual's main activity, which causes the potential for distraction, damaging concentration and productivity. Secondly, as the interviewees widely mentioned, if a particular song is associated with past damaging emotional experiences, it can lead to a mental breakdown, hurting a person's well-being and mental stability. Moreover, individual preferences, age, and task complexity should be carefully considered while implementing music intervention since different music genres are believed to influence a person's productivity differently. In addition, for cost-effective execution of music interventions, the companies should consider the expenses that might follow it – background music & legal considerations, music therapy & the experience of music therapists etc.

Some suggestions for further research that the author would like to mention is conducting quantitative analysis on the employees' perception of music intervention being implemented in a workplace and aligning them with the previous findings. Such analysis could give a deeper understanding of the benefits and possible drawbacks employees experience during or after the music intervention. Moreover, the groups could be analysed from the perspective of individual music preferences (genre preference, age, culture, etc.) to draw the differences between each groups music perception.

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APPENDIX A

Previous empirical research on effect of music on physiological and psychological factors

Source	Sample	Aspects	Methods	Measurement tools	Results	Limitations
Gang (2022)	N = 100 (50 company employees engaged in mental work, 50 factory employees engaged in physical activities).	Work efficiency, subjective work-related stress perception, subjective feelings of belongingness etc.	Analysis of answers for survey.	Questionnaire	Reasonable use of music therapy can effectively alleviate employees' stress, improve employees' moods, and energise employees. Music therapy is conducive to the consolidation of employee relationships, strengthens the connection between departments, and enhances employees' sense of belonging and happiness, all of which help improve employees' work efficiency.	-
Granot <i>et al.</i> (2021)	N = 5,619 11 countries (Argentina, Brazil, China, Colombia, Italy, Mexico, the Netherlands, Norway, Spain, the UK, USA).	Wellbeing goals: (1) enjoyment, (2) venting negative emotions, (3) self-connection, (4) togetherness, (5) diversion. Music usage by a goal in different cultures (collectivism, individualism).	Quantitative : Chi-square tests, Multilevel regression models, moderated-meditation model.	1) Wellbeing goals (ranked 6 aspects) 2) Activities (10 aspects, 7-point scale) 3) Emotional state (Depression, Anxiety, Stress Scale, 21 items, 4-point scale)	Music is highly efficient in regulating mood, defining self-identity, reducing loneliness and creating a sense of togetherness (with no difference across genders). (Music is the most efficient activity for achieving	The sample must be considered only partially representative of a population. Results could be biased since the invitation for participation was "daily activities,

Source	Sample	Aspects	Methods	Measurement tools	Results	Limitations
		Efficiency of music and other activities by Goals, Age, Gender, and Culture.		4) Resilience (Connor-Davidson Resilience Scale, 10 items, 5point scale) 5) Music Use (.)	enjoyment and maintaining a good mood.) Collectivistic cultures rated music as more efficient in obtaining the goal of Togetherness than individualistic cultures.	especially music”.
Kacem et al. (2020)	N = 34 Surgery field	Stress levels and burnout risk in operation room staff.	T-tests for one-way ANOVA, Pearson Chi-square test.	Survey, Perceived Stress Scale version 10, Maslach Burnout Inventory (MBI).	Music Therapy significantly improved the stress levels of the operating theatre staff.	-
Lai & Li (2011)	N = 54 nurses	Self-perceived stress score, heart rate, blood pressure, finger temperature, cortisol levels.	T-tests with Bonferroni corrections.	Questionnaire, special equipment for measuring the physiological factors	Soothing music has a stress-relieving effect within a short period in highly stressed workers.	Voluntary basis of participation along with higher work-related stress. Most nurses were used to listening to music for relaxation.
Leubner & Hinterberger (2017)	28 scholarly papers, including 1,810 participants.	Treating depression with music, music therapy (MT), or active experiencing live music.	Multi-stage review process.	Analysis of previous research trials.	Depression of groups with music sessions with an average duration of 60 min and treatment 4-8 weeks long showed better improvements. Positive effects occur after music-	--

Source	Sample	Aspects	Methods	Measurement tools	Results	Limitations
					driven intervention – social aspects of life and psychological status.	
Linneman <i>et al</i> (2015)	N = 55 healthy students Germany	Momentary subjective stress, physiological stress markers (salivary cortisol, alpha-amylase)	Hierarchical linear modelling (HLM), Kolmogorov-Smirnov test.	1) Momentary subjective stress (5-point Likert scale) 2) Physiological stress markers (Salivary cortisol (sCort), salivary alpha-amylase (sAA)) 3) Assessments during two conditions of varying stress intensity 4) Ambulatory assessment: deliberate music listening (plus, perceived valence (from 0 to 100) and arousal (0-100)) 5) Questionnaire: Music Preference Questionnaire	Mere music listening had a profound effect on personal stress levels. Cortisol levels were lowest when the reason for music listening was “relaxation”, independent of its valence or arousal. sAA was lowest when participants listened to music perceived as lacking in arousal, independent of the reasons for music listening. Listening to music for “distraction” was found to increase stress.	Cortisol and sAA underlie a different time course.

