No cover image available

The Oxford Handbook of Music Performance, Volume 2

Gary E. McPherson (ed.)

https://doi.org/10.1093/oxfordhb/9780190058869.001.0001

Published: 2022 **Online ISBN:** 9780190058890 **Print ISBN:** 9780190058869

CHAPTER

13 Promoting Health-Related Lifestyle

Liliana S. Araújo, Claudia Spahn

https://doi.org/10.1093/oxfordhb/9780190058869.013.14 Pages 279–C13.P208

Published: 18 March 2022

Abstract

Making music require musicians to show optimal levels of physical, cognitive, emotional, and technical skills, which at times can be detrimental to their health and wellbeing. The many job challenges that musicians face related to work culture and practices, job insecurity, antisocial work patterns, and other psychosocial and financial challenges can also exacerbate the risks for musicians' health and wellbeing. Therefore, promoting healthy lifestyles play a central role in helping musicians achieve the adequate physical and mental conditions to meet the demands of making music, preventing ill health *and* optimizing their performance. This chapter is divided into two sections. The first section introduces approaches to health promotion and specific behavioral change models, offering an overview of relevant considerations in health prevention, promotion, and education that explain how people adopt healthier lifestyles. We also discuss the concept of health literacy as an asset in music settings that can empower musicians to adopt healthy lifestyles. The second section focuses on practical applications, in particular psychosocial protective factors, healthy practice and performance, and additional strategies to sustain healthy lifestyles. We believe that healthy lifestyles not only protect musicians' health but have added value to unleash musicians' true potential and sustain performance excellence.

Keywords: health promotion, health education, health prevention, healthy lifestyle, healthy strategy

Subject: Applied Music, Music

Series: Oxford Handbooks

Introduction

IT is widely acknowledged that music making is a highly demanding activity that requires optimal levels of physical, cognitive, emotional, and technical skills. Musicians have been compared to athletes, although the nature of the work and the support available to them to sustain elite performance and wellbeing is not like that in sports. In the current context of the gig economy, musicians face many job challenges related to work culture and practices, job insecurity, antisocial work patterns, and other psychosocial and financial challenges, which directly or indirectly impact musicians' health and wellbeing. The musical demands often lead to physical and psychological health issues (see Osborne & Kirsner; Spahn, this part), and some studies suggest that musicians are not well prepared to anticipate and deal effectively with the challenges and strains of the profession (Araújo et al., 2017; Biasutti & Concina, 2014; Kobori, Yoshie, Kudo, & Ohtsuki, 2011; Spahn, Voltmer, Mornell, & Nusseck, 2017).

The amount of evidence on musicians' health challenges has led many performing arts organizations internationally to offer health support for their musicians. However, the widely criticized "no pain, no gain" metaphor remains deep-rooted in musicians' perceptions and behaviors as well as in the music culture (Araújo et al., 2017; Pecen, Collins, & MacNamara, 2018; Perkins et al., 2017). Unsurprisingly, there is still skepticism toward the central role of health and wellbeing in music performance, often seen more as a negative consequence of music making than a driver of performance excellence. For that reason, maintaining a healthy lifestyle can help performers gain additional physical and mental endurance to meet the demands of making music, prevent ill health, and optimize their performance.

This chapter is divided into two sections. The first section focuses on theoretical frameworks to health promotion and behavioral change that support the applications ↳ discussed in the second section, where we present several considerations and strategies for musicians to adopt healthy lifestyles.

p. 280

Understanding Ways to Promote Healthy Behaviors

Engaging with and adopting healthy lifestyles is complex, and theories of health promotion have long tried, at times unsuccessfully, to determine how and why people make certain decisions about their health. Health is the result of an interaction between individuals and the environment; therefore, it is relevant to understand how approaches to health may determine how people perceive health, the provision available, and the level of control in making changes in their behaviors (Naidoo & Wills, 2016). We also need to understand what explains the gap between what people *know* about health and what people *do*, and recognize their individual beliefs, values, motivation, and attitudes toward health. It is beyond the scope of this chapter to review theories and concepts of health and health promotion. However, a selected summary of key approaches to health promotion and health behavior change is presented here, that offer a framework for actions to promote musicians' healthy lifestyles.

Approaches to health promotion

Traditionally, health has been defined by the absence of illness and interventions would focus mainly on reducing the risk or preventing the progress of a health problem (Naidoo & Wills, 2016). The development of the concept of health as a "state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" (World Health Organization (WHO, 1948, p. 1) changed the perspective on health and disease. Since then, prevention of diseases and health promotion have been used together. Both approaches are effective if they succeed in changing behavior by ensuring that people decide to adopt prevention and promotion behaviors. This has led to the development of behavior change approaches that focus on providing expert information and advice to persuade people to take part on health-related initiatives or change their behavior.

The education approach to health promotion focuses on providing knowledge and information to individuals in order to allow them to make informed choices. In recent years, there has been growing interest in providing health education to musicians, and resources have been developed to increase musicians' health knowledge that would translate into changes in attitudes and skills (Spahn, Immerz, & Nusseck, 2020). A large number of conservatoires and specialist schools worldwide are now offering either
p. 281 curriculum-based (e.g., Trinity Laban Conservatoire of Music and Dance, UK, ↳ University of Music Freiburg, Germany) or external educational courses (e.g., https://SoundPerformers.com, Australia) that address health-related topics, and the offering of professional development courses on the subject has expanded substantially (e.g., PAMA[1] conference, USA, BAPAM[2] CPD provision, UK). In some countries (e.g., Germany), specialist departments of music physiology and medicine have been created within universities of music to offer specialized health education as well as evidence-based, specialized medical care.

The evidence of the impact of health education in musicians is mixed. While it seems consensual that health education increases health awareness and knowledge, its impact on changes in behaviors and health indicators is still limited (Matei et al., 2018; Zander & Spahn, 2010; Spahn, Hildebrandt, & Seidenglanz, 2001; Spahn, Strukely, & Lehmann, 2004). Musicians' previous experience of injury or illness, their attitudes toward health, and perceived barriers seem to influence how they engage with health education initiatives and sustain health-promoting lifestyles (Perkins et al., 2017; Zander & Spahn, 2010; Spahn et al., 2004; Spahn et al., 2017). But there is also encouraging evidence: a multicenter study of music students at five German conservatoires showed that 90 percent of the students had voluntarily participated in at least one course on health promotion during their studies, thus showing growing awareness and interest for the topic among musicians (Spahn et al., 2017).

Less common but with promising application in music is the empowerment approach (Laverack, 2006), which aims to create conditions to foster the empowerment of individuals to make healthy choices. It focuses on assessing the perceived needs of individuals to enhance their health-related competence and skills. The health promoter acts as a facilitator, using their power to help others gain a sense of control over their life. This approach can offer the opportunity to design tailored, collaborative health-promoting initiatives in music contexts, where musicians participate actively in the design, implementation, and evaluation of those initiatives.

Finally, there is a more radical approach to health promotion that focuses on social change, it takes the concept of health as a human right, and recognizes the physical, social, and economic determinants of health. This approach demands commitment at the highest level, from key stakeholders and policymakers, and focuses on making "the healthy choice, the easier choice" (Naidoo & Wills, 2016, p. 81), which often has cost, accessibility, and availability implications.

These approaches provide a framework for how health-promotion initiatives may develop, and the specific role of both the "provider" and the "client." They offer a continuum for health-promoting strategies that,

depending on the situation, may focus more on disease prevention (see Spahn, this part), health education, or health promotion programs (Tannahill, 1985, 2008).

p. 282 Many music organizations still provide an expert-led approach where health professionals attempt to "fix" a problem. This approach can be risky in terms of impact if they fail to actively empower individual musicians to engage with healthy lifestyles. The way health for musicians is dealt with is certainly related to the professional background of the provider. Here we find different traditions between countries. In some countries such as Germany, providers are often qualified health professionals (often with additional psychological expertise) with musical experience and health provision is interdisciplinary. In other countries, health provision is more fragmented and less specialized. Musicians seem to adhere more to health promotion initiatives and provision if the providers have music-specific knowledge and/or experience, and understand the specific demands of music making.