Source	Sample	Aspects	Methods	Measurement tools	Results	Limitations
				(MPQ) (5-point scale)		
Malakouti khah et al. (2020)	N = 46 healthy undergraduates Nursing School of Kerman University of Medical Science, Kerman, Iran	State of anxiety scores Relaxation effect	Randomised controlled trial with cross-over design ANOVA	Questionnaire Smith relaxation states inventory (SRSI3) State-trait anxiety inventory (STAI)	The relaxation level increased significantly after listening to Pop, Western Classical, Persian Traditional, and Silence, while its level after listening to Rock was not significant. None of the genres was preferred for a more relaxing effect. All four genres and silence could reduce the state anxiety scores.	Participants' favourite music track to see their interest was not used. Participants had difficulty attending for five consecutive days.
Martin et al. (2018)	37 studies (1980-2016), including 1236 subjects (1241 for music intervention).	Creative Arts Therapies or acts intervention as a way to prevent stress and improve stress management.	PICOS principle, rating according to evidence level.	Analysis of previously collected data.	Music Therapy (MT) or music interventions reduced stress and anxiety in 16 of 20 studies. 4 studies reported reductions in cortisol levels, and 2 studies found a decrease in sleeping problems.	-

Source	Sample	Aspects	Methods	Measurement tools	Results	Limitations
Tervaniemi <i>et al</i> (2021)	N = 37 (that had some experience in music) Finland	Physiological stress markers (salivary cortisol), subjective stress perception	Chemiluminescence immunoassay, Kolmogorov-Smirnov test, 2-way ANOVA, non-parametric Wilcoxon signed-rank test.	1) Biochemical analysis of saliva (4 samples) 2) Questionnaires of current emotional states (5-point scale) 3) Electrocardiogram (ECG) and electrodermal activity (EDA)	Cortisol levels significantly decreased after listening to neutral and favourite music in either environment.	No information about the participants' self-reported stress level or their personalities. Some participants didn't follow the protocol for music listening at the stated time.
Thoma <i>et al.</i> (2013)	N = 60 healthy female volunteers (age mean = 25.3) Switzerland	Comparing the effect of acoustic stimulation ((1) relaxing music, (2) sound of rippling water, and (3) rest without acoustic stimulation) on salivary cortisol and alpha-amylase (sAA), heart rate (HR), respiratory sinus arrhythmia (RSA), stress perception, mood, and anxiety.	Levene's test, Greenhouse-Geisser procedure, ANOVAs, T-test analysis, ANCOVAs.	1) Electrophysiological and biochemical analysis: HR, RSA, cortisol, sAA. 2) Psychometric measurement: demographic questionnaire (age, education, medication intake, nicotine use, and illness), Music Preference Questionnaire (MPQ) (9 music genres, 5-point Likert scale), Beck Depression Inventory (BDI), Emotion	Highest cortisol concentrations were observed in individuals who were listening to music before the stress task, lowest concentrations were found in those who were listening to the sound of rippling water. A trend towards a faster recovery in sAA activity and RSA was found in the music group. Music listening had no differential effect on psychological measures in the case of solid stressors. Music listening resulted in a faster autonomic	-

Source	Sample	Aspects	Methods	Measurement tools	Results	Limitations
				Regulation Questionnaire (ERQ), Visual analogue scale (VAS), Trier Inventory for the Assessment of Chronic Stress (TICS) (stress for the past 3 months, 5-point Likert scale), State and Trait Anxiety Inventory (STAI) (20-items questionnaire), stimuli questions (5-point Likert scale).	recovery after stress. Pre-stress music listening might not be effective in reducing the biopsychological stress response.	
Witte <i>et al.</i> (2020)	Two multilevel meta-analyses with all randomised controlled trials (RCTs) of music interventions. RCTs = 104, N=9.617	Physiological stress-related arousal (blood pressure, heart rate, hormone levels), psychological stress-related experiences (state anxiety, restlessness, or nervousness)	Three-level meta-analytic model. Egger's method	1) Inclusion criteria: only RCTs that examined the effect of music interventions on the experience of stress and/or anxiety. Studies with participants younger than 18 years or people with dementia were excluded. 2) Selection of studies: computer-based search	A significant small-to-medium effect on physiological stress-related and medium effect on psychological stress-related outcomes of music intervention was found. Music interventions effectively reduce physiological and psychological stress-related symptoms in different settings (mental	Studies with non-significant or negative results are less likely to be published (file drawer problem). The concept of stress was operationalised in terms of physiological and psychological outcomes, which resulted in