The discourse on health in music is often focused on "avoiding injury" or tackling "mental health" and less on welcoming the playing and performance benefits of sustaining healthy lifestyles. Fortunately, the education of musicians is undergoing a paradigmatic change, where prevention and health promotion are becoming progressively recognized and practiced in a complementary relationship (see Spahn, this part).

From knowing to doing: Models of health behavior change

There is much information on health-promoting lifestyles that does not necessarily translate into changes in behaviors. For example, *knowing* that practicing regular physical activity is good for health benefits does not necessarily translate into *doing* regular physical activity. In addition, if people are not fully aware of how their lifestyle habits affect their health, then there is very little reason for them to change their practices (Bandura, 1998). As mentioned, more than offering information, empowering individuals to take control of their lifestyles is becoming even more central in health promotion. The following approaches explain how people make health-related choices and what should be considered in promoting healthy lifestyles among musicians.

The Health Belief Model

The Health Belief Model (Rosenstock, 1974) suggests that people make health decisions based on an evaluation of the costs-benefits or the utility of a certain behavior. This means that to adopt healthier lifestyles (e.g., change food habits, exercise, sleep, smoking), individuals will consider: their incentive to change, if there is a perceived threat to their current behavior, if the benefits of the change outweigh adverse consequences, and if they feel capable to carry out the change. This model recognizes that previous knowledge and experience of a health issue (e.g., injury history), socioeconomic background, and personality characteristics impact on people's health perceptions and, consequently, the likelihood they will change their lifestyles. Many health campaigns have focused on the threat to health and used fear or guilt (e.g., the fatal effects of smoking) to persuade people to change their behaviors. Such approaches have been
p. 283 widely criticized because ↳ while they might influence intention to change in the shorter term, they do not necessarily translate into a commitment to adopt a healthier lifestyle.

Stages of change model

Prochaska and DiClemente's model (1982; Prochaska, Norcross, & DiClemente, 2013) describes how people go through five stages of change in a spiral pattern when trying to make changes in their lifestyles, which may explain why "one size fits all" interventions may not be the most effective (see Spahn, this part). These stages are *pre-contemplation* (not aware of need to change), *contemplation* (some awareness), *preparation* (intention to change), *action* (start change), and *maintenance* (keep change and prevent relapse). At each stage, individuals show different levels of health awareness and readiness to change behaviors. Each stage may take a significant amount of time, and progression through stages depends on people's perception of their capability to change, their motivation to change, and the opportunities in the environment that enable the new behavior.

Theory of planned behavior

Ajzen's theory (1985, 2002) acknowledges that behavior depends on people's attitudes (their beliefs regarding the cost-benefits of change), subjective norms (what others may expect from someone and the degree to which a person wants to conform), and perceived control. Within this theory, self-efficacy (i.e., one's belief in their own ability to make change and achieve the expected results) plays a central role, determining how people assess their ability to make changes that align with the expected results, how much control they feel over their own health, and the perceived importance of the subjective norms. All these factors will influence the intention of a certain behavior and the actual action. This model highlights the importance of positive environments that facilitate the development of self-efficacy beliefs, empowering individuals to adopt healthy lifestyles.

Self-Determination Theory

Self-Determination Theory (SDT, Ryan & Deci, 2000) has been applied to many different contexts and suggests that there is a set of universal psychological needs that must be satisfied for effective functioning, positive health and wellbeing (see Evans & Ryan, Volume 1). These basic psychological needs are *autonomy*, feeling empowered in the choices we make; *competence*, feeling a sense of optimal challenge and mastery of a task; and *relatedness*, a sense of belonging and care for others. Autonomy results from an internalization of values that, along with a sense of competence, seem to contribute to behavioral change and long-term positive health outcomes (Ng et al., 2012; Ryan, Patrick, Deci, & Williams, 2008). In addition, people are more likely to adopt health behaviors that are valued and promoted by those whom they identify with and trust (Ryan et al., 2008). Therefore, SDT can be an important framework when designing health education and health promotion programs aimed at supporting musicians to sustain healthy lifestyles.

p. 284

The salutogenic theory

The model of *salutogenesis* (Antonovsky, 1987) takes a holistic approach to health promotion that focuses on health-enhancement. Health is attributed to the presence of three characteristics: *comprehensibility*, the cognitive component; *manageability*, the behavioral component; and *meaningfulness*, the motivational component (Lindstrom & Eriksson, 2006). Comprehensibility means that requirements to achieve something are structured and predictable. Manageability occurs when people feel they can cope with the demands placed on themselves. The perceived meaningfulness motivates them to invest energy in tasks and their lives. Antonovsky summarizes these three characteristics under the term *sense of coherence* as "a general attitude which describes the extent to which one has a pervasive, enduring though dynamic, feeling of confidence that one's internal and external environment is predictable and manageable and that things will work out as well as can reasonably be expected" (Antonovsky, 1993, p. 972). A strong sense of coherence provides effective protection against stress and includes the ability to respond flexibly to situations. This is particularly relevant for musicians, as they are often required to be flexible to manage the demands of performing at a high level.

These theories explain some of the determinants of health choices and behaviors, and focus mostly on the importance of a growing level of awareness and a sense of autonomy, control, and self-confidence in making health choices and changing behaviors. These are important points to consider when designing health promotion programs for musicians.

Health literacy

The actual impact of health information and health education on people's health depends largely on individual and institutional levels of health literacy—the capacity to access, understand, and use health information to make informed choices about health (Nutbeam, 2000, 2008). Health literacy refers to personal and social skills that contribute to people's sense of empowerment.

Nutbeam (2000) suggests a model of literacy that identifies three levels of health literacy that determine the goals, content, outcomes, and actions of health education initiatives. *Functional health literacy* refers to basic knowledge and skills in using health information and results from communication of factual information, typically not fostering autonomy in health choices and behaviors. *Interactive health literacy* refers to the personal skills and knowledge that allow individuals to feel confident to act on the information they have, often as a result of typical health education programs in supportive environments. *Critical health literacy* refers to a range of cognitive, personal, and social skills that allow individuals to exert greater control over their life and develop resilience to adversity. It results from effective collaboration between "providers" and "users," bringing benefits not only at the individual but also at the community or organizational levels, as it empowers all to facilitate the social and economic determinants of health.

p. 285

The concept of health literacy is relatively new in the discussions on musicians' health (Araújo et al., 2017; Baadjou et al., 2019; Matei et al., 2018; Roy & Zang, 2019; Wijsman & Ackermann, 2019). Considering that, in practice, it is still challenging to explain whether musicians will engage in healthy lifestyles, understanding their levels of health literacy can unravel specific areas that we need to focus on to maximize the results of health education and promotion. Health literacy can be an important health asset in music settings, that enables and empowers musicians to change their lifestyle to sustain good health (Nutbeam, 2008; Wijsman & Ackermann, 2019). For that to happen, health education and promotion need to recognize the value of settings-based, context-driven, and holistic approaches that focus on empowering individuals and removing organizational and environmental barriers to health.

Promoting Healthy Lifestyles in Musicians: Practical Applications

Many factors act as enablers or barriers of musicians' health, including individual attitudes and behaviors, specific practice, and performance routines, as well as environmental conditions (Perkins et al., 2017; Spahn et al., 2014). Here we consider a range of factors that should be considered to protect and promote musicians' health and specific strategies that contribute to healthy practice, performance, and lifestyle.

Psychosocial protective factors

Protective factors are generally understood to be those attitudes and behavior patterns that maintain and promote our health. Evidence consistently shows that these protective factors are particular important in high performance, and therefore they should be considered seriously in music settings (Spahn, 2015).