Source	Sample	Aspects	Methods	Measurement tools	Results	Limitations
				of psychological and medical electronic literature databases.	healthcare, polyclinic medical settings, during medical surgery, and in daily life situations). Music reduces not only physiological arousal but also affects emotional states.	two meta-analyses. Some categories of relevant variables included in the moderator analyses contained only a few effect sizes, which reduces statistical power.

Source: compiled by the author based on Gang (2022), Granot *et al.* (2021), Kacem *et al.* (2020), Lai & Li (2011), Leubner & Hinterberger (2017), Linnemann *et al.* (2015), Malakoutikhah *et al.* (2020), Martin *et al.* (2018), Tervaniemi *et al.* (2021), Thoma *et al.* (2013), and Witte *et al.* (2020).

APPENDIX B

The initial plan of interviews

Topic	Example of questions asked	Reason for choosing the topic
General information about the company	- What was idea to start the company? Why music is the focus?	To understand the company's goal and why the person believes music is special.
	- Which clients do you work with? (industries)	To grasp which industries use music for their organisations.
	- Does the company have any unique features that make you stand out from others?	To assess valuable characteristics of a company.
General strategy for music intervention	- Could you explain the decision-making process of choosing the type of intervention?	To get the general strategy and objective of interventions, and issues addressed.
	- What is the most popular type of intervention to use?	To recognise the type of interventions used and their effectiveness.
	- How do you engage people?	

Topic	Example of questions asked	Reason for choosing the topic
Benefits and drawbacks of music in a workplace	<ul style="list-style-type: none"> - How has your strategy changed due to COVID? Were there services added or removed? - Why do you believe music can be beneficial in the workplace? - Can you share examples of the benefits your clients reported after the sessions? - Are there any negative effects on employees that you have observed due to music? - Have your company made any changes to the service based on the feedback? What was the complaint? 	<p>To understand how the company was coping in difficult times.</p> <p>To get an opinion of a professional on the benefits of music during their career.</p> <p>To assess the situations when music could have a negative effect on individuals.</p>
Music and Stress	<ul style="list-style-type: none"> - How do you believe music can influence employees' stress levels in the workplace? - Have your clients reported a decrease or increase in stress? - Do you believe music helps reduce stress because of phycological or psychological factors? - How do you think music genre influences stress levels? 	<p>To address the correlations between music and stress.</p> <p>To evaluate what aspect affects stress regulation more via music interventions.</p> <p>To access the influence of genre on employees' stress levels.</p>

Source: Compiled by the author based on subchapters 1.3 and 1.4

APPENDIX C

Theme 1 – general information about the company

Theme of the topic	Codes from interviews	Category
General information about the company	<ul style="list-style-type: none"> - Personal passion for music - Musical education - Willing to help - Seeing the gap in the industry 	Reasoning behind the company
	<ul style="list-style-type: none"> - Clinical needs patients - Patients with mental issues - Health care industry - Visionary companies - Governmental organisations - Corporations - Educational sector 	Clients

Source: compiled by the author based on coding results

APPENDIX D

Theme 2 - Objectives and issues addressed

Theme of the topic	Codes from interviews	Category
Objectives and issues addressed	- Connecting with others - Expressing themselves - Practical music-based tools - Developing social skills - Guiding through experience - Good music & ads experience	Objectives (goals to be achieved)
	- Poor creativity - Interpersonal relationships - Stressful work environment - Individual problems	Issues addressed

Source: compiled by the author based on coding

APPENDIX E

Theme 3 – general strategy of the intervention process

Theme of the topic	Codes from interviews	Category
General strategy of the intervention process	- Assessing the needs of an organisation - Creative & interactive process - Check-in/middle/check-out questions	Main points of strategy
	- Contribution of each member - Freedom of choice - Having a safe space - Warming up (pre-discussion) - Positive reinforcement <i>For background music:</i> - Keeping the music flow - Correct music genre - Creating a brand identity - No expletives	Rules of effective intervention
	- Passive music intervention - Active music intervention	Types of interventions

Source: compiled by the author based on coding

Resume

Tööstressi kõrge tase valmistab töötajatele ja organisatsioonidele muret kogu maailmas. Ligi pool kõigist töötajatest kogeb tööstressi, mis mõjutab negatiivselt nende füüsilist ja vaimset tervist. See võib põhjustada ettevõtetele rahalist kahju töölt puudumise ja presentismi tõttu. Selle probleemi lahendamiseks peaksid ettevõtted rakendama stressijuhtimise võtteid, mis ulatuvad ennetavatest meetmetest, nagu töökohtade ümberkujundamine, kuni sekkumiseni, nagu meditatsioon, kunst, tants või muusika.