Positive emotions, such as joy, pride, curiosity, satisfaction, confidence, or optimism, are protective factors for mental and physical health, and closely relate to professional success, positive relationships, high self-esteem, and self-confidence. Being able to experience and manage positive and negative emotions simultaneously is protective and helps in becoming more resilient (Bengel & Lyssenko, 2012). The impact of positive emotions depends less on the intensity of the emotion and more on how regularly they occur and how much they differ from negative emotions. Research in music often focuses on the impact of negative emotions such as those related to music performance anxiety (MPA) (see Osborne & Kirsner, this part), but recent research suggests that musicians experience high levels of positive emotions as well, and these appear to be related to peak musical moments and positive functioning (Ascenso, Williamon, & Perkins, 2017, 2018). Because positive emotions strengthen the immune system ↳ (Marsland, Pressman, & Cohen, 2007) and contribute to good health, they deserve to be more understood by musicians.

p. 286

Social support is defined as the number of friends, the frequency of interpersonal contacts—so-called social networks—, the tangible support provided by others through information, measures, financial, and material help, but also emotional care and feelings of belonging. It is one of the best psychological protection factors for physical health and wellbeing (Bengel & Lyssenko, 2012). Studies show that social support can lower physical stress levels—lowering blood pressure, heart rate, and cortisol release—and reduce the experience of anxiety (Ditzen & Heinrichs, 2014). Research also shows that a sense of relatedness and belonging has a stronger impact on protecting health and sustaining healthy behaviors than the actual provision of informational or financial support that in some cases even increase the perceived burden to be healthy (Bengel & Lyssenko, 2012; Ryan et al., 2008).

Self-efficacy (Bandura, 1977) describes individuals' belief that they will be able to cope well with a challenge through their own efforts, with conviction and a sense of control. It is one of the most effective protective factors of health alongside social support, and it is also a strong determinant for achievement (Bandura, 2005; Ng et al., 2012; McPherson & McCormick, 2006). Self-efficacy can be task or situation specific. For example, a musician might be highly talented at playing their instrument or singing but feel less confident when speaking in public at large gatherings. Individuals with high self-efficacy act with confidence and evaluate their own efforts positively. A high degree of self-efficacy plays an important role in approaching stress and music performance anxiety in a positive way, and in sustaining a healthy approach to music making (Spahn, 2012).

Resilience is characterized by the psychological resistance of a person to stressful life situations and special life events (Bengel & Lyssenko, 2012; see Martin & Evans, Volume 1). It develops from life experiences that can vary at different phases of life and within different areas of competence, as one develops an ability to adapt in the face of adversity. For example, resilience allows musicians to manage criticism or other significant sources of stress, thus contributing to their own personal growth. Especially in the context of

prevention and health promotion, resilience research provides key guidelines for a healthy lifestyle. Resilience builds up from many of the factors listed in this section. "The road to resilience" suggested by the American Psychological Association (2012) offers a roadmap to adapt to adversity and grow stronger from it (see Table 13.1).

Supportive environments play a central role in fostering the psychosocial protecting factors that we have mentioned. Job satisfaction, a sense of meaning and purpose, and a sense of autonomy at work have been demonstrated to impact commitment, wellbeing, and performance. Musicians often show a sense of purpose and satisfaction in music making, but research shows that stress and pressure in music environments, a low sense of control and freedom, perception of limited support, and limited opportunities of acknowledgment and recognition can all impact their health as well as the ability to tolerate and manage demanding situations (Détári et al., 2020; Gembris, Heye, & Seifert, 2018; Rickert, Barret, & Ackermann, 2013, 2014). Therefore, creating healthy music environments that offer a culture of trust and transparency,
p. 287 where musicians feel ↳ acknowledged and have a voice, with procedures to reduce unnecessary stressors and pressure, to promote resilience and coping skills, as well as appropriate health support systems, can play a fundamental role in musicians' health (Slavin et al., 2012; Rickert et al., 2013; Spahn & Hutter, 2021).

Table 13.1. The road to resilience: Ten ways to build resilience

1. **Make connections**—A sense of belonging, feeling cared for, and care for others strengthen your ability to deal with adversity, to access help, and keep a sense of purpose when you need it.
2. **Avoid seeing crises as insurmountable problems**—Stressful events will always happen in life, but we can change how we interpret and respond to them. Try looking at how future circumstances may look a bit better.
3. **Accept that change is a part of living**—Adversity can change our goals, making them unattainable. Accept the circumstances you cannot change and focus on things you can control and change.
4. **Move toward your goals—**Set realistic and achievable goals that help you move in the direction you want to go.
5. **Take decisive actions**—Problems do not just go away even if we wish so. If they feel too big to tackle, break them down into manageable parts. Being proactive and taking initiative will increase the likelihood to rise up during difficult times again.
6. **Look for opportunities for self-discovery**—Adversity can else bring opportunities for learning and growth, heightening meaning, and appreciation for life.
7. **Nurture a positive view of yourself—**Trust your ability to solve problems and overcome adversity.
8. **Keep things in perspective**—Consider a broader perspective of the situation and keep a long-term or future-oriented perspective.
9. **Maintain a hopeful outlook**—Keeping a positive and optimistic outlook empowers you to achieve your goals and enable good things to happen, try to focus on what you want rather than worrying about what you fear.
10. **Take care of yourself**—Your needs and feelings are important. Notice, accept, and act on them in a compassionate way. Practice self-care by adopting healthy lifestyles like sleep, hydration, regular exercise, and good nutrition, which will allow your body and mind to adapt more efficiently to adversity.

Adapted from American Psychological Association, 2012

Musicians' attitudes toward health and music making

Research on musicians' *attitudes toward health* suggests that they engage very poorly in health-promoting behaviors, especially in regard to seeking help and taking responsibility for their health, keeping regular physical activity, and using stress management skills (Araújo et al., 2017; Panebianco-Warrens, Fletcher, & Kreutz, 2015; Rickert et al., 2015). On the other hand, research suggests that musicians believe they can
p. 288 exert control over their health and that their beliefs and attitudes toward health and health behaviors ↳ can improve through health education and health promotion initiatives (Ginsborg, Spahn, & Williamon, 2012; Matei et al., 2018; Spahn et al., 2005; Spahn et al., 2001; Spahn et al., 2017). Musicians value health and wellbeing, and make efforts to maintain healthy lifestyles, even if that can be challenging due to busy daily routines and irregular work schedules (Perkins et al., 2017). Musicians' attitudes toward work and practice can promote health and contribute to healthy lifestyles.

Work-related attitude, or the individual beliefs and behaviors in relation to their own job, can be beneficial to or risky for health. Schaarschmidt and Fischer (2003) describe four types of attitudes and behavior at work that can represent protective or risk-carrying factors for mental health:

1. *Health type G ("healthy commitment")* combines health-promoting attitudes and behavior at work, and means that people are able to pursue their job while maintaining good health in the long term. Persons of this health type display a strong ambition and commitment to their profession, which is very important to them, and being healthy enables that commitment and high standards.

2. *Health type S ("preservation/protection")* results in good health at work, but type S people are less ambitious and show less professional commitment than type G. They are able to distance themselves well from adversity, they often feel satisfied with their life outside work, and they find ways to protect their wellbeing.

3. *Risk type A ("excessive demands")* is characterized by an excessive work commitment and a simultaneous lack of ability to distance oneself and recover. For people of this risk type, the job comes first, they are willing to give everything, are very ambitious and have an exaggerated need for perfection. This pattern was described by Schaufeli et al. (2008) as a central characteristic of workaholism. In combination with a low level of resistance to stress, this configuration represents a clear health risk.

4. *Risk type B ("burnout")* shows signs of a burnout syndrome. Professional commitment is significantly reduced as a result of feelings of being overwhelmed, a depressed state of mind, and reduced resistance to stress.

Attitudes of musicians toward work have been investigated in several studies (Spahn et al., 2002, 2004; Spahn 2006; Voltmer et al., 2007; Voltmer et al., 2008; Volter et al., 2012; Nusseck & Spahn, 2013), showing that musicians tend to be more of the pattern of health type G than other occupational groups (e.g., teachers, nurses, physicians, and priests). Commitment, meaning, and purpose in music making are central to musicians' identity and wellbeing (Ascenso et al., 2018); however, both music students (Spahn, 2006) and orchestral musicians (Voltmer et al., 2008) are often unable to distance themselves from work.

Attitudes toward practice can also present a protective or risk factor to musicians' health. Musicians are trained in the professional ethos "that you can never practice enough," and the perceived pressure to excel is immense (Gembris et al., 2018; Perkins et al., 2017). This attitude is one reason why musicians, in contrast
p. 289 to other professional groups, do not maintain enough distance from their activities, and thus hardly ever ↳ switch off (Voltmer et al., 2008; Spahn, 2006). This limits their ability to recover and can cause health problems. Excessive practice can also lead to symptoms of overwork and psychological strain. An example from a musicians' medicine consultation can be used to illustrate this:

> A 50-year-old string player who has played successfully in an A [top-level] orchestra in Germany for decades demands of himself an extensive practicing workload in addition to his orchestral activities, which increasingly leads to health problems. He is convinced that he has to maintain his practice schedule unchanged in order to keep up with the orchestra. When he first dares to rethink his practice concept and change it accordingly, his complaints subside, and he feels distinctly more relaxed. In the orchestra he plays as usual.

Musicians should pay particular attention to their attitudes toward health, practice, and performance, as this plays an important role in achieving a healthy work-life balance.

Healthy practice and performance

Musicians need to adapt their practice routines to the challenges that they face at specific career stages (MacNamara, Holmes, & Collins, 2008), requiring them to be flexible, focusing more on quality than quantity. The quality of practice determines to a large extent whether health problems occur and how successful the learning is, so it should also be considered an important health resource. In addition, *performance* requires *health*, as musicians need to be at the top of their technical, physical, and psychological condition to achieve and maintain their excellence as performers. Learning and applying coping mechanisms in performance contexts from early stages can equip musicians to manage the many emotional challenges in practice and performance (Araújo et al., 2017; see Chapter Osborne). Hence, all activities musicians undertake to improve their musical performance must also focus on sustaining health.

How musicians practice (see Miksza, Volume 1) and prepare for performance is important to sustain health. Effective and high-quality practice includes the ability to set realistic and manageable goals, flexible technique strategies, proper time management strategies, and realistic self-evaluation tools, always keeping a perspective of the big picture or final goal (Bonneville-Roussy & Buffard, 2015). Adding positive emotions such as enjoyment and a positive attitude also contributes to healthier and more effective practice, hence increasing confidence and motivation.

Warm-up and cool-down exercises play an important role in creating healthy practice routines. Warm-up exercises allow blood circulation and supply the muscles, free up muscles and joints, and provide the necessary boost of energy and concentration before practice. Warm-up exercises should include pulse raise exercises as well as rotation and activation of the motion in different body parts (head, neck, shoulders, wrists, hands, fingers) with active breath control. Cool-down exercises help restore the balance between the
p. 290 muscle groups activated during instrument-playing or singing, and ↳ allow a more balanced distribution of muscle tension. A typical example of cool-down is the stretching of the chest muscles after the practice session. This can counteract a shortening of these muscles, triggered by the basic position of most instrumentalists of tendentially bending forward. This is also important to inform the nervous system of the transition from instrument-specific to everyday movements (Nusseck & Spahn, 2020). Research shows that including stretches during rehearsals can reduce the perception of discomfort associated to playing (Cooper, Hamann, & Frost, 2012). Several resources for warm-up and cool-down exercises can be found online (e.g., BAPAM factsheet "Warm-ups don't cramp your style," www.bapam.org.uk).

The *daily duration of practice* should consider the physical and mental load and its limits. Using *regular breaks* allows the muscles to rest from repetitive movements and the brain to process and organize complex information and increase concentration ability, allowing play problems to be "suddenly" identified and solved even without direct practice (see Altenmüller, this part). *Less practice time* may actually lead to better musical results if this translates into shorter but more focused and meaningful practice sessions (Evans & Bonneville-Roussy, 2016). A short break of about five minutes should be taken between practice units of

around thirty minutes maximum. Here the musician can walk around and air the room, drink water, stretch the body briefly, or perform a concentration or relaxation exercise.

Using *flexible strategies*, such as trying out variations in movement, short practice sections, repetitions, and improvisation, and then integrating the pre-playing warm-up into the practice session can produce better results for learning and health. In addition, strategies away from the instrument can also be useful. Mental practice is an effective learning and practice strategy for professional musicians (MacNamara et al., 2008; Driskell, Copper, & Moran, 1994) and it can reduce the burden on the muscles and joints, therefore avoiding overstrain. It can include mental rehearsal, visualizing specific passages to identify weaknesses and overcome problems, recalling preferred emotional states, imagining desired outcomes or situations, and using helpful and instructional self-talk. These effective practice and performance preparation strategies can heighten feelings of competence and autonomy, which have been demonstrated to impact health and performance positively.

Where musicians practice is also important. Musicians often have their favorite room to practice or require specific elements in the environment (e.g., windows, mirrors, acoustics). The room needs to be well-ventilated and have a medium room temperature to be able to keep the muscles warm. The size and acoustic conditions of the room should be consciously taken into account, especially with singers and wind players. The playing positions of sitting and standing should be varied and selected with regard to the concert situation—such as one's sitting position in the orchestra—as the organization of movement in sitting and standing positions can differ (Spahn et al., 2014). The seating would ideally be ergonomically adapted (we recommend straight and height-adjustable seats), and the positioning of the player to or with the instrument should meet musicphysiological requirements (seat height, distance to the instrument, as well as individual instrument-specific adaptation; the position of the music stand as well as ↳ the readability of the score should be carefully considered) (Ohlendorf et al., 2018). The conditions of the room are not always ideal, so it is important that musicians be flexible in their practice strategies and adjust them according to the environment they are in.

p. 291

Finally, *when* musicians practice is also relevant. Practice should be chosen according to the circadian daily rhythm if possible and take place during phases of high concentration (e.g., not after a large meal). Musicians should identify what time of the day they feel more alert and productive and choose the more complex tasks to practice during that period. In general, practice should be avoided when experiencing a tired or unfocused state, as this increases the risk of tension and pain due to imprecise and poorly coordinated movements, and can have an impact on motivation, self-confidence, and perception of progress and achievement. Practice blocks of several units should ideally be distributed over the first and second half of the day. In addition, when musicians return to practice after injury or long periods away from their instrument, they should start with small amounts of daily practice and progressively increase the number of daily practice sessions, allowing the body to adapt to regular practice and prevent injury (see Spahn, this part).

In order to maintain an overview of one's own practice times and contents, it is advisable to keep a practice diary. This also makes it easier to plan and distribute practice, especially during particularly stressful times of exams, concerts, and competitions, to avoid a sudden increase in practice and playing times. Based on the discussion in this section, Table 13.2 offers some healthy practice strategies.

Table 13.2. Healthy practice strategies (Spahn, 2015)

- Keep a positive attitude and practice with joy, interest, hope, and pride.
- Warm up before practicing and cool down after practicing, to boost your physical and mental readiness.
- Set realistic and manageable goals and structure your practice session accordingly.
- Prefer shorter practice sessions instead of long periods of practice at once.
- Distribute daily practice consistently and increase number and time of practice sessions gradually based on your goals but also your level of preparation (especially after injury or long absences from music making).
- Plan and implement regular breaks in your practice that will allow recovery of your muscle activity and focus.
- Use varied and flexible practice strategies, including mental rehearsal and improvisation.
- Repeat passages containing demanding playing positions or movements a maximum of seven times in one practice session.
- Consider a conscious and positive preparation of the practice environment (space, playing position, ergonomic adaptation to the instrument).
- Stop practicing when symptoms of fatigue or discomfort occur.
- Take a break from practice one day a week to allow your mind and body to recover.

Adapted from Spahn, 2015.

p. 292

Sustaining healthy lifestyles: Strategies for musicians

Often musicians mention the lack of time, competitiveness, or busy and irregular work schedules as barriers to health and to sustaining a healthy lifestyle (Perkins et al., 2017). Changing health-related behaviors and sustaining a healthy lifestyle can therefore be difficult. However, if we look at healthy lifestyles as a vehicle for optimal potential and performance excellence, these strategies have added value that can unleash musicians' true potential. Beyond their recognized health benefits, the strategies listed here offer ways to increase self-care and resilience, boost energy levels and motivation, maintain optimal focus and concentration levels, cope with various demands of music making, and foster positive emotions that contribute to musical excellence and longer, healthier careers.

Body-oriented techniques and methods for musicians

Body-oriented approaches focus on an augmented and differentiated *perception of the body* that creates heightened awareness in the execution of movements. They have either been developed specifically for musicians or, for the most part, have proven to be particularly suitable for musicians. The perception of one's body serves as a means of self-control and self-feedback, acting as an adjustment tool regarding the quality of movements.

These approaches or methods use the *principle of economization* that values the quality of movement in the development of coordination skills. For musicians, it is especially significant, as an unfavorable sequence of movements or an unfavorable degree of utilization of movement can result in strain in muscles and tendons, and lead to health problems.

Usually, short-term effects of these methods are described as physical wellbeing and a feeling of *relaxation*. But it is only regular and continuous activity that leads to lasting improvement in both strength and coordination skills, contributing to a body-mind unity, with optimal benefits for physical and mental health. Regular practice of body-oriented approaches allows controlled repatterning or relearning of movements that may have rigidified or created imbalances caused by several years of instrumental playing.

The effectiveness of these methods in health-promotion for musicians has not been scientifically demonstrated for all cases and results are mixed. While Steinmüller (2015) found a significant improvement of body awareness and playing movements as well as quality of musical sound production in music students who participated in a Feldenkrais class compared to music students who did not participate, Matei et al. (2018) criticized the application of body-oriented methods in music settings that do not have solid evidence-support. In practice, body-oriented methods are widely accepted among musicians and therefore offer a body-mind alternative that can build up to a healthier lifestyle for those who are motivated to practice self-care as well as the more skeptical. In any case, more research on their effectiveness is warranted.

p. 293 Following are brief descriptions of a selection of these methods (adapted from Spahn, 2017).

Feldenkrais Method (Moshé Feldenkrais, 1904–1984)

The Feldenkrais Method (see Paparo, this volume) aims to stimulate the brain through sensomotoric experiences to create new and optimized movement patterns. It can be performed either in the group form, known as Awareness Through Movement (ATM), or in the individual form, called Functional Integration (FI). Essentially, in the Feldenkrais Method, movement itself is considered the means of choice for creating new patterns of behavior and movement. The changes in control processes initiated by this take place without conscious control; progressively, the engagement with movement within the framework of the Feldenkrais Method leads at the same time to an enhanced awareness of one's own execution of specific movements and of the whole person (Nelson, 1989; Spire 1989, Steinmüller 2015).

Ideokinesis (Mabel Elsworth Todd, 1880–1956)

Ideokinesis is a method intended to improve the coordination of movements and to achieve an economization of movements. The name of the method expresses this, as the term *ideokinesis* is derived from the two Greek words *ideo* (idea/conception) and *kinesis* (movement). Ideokinesis is based on the concept that the quality of a movement is influenced by the mental concept of that movement, and works with moving images that vividly capture the anatomical conditions of the human body. This approach is well known to musicians and enables them to transfer their experiences directly to playing an instrument (Sweigard, 1974; Todd 1921, 1937).

Alexander Technique (Frederick Matthias Alexander, 1869–1955)

The Alexander Technique (see Valentine, Kleinman & Buckoke, this volume) is a pedagogical method that helps unfavorable habits of posture and movement to be recognized and corrected through consciously visualized ideas and improved body perception. The goal of the Alexander Technique is to achieve undisturbed coordination with a flexible relationship between head, neck, and trunk, in order to avoid unnecessary effort. The method is mostly hands-on where teachers recognize and correct movement. During the sessions, it is also possible to work directly with the instrument and the voice (Vetter 2012, Weissenberg, 2015).

The Schlaffhorst-Andersen Concept (Clara Schlaffhorst, 1863–1945 & Hedwig Andersen, 1866–1957)

The Schlaffhorst-Andersen Concept focuses on the conscious perception of breathing and its interaction with posture, movement, voice, language, and psyche. Based on the insight that psychological processes, motor performance, and vegetative reactions influence each other, the Schlaffhorst-Andersen Concept aims to develop a balance and harmonization between the components involved through breathing. The lessons take place in both individual and group settings (Lang & Saatweber 2020, Saatweber 2008).

p. 294 **Qigong/Tai Chi**

Qigong is a more than 4,000-year-old doctrine that is part of traditional Chinese medicine. Originating from the natural philosophy of Taoism, it promotes the unity of body, soul, and spirit. The life energy (Qi) is strengthened through movement, breathing, and imagination. Qigong exercises performed slowly and consciously can lead to meditation or can be employed actively, also for vocal power. Qigong can help musicians to perceive the balance in different situations in terms of demands, and to keep it in harmony—either in the relationship between musician and instrument or singer and voice, the inner physical and mental processes, or in the relationship with others when playing and singing (Haupt, 2004, 2009).

Autogenic Training (Johannes Heinrich Schultz, 1884–1970)

Autogenic training is an exercise method developed to achieve a state of physical and mental relaxation. The effect of autogenic training arises from an auto-suggestive influence on the autonomic nervous system. This is produced by the person doing the exercises by concentrating on bodily sensations such as the heaviness and warmth of the arms and legs, in order to activate the parasympathetic parts of the autonomic nervous system. Autogenic training is widely used in stress reduction and prevention, and in its application for musicians it is often part of the standard treatments for overcoming music performance anxiety (Lim & Kim, 2014; Manzoni et al., 2008; Scholz et al., 2016.

Progressive Muscle Relaxation (Edmund Jacobson, 1888–1893)

Progressive Muscle Relaxation (PMR) is a method developed to attain full relaxation in independently performed exercises by consciously tensing and relaxing muscle groups. Progressive muscle relaxation offers musicians the chance to learn how they can perceive and reduce muscular tension. This plays an important role in the movements made in playing an instrument, as muscle tone influences the coordination and fluidity of these movements. This strategy, when well developed, can also help musicians in shifting the attention from anxiety feelings or worrying thoughts to the dynamics of tension-relaxation in the body (McCloughana et al., 2016; Kim, 2008).

Dispokinesis (Gerrit Onne van de Klashorst, 1927–2017)

Dispokinesis is a form of training and therapy that was developed especially for the needs of musicians. Dispokinesis enables them to recognize disease-causing habits and movement patterns when playing music and at work, and to transform these into a health-promoting habit and correspondingly healthy movements (Hildebrandt & Müller, 2004; Klashorst van de, 2002).

Yoga

Yoga is one of the six classical philosophy systems of India (Darshanas), and comes from the Sanskrit language and derived from *yuj*, meaning to connect, to unite. The primary aim of yoga is to look into the depths of existence and attain the highest knowledge. Yoga arrived in the Western world at the end of the
p. 295 nineteenth century, with numerous new ↳ styles having developed since then, each with different content and religious emphases. Hatha Yoga (*hatha* = power) is particularly common in the West. It refers to a strenuous, energetic yoga path and contains body, breathing, and meditation exercises that can also improve strength and flexibility (Butzer et al., 2016; Khalsa et al., 2009; Stern et al., 2012).

Pilates (Joseph Pilates, 1883–1967)

The Pilates method comprises systematic body training with the emphasis on strengthening the muscles, the goal being all-round promotion of one's health. This is achieved by controlled use of the body and consciously managed breathing. The method was originally deeply rooted in dance and sports, but in recent years has become increasingly open to the needs of musicians. By applying high-quality control of body movements, it seeks to improve strength and stability as well as movement coordination (Kuhnert, 2008).

Physical activity and music making

There are a many studies showing that yoga, cardiovascular, and conditioning programs for musicians have many positive effects that include: less playing-related discomfort, pain intensity, tension and anxiety, more flexibility, and musicians feel more energetic and stronger (Ackermann, Adams, & Marshall, 2002; Chan, Driscoll & Ackermann, 2013; Andersen et al., 2017; Cooper et al., 2012; Khalsa et al., 2009). However, there is still a degree of skepticism among musicians in relation to muscle-strengthening activities, because of the belief that they might be risky and cause muscle fatigue. The benefits of regular physical activity go beyond preventing problems and can apply to playing and performing. These include:

- Developing muscular and cardiorespiratory capacity that helps reduce tension in the body, prepare the body for more efficient responses to physical strain, and therefore prevent injury;
- Strengthening the muscles helps to sustain energy and muscular effort during playing and performance, and also reduces musculoskeletal pain;
- Improving the quality of sleep and proper physical and mental recovery;
- Boosting positive emotions and mood, thus helping to develop more positive approaches to stress and adversity; and
- Sharpening cognitive skills such as focus and concentration, in order to help maximize the gains from practice.

Like the body-oriented methods, the benefits of physical activity are achieved through regular and long-term practice. The recommendations are that adults do aerobic activity (anything that gets the heart rate up) of moderate-intensity at least 150 minutes a week (e.g., 30 minutes/5 days a week) or 75 minutes a week
p. 296
of vigorous aerobic activity as well as muscle-strengthening activity (anything that make muscles work ↳ harder than usual) two days a week. Examples of aerobic activity includes cycling, brisk walking, skipping rope, football, jogging, dancing, cardio machines or video workouts, as well as gardening. Muscle-strengthening activities can include yoga and Pilates, workouts involving weights and resistance elastic bands, push-ups, and squats. A recent study (Araújo et al., 2020) showed that music students engage satisfactorily with recommended weekly levels of physical activity and show generally good cardiovascular fitness. However, their upper body strength and engagement in weekly strengthening exercises was less satisfactory. This is particularly worrying when most musculoskeletal problems of musicians are located in the upper body (Cruder et al., 2017).

Achieving these recommendations can be challenging to musicians who may find several excuses to not initiate or sustain physical activity (e.g., lack of time or energy, lack of motivation, financial cost, exercise is painful, not being athletic) for which there are solutions. Practicing regular physical activity does not require a gym membership, a set fitness level, or specific equipment. There are today a range of tools that can help plan and start regular physical activity, including free apps, exercise planners, and fitness channels online. There are several strategies to help musicians start practicing physical activity regularly:

- Know your fitness level—check if your school or institution can offer a free health screening; there are also free self-assessment tools online on national health websites worldwide.
- Plan and make time for it in your diary—find a time that works for you and keep a consistent routine.
- Start with short physical activity sessions (e.g., 10–15 minutes) adapted to your fitness level; it all adds up!
- Make it easy on yourself—choose physical activities you like and/or that feel manageable to you.
- Find an exercise buddy—it will help you commit to an exercise regime and keep track of progress.
- Use it as part of your practice/performance routines—to boost your energy levels or help you switch off and wind down.

Physical inactivity is considered the fourth leading risk factor for global mortality (WHO, 2010) and therefore, worldwide, physical activity is recommended to protect and promote health.

Sleep

Sleep is as important as food or water, and poor sleep can lead to many health problems. It is during sleep that our body finds its homeostasis, allowing the various systems to repair and regrow, restoring energy, boosting our immune system (preventing that we get ill), helping the brain to process and reorganize
p. 297 information, and releasing hormones ↳ responsible for regulation of emotions (Harrison, 2011; Wheaton, Chapman, & Croft, 2016). Sleep enhances concentration and memory, energy levels, immunity, and positive emotions. Research shows that the benefits of sleep are particularly important in tasks that involve complex motor and memory functions, like music making, and more sleep hours may be needed for optimal benefits (Appleman et al., 2016; Kuriyama, Stickgold, & Walker, 2004; Walker, Brakefield, Morgan, Hobson, & Stickgold, 2002). The recommended amount of sleep for adults is seven to nine hours daily but sleep duration can vary according to individual needs, health levels, and contextual circumstances (e.g., work schedules, cognitive and physical demands of the job) (Chaput, Dutil, & Sampasa-Kanyinga, 2018).

Musicians' busy schedules, late and irregular working hours, stress, and constant pressure to excel can make it difficult to get a long and good night's sleep. Indeed, research shows both professional and student musicians have poor sleep and high risk of sleep disorders (Vaag, Saksvik-Lehouillier, Bjørngaard, & Bjerkeset, 2015; Araújo et al., 2017). Therefore, more than aiming for a magic number of sleep hours, it is important that musicians make sleep quality a priority in their lifestyles, which will have important benefits for their health as wellbeing and to their learning and performance. Some sleep "hygiene" tips are well known and include:

- Have a fixed wake-up time—independent of your schedules during weekdays or weekends, keeping the same wake-up time will allow you to get into a consistent rhythm of sleep, improving its quality.
- Follow a nightly routine—find rituals that will remind your mind that it is bedtime so that you can wind down. This can include listening to soft music, doing some light stretching, reading a book, avoiding using electronic devices, dimming the lights, or doing some breathing/relaxation exercises.
- Keep healthy daily habits—physical activity (preferably in the morning and afternoon), spending time outdoors, reducing caffeine and alcohol consumption, and having lighter meals at dinner can help you sleep better.
- Optimize your bedroom—comfortable pillows/mattress and bedding, curtains to block out light, calming scents, and plants are ways to make your space emanate tranquility.

- Naps can have a restorative effect but can also impact your night sleep—keep naps short and early in the afternoon.

Substance use

Some contexts where musicians practice and perform such as touring, gigs in pubs, or freshers' fairs may entice the consumption of alcohol or other substances. Substance misuse in musicians usually occurs as a result of performance anxiety, depression, anxiety, or excessive internal or external pressures. Its consumption can give a misleading impression of a quick and easy fix to those pressures. The misuse or overuse ↳ of those substances can develop over a longer period, turning into a clear syndrome of
p. 298 dependency. In most cases, the dependence is on alcohol or tranquilizers such as benzodiazepines, or on painkillers for chronic pain syndromes. It is also common for musicians to adopt an uncontrolled use of beta-receptor blockers, which are not medically prescribed, and are used to counter performance anxiety by reducing somatic symptoms such as tremors and cardiovascular symptoms. Unlike alcohol and tranquilizers, beta-receptor blockers do not cause physical dependence, but their uncontrolled use should not be underestimated. Extended or unmonitored use can lead to psychological dependence and, in the long run, weaken the musician's self-esteem to be able to cope positively with performances on their own.

In terms of health promotion, it is best to reduce alcohol consumption and avoid drugs or self-prescribed medication, as their impact on many aspects of musicians' lifestyle can be detrimental.

Nutrition and hydration

Nutrition and hydration have important benefits for health and performance. Good nutrition allows adequate energy levels and reduces fatigue, negative mood, and health problems. The amount of information on healthy diets may feel overwhelming, so musicians should be well-informed of the benefits and potential risks of different diets. Ultimately, consulting a dietitian can be important when changes to nutrition need to be considered more seriously. Most people can make adaptations to their nutritional levels by being more aware of the benefits of a balanced diet and consume healthier food. A good balance between carbohydrates, protein, fat, and vitamins allows for a balanced diet. Reducing food with high levels of salt and sugar, increasing consumption of fruit and vegetables, and preferring home-cooked meals or healthy dishes in restaurants contributes to better nutrition. Musicians know the importance of healthy eating, but touring, irregular schedules, and stress can impact the availability and choice of healthy food (Cizek et al., 2016). Trying to keep regular eating times and avoid heavy meals at night or before practice and performance can be beneficial.

The body needs water to work properly and avoid dehydration. Even mild dehydration caused by exercise or heat can have negative impact on physical and mental performance. Feeling thirsty is a sign that the body needs fluids, but certain circumstances require people to increase their water intake even before feeling thirsty. These include during and after physical activity or through active and repetitive movement (e.g., during performance), in hot environments, and when the fluid intake through food or other beverages has been limited. A great deal of information is available for singers on the importance of hydration for vocal health (Siavasankar & Leydon, 2010) but far less for instrumentalists. No matter the music specialism, hydration helps "oiling" the joints to increase mobility, allow the organs to function properly, regulate body temperature, and cleanse toxins from the body. The recommended intake of water will depend on daily fluid intake through food and other drinks, but usually 1.5 to 2 liters per day are recommended. Drinks with caffeine, added sugars, and alcohol should be avoided or minimized.

p. 299 Advice on how to keep a healthy diet is widely available in national health services websites and can be consulted for reference.

Conclusion

The many challenges that musicians face throughout their careers can have health consequences that ultimately impact their career success and longevity. For that reason, it is important to consider ways to promote health as a valuable resource to musicians' success. We recognize that adopting and sustaining health-promoting lifestyles may be challenging and that health promotion may not always be effective. The models discussed here demonstrate that providing information is not enough to make change happen. Instead, the ways people make decisions about their health, develop intentions for change, and commit to healthy behaviors are mostly determined by their beliefs, the norms and values in a particular context, and the resources available to them in a supportive environment. We believe that the models provided here and suggestions for application offer a useful framework to inform the design and implementation of health prevention, education, and promotion initiatives. They can facilitate empowerment of musicians to feel confident on their knowledge and skills to make healthy choices and emphasize the importance of supportive environments that facilitate those choices. Therefore, promoting healthy lifestyles among musicians demands shared responsibility, a culture that values health and wellbeing and that take musician-centered approaches, where musicians' health plays an integral part of educational and professional environments.

Key Sources

Naidoo, J., & Wills. J. (2016). *Foundations for health promotion.* (4th ed.). London: Elsevier.

Healthy Conservatoires. (2018). *Music students' perceptions, attitudes and behaviours toward health* [Video] – see https://youtu.be/vvHIWxEYKVE.

Office of Disease Prevention and Health Promotion (n.d.). *Getting more active: Activity planner*. US Department of Health and Human Services – see https://health.gov/moveyourway/activity-planner.

Reflective Questions

1. From what you learned about approaches to health promotion, how would you describe the health promotion initiatives that you have encountered in your career, and which ones were more effective to you?
2. The models of behavioral change explain how people make healthy choices. Which ones resonated more with your experience in making healthy choices?

p. 300

3. ↳ How do you deal with health information and how do use it to inform your lifestyle choices?
4. What strategies do you use in your practice to protect and promote your own health, and what additional changes could you consider to make your practice even more healthy?
5. Reflect on your lifestyle and consider the many health-promoting strategies described here. Which ones would you consider implementing in your daily/weekly routines?

References

Ackermann, B., Adams, R., & Marshall, E. (2002). Strength or endurance training for undergraduate music majors at a university? *Medical Problems of Performing Artists*, *17*(1), 33–41.
Google Scholar WorldCat

Ajzen I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl, & J. Beckmann (Eds.), *Action control*, 11–39. Berlin, Heidelberg: Springer. https://doi.org/10.1007/978-3-642-69746-3_2.
Google Scholar Google Preview WorldCat COPAC

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior 1. *Journal of Applied Social Psychology*, *32*(4), 665–683. https://doi.org/10.1111/j.1559-1816.2002.tb00236.x.
Google Scholar WorldCat

American Psychological Association (2012). *The road to resilience*. American Psychological Association – see www.apa.org/topics/resilience.
Google Scholar Google Preview WorldCat COPAC

Andersen, L. N., Mann, S., Juul-Kristensen, B., & Søgaard, K. (2017). Comparing the impact of specific strength training vs. general fitness training on professional symphony orchestra musicians: A feasibility study. *Medical Problems of Performing Artists*, *32*(2), 94. https://doi.org/10.21091/mppa.2017.2016.
Google Scholar WorldCat

Antonovsky, A. (1987). *Unraveling the mystery of health: How people manage stress and stay well*. San Francisco: Jossey-Bass.
Google Scholar Google Preview WorldCat COPAC

Antonovsky, A. (1993). Complexity, conflict, chaos, coherence, coercion and civility. *Social Science and Medicine*, *37*(8), 969–974. https://doi.org/10.1016/0277-9536(93)90427-6.
Google Scholar WorldCat

Appleman, E. R., Albouy, G., Doyon, J., Cronin-Golomb, A., & King, B. R. (2016). Sleep quality influences subsequent motor skill acquisition. *Behavioural Neuroscience*, *130*(3), 290–297. https://doi.org/10.1037/bne0000131.
Google Scholar WorldCat

Araújo, L. S., Wasley, D., Perkins, R., Atkins, L., Redding, E., Ginsborg, J., & Williamon, A. (2017). Fit to perform: An investigation of higher education music students' perceptions, attitudes, and behaviors toward health. *Frontiers in Psychology*, *8*, 1558. https://doi.org/10.3389/fpsyg.2017.01558.
Google Scholar WorldCat

Araújo, L. S., Wasley, D., Redding, E., Atkins, L., Perkins, R., Ginsborg, J., & Williamon, A. (2020). Fit to perform: A profile of higher education music students' physical fitness. *Frontiers in Psychology*, *11*, 298. https://doi.org/10.3389/fpsyg.2020.00298.
Google Scholar WorldCat

Ascenso, S., Perkins, R., & Williamon, A. (2018). Resounding meaning: A PERMA wellbeing profile of classical musicians. *Frontiers in Psychology*, *9*, 1895. https://doi.org/10.3389/fpsyg.2018.01895.
Google Scholar WorldCat

Ascenso, S., Williamon, A., & Perkins, R. (2017). Understanding the wellbeing of professional musicians through the lens of Positive Psychology. *Psychology of Music*, *45*(1), 65–81. https://doi.org/10.1177/0305735616646864.
Google Scholar WorldCat

Baadjou, V. A., Wijsman, S. I., Ginsborg, J., Guptill, C., De Lisle, R., … & Ackermann, B. J. (2019). Health education literacy and accessibility for musicians: A global approach. Report from the Worldwide Universities Network Project. *Medical Problems of Performing Artists*, *34*(2), 105–107. https://doi.org/10.21091/mppa.2019.2011.

Google Scholar WorldCat

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191.
Google Scholar WorldCat

Bandura, A. (1998). Health promotion from the perspective of social cognitive theory. *Psychology and Health*, *13*(4), 623–649. https://doi.org/10.1080/08870449808407422.
Google Scholar WorldCat

Bandura, A. (2005). The primacy of self-regulation in health promotion. *Applied Psychology*, *54*(2), 245–254. https://doi.org/10.1111/j.1464-0597.2005.00208.x.
Google Scholar WorldCat

Bengel, J., & Lyssenko, L. (2012). *Resilienz und psychologische Schutzfaktoren im Erwachsenenalter: Stand der Forschung zu psychologischen Schutzfaktoren von Gesundheit im Erwachsenenalter.* Forschung und Praxis der Gesundheitsförderung, Bd. 43, Köln: Bundeszentrale für gesundheitliche Aufklärung.
Google Scholar Google Preview WorldCat COPAC

Biasutti, M., & Concina, E. (2014). The role of coping strategy and experience in predicting music performance anxiety. *Musicae Scientiae*, *18*(2), 189–202. https://doi.org/10.1177/1029864914523282.
Google Scholar WorldCat

Bonneville-Roussy, A., & Bouffard, T. (2015). When quantity is not enough: Disentangling the roles of practice time, self-regulation and deliberate practice in musical achievement. *Psychology of Music*, *43*(5), 686–704. https://doi.org/10.1177/0305735614534910.
Google Scholar WorldCat

Butzer, B., Ahmed, K., & Khalsa, S. B. (2016). Yoga enhances positive psychological states in young adult musicians. *Applied Psychophysiology and Biofeedback*, *41*(2), 191–202. https://doi.org/10.1007/s10484-015-9321-x.
Google Scholar WorldCat

Chan, C., Driscoll, T., & Ackermann, B. (2013). Development of a specific exercise programme for professional orchestral musicians. *Injury Prevention*, *19*(4), 257–263. https://doi.org/10.1136/injuryprev-2012-040608.
Google Scholar WorldCat

Chaput, J. P., Dutil, C., & Sampasa-Kanyinga, H. (2018). Sleeping hours: What is the ideal number and how does age impact this? *Nature and Science of Sleep*, *10*, 421–430. https://doi.org/10.2147/NSS.S163071.
Google Scholar WorldCat

Cizek, E., Kelly, P., Kress, K., & Mattfeldt-Beman, M. (2016). Factors affecting healthful eating among touring popular musicians and singers. *Medical Problems of Performing Artists*, *31*(2), 63–68. https://doi.org/10.21091/mppa.2016.2013.
Google Scholar WorldCat

Cooper, S. C., Hamann, D. L., & Frost, R. (2012). The effects of stretching exercises during rehearsals on string students' self-reported perceptions of discomfort. *Update: Applications of Research in Music Education*, *30*(2), 71–76. https://doi.org/10.1177/8755123312438720.
Google Scholar WorldCat

Cruder, C., Falla, D., Mangili, F., Azzimonti, L., Araújo, L. S., Williamon, A., & Barbero, M. (2017). Profiling the location and extent of musicians' pain using digital pain drawings. *Pain Practice*, *18*(1), 53–66. https://doi.org/10.1111/papr.12581.
Google Scholar WorldCat

Détári, A., Egermann, H., Bjerkeset, O., & Vaag, J. (2020). Psychosocial work environment among musicians and in the general workforce in Norway. *Frontiers in Psychology*, 11, 1315. https://doi.org/10.3389/fpsyg.2020.01315.

Google Scholar WorldCat

Ditzen, B., & Heinrichs, M. (2014). Psychobiology of social support: The social dimension of stress buffering. *Restorative Neurology and Neuroscience*, *32*(1), 149–162. https://doi.org/10.3233/RNN-139008.
Google Scholar WorldCat

Driskell, J. E., Copper, C., & Moran, A. (1994). Does mental practice enhance performance? *Journal of Applied Psychology*, *79*(4), 481–492. https://doi.org/10.1037/0021-9010.79.4.481.
Google Scholar WorldCat

Evans, P., & Bonneville-Roussy, A. (2016). Self-determined motivation for practice in university music students. *Psychology of Music*, *44*(5), 1095–1110. https://doi.org/10.1177/0305735615610926.
Google Scholar WorldCat

Gembris, H., Heye, A., & Seifert, A. (2018). Health problems of orchestral musicians from a life-span perspective: Results of a large-scale study. *Music & Science*, 1, 1–20. https://doi.org/10.1177/2059204317739801.
Google Scholar WorldCat

Ginsborg, J., Spahn, C., & Williamon, A. (2012). Health promotion in higher music education (pp. 356–366). In R. MacDonald, G. Kreutz, & L. Mitchell (Eds.), *Music, health, and wellbeing*, 356–366. Oxford: Oxford University Press.
Google Scholar Google Preview WorldCat COPAC

Harrison, Y. (2011). The functions of sleep. In C. M. Morin & C. A Espie (Eds.), *The Oxford handbook of sleep and sleep disorders* (pp. 61–73). Oxford: Oxford University Press.
Google Scholar Google Preview WorldCat COPAC

Haupt, E. (2004). Integrative Stimmtherapie und Qi-gong. *logoTHEMA*, *1*, 8–15.
Google Scholar WorldCat

Haupt, E. (2009). *Singen und Stimme*. Idstein: Schulz-Kirchner.
Google Scholar Google Preview WorldCat COPAC

Hildebrandt, H. & Müller, A. (2004). Dispokinesis: Freies Verfügen über Haltung, Atmung, Bewegung und Ausdruck. *Musikphysiologie und Musikermedizin*, *11*, 55–59.
Google Scholar WorldCat

Khalsa, S. B. S., Shorter, S. M., Cope, S., Wyshak, G., & Sklar, E. (2009). Yoga ameliorates performance anxiety and mood disturbance in young professional musicians. *Applied Psychophysiology and Biofeedback*, *34*(4), 279. https://doi.org/10.1007/s10484-009-9103-4.
Google Scholar WorldCat

Kim, Y. (2008). The effect of improvisation-assisted desensitization, and music-assisted progressive muscle relaxation and imagery on reducing pianists' music performance anxiety. *Journal of Music Therapy*, *45*(2), 165–91. https://doi.org/10.1093/jmt/45.2.165.
Google Scholar WorldCat

Klashorst, van de G. O. (2002). *The disposition of the musician*. Amsterdam: Broekmans & van Poppel B. V.
Google Scholar Google Preview WorldCat COPAC

Kobori, O., Yoshie, M., Kudo, K., & Ohtsuki, T. (2011). Traits and cognitions of perfectionism and their relation with coping style, effort, achievement, and performance anxiety in Japanese musicians. *Journal of Anxiety Disorders*, *25*(5), 674–679. https://doi.org/10.1016/j.janxdis.2011.03.001.
Google Scholar WorldCat

Kuhnert, C. (2008). Die Pilates-Methode. In E. Exner-Grave (Ed.), *TanzMedizin. Die medizinische Versorgung professioneller Tänzer*

(pp. 113–117). Stuttgart: Schattauer.
Google Scholar Google Preview WorldCat COPAC

Kuriyama, K., Stickgold, R., & Walker, M. P. (2004). Sleep-dependent learning and motor-skill complexity. *Learning & Memory*, *11*(6), 705–713. https://doi.org/10.1101/lm.76304.
Google Scholar WorldCat

Lang, A., & Saatweber, M. (2020). *Stimme und Atmung: Kernbegriffe und Methoden des Konzeptes Schlaffhorst-Andersen und ihre anatomisch-physiologische Erklärung*. Idstein: Schulz-Kirchner.
Google Scholar Google Preview WorldCat COPAC

Laverack, G. (2006). Improving health outcomes through community empowerment: A review of the literature. *Journal of Health, Population and Nutrition*, *24*(1), 113–120.
Google Scholar WorldCat

Lim, S-J., & Kim, C. (2014). Effects of autogenic training on stress response and heart rate variability in nursing students. *Asian Nursing Research*, *8*(4), 286–292. https://doi.org/10.1016/j.anr.2014.06.003.
Google Scholar WorldCat

Lindstrom, B. & Eriksson, M. (2006). Contextualizing salutogenesis and Antonovsky in public health development. *Health Promotion International*, *21*(3), 238–244. https://doi.org/10.1093/heapro/dal016.
Google Scholar WorldCat

MacNamara, Á., Holmes, P., & Collins, D. (2008). Negotiating transitions in musical development: The role of psychological characteristics of developing excellence. *Psychology of Music*, *36*(3), 335–352. https://doi.org/10.1177/0305735607086041.
Google Scholar WorldCat

Manzoni, G. M., Pagnini, F., Castelnuovo, G., & Molinari, E. (2008). Relaxation training for anxiety: A ten-years systematic review with meta-analysis. *BMC Psychiatry*, *8*, 41. https://doi