Muusika on tunnustatud kui mõjus vahend stressi leevendamiseks ja positiivsete emotsioonide edendamiseks töötajate seas. Uuringud näitavad, et muusika tõttu vähenevad psühholoogilise stressi sümptomid, nagu muretsemine ja ärevus, paraneb vaimne stabiilsus ja edenevad positiivsed suhted töötajate vahel jne. Siiski on muusika rakendamisel võimalikke puudusi, nagu pakutava muusikažanri valiku sobimatus või töötajate erinevast vanusest tulenevad eelistused.

Kuigi on olemas kvantitatiivsed uuringud muusika kasutamise kohta stressi reguleerimiseks, puuduvad kvalitatiivsed uuringud, mis uuriksid erinevate muusikaliste stressijuhtimismeetodite eeliseid ja puudusi kogenud muusika teenust pakkuvate spetsialistide vaatenurgast. Käesoleva töö uurimislünk on seega täita see tühimik, viies läbi intervjuud muusikateraapia, muusikatöökodade ja taustamuusika ettevõtete esindajatega, et anda sügavam arusaam muusika rakendamisest stressi juhtimise meetodina.

Käesoleva bakalaureusetöö eesmärk on välja selgitada, millised stressiga seotud eelised ja puudused muusikateenuseid pakkuvate ekspertide kogemuste põhjal organisatsioonides muusika kasutamisel ilmnevad.

Töö eesmärgi saavutamiseks püstitas autor järgmised ülesanded:

- Anda teoreetiline taust tööstressi, selle juhtimise olulisuse ja strateegiate kohta
- Anda ülevaade varasematest empiirilistest uuringutest muusika mõju kohta psühholoogilisele stressile reageerimisele ja füsioloogilistele stressimarkeritele
- Analüüsida muusika tähtsust stressijuhtimise tehnikana läbi sarnaste teemade teooriaülevaate
- Näidata muusika kaudu stressijuhtimise eeliseid ja puudusi stressijuhtimise meetodina
- Viia läbi intervjuud muusikateenuseid pakkuvate ettevõtete esindajatega
- Võrrelda intervjuu tulemusi eeliste ja puuduste osas, mida muusika kasutamine töötajatele kaasa toob lähtudes pakkujate vaatenurkadest, teha sellest ja teooriast tulenevaid järeldusi

Teoreetiline ülevaade näitab, et tööstressil on olulised tagajärjed üksikisikutele ja organisatsioonidele, mille tulemuseks on töötajate vaimsed (ärevus, depressioon, läbipõlemine jne) ja füüsilised (kõrgvererõhutõbi, südame-veresoonkonna haigused, kroonilised valud jne) probleemid. Juhid peaksid ära tundma stressi märgid ja rakendama stressijuhtimise tehnikaid, et edendada töötajate heaolu. Stressi maandamisel on kaks tasandit, mille eesmärk on ennetada stressi ja toetada inimesi stressiga toime tulema. Esmatasandi ehk ennetavad meetodid hõlmavad tõhusat ajajuhtimist ja meeldiva töökeskkonna loomist jne, teise tasandi sekkumised hõlmavad lõõgastuse ja füüsilist aktiivsuse võimaluste loomist jne. Loomingulist laadi sekkumised nagu muusikateraapia, mõjutavad positiivselt inimeste keskendumisvõimet, tootlikkust ja vaimset heaolu jne.

Empiirilise analüüsi abil leidis autor, et muusika võib vähendada stressi, ärevust ja depressiooni, reguleerida meeleolu ning parandada sotsiaalset sidet ja koostööd meeskonnaliikmete vahel ning suurenda loovust ja produktiivsust töökohal jms. Kuid on ka negatiivseid tagajärgi tulenevalt erinevate põlvkondade ja individuaalsete eelistuste mitteamestamisest. Kokkuvõtvalt võib aga öelda, et üldiselt näeb autor muusika kasutamist kui loomingulist ja tõhusat viisi stressi maandamiseks ja töökeskkonna parandamiseks.

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BENEFITS AND DRAWBACKS OF MUSIC IN STRESS MANAGEMENT IN A
WORKPLACE

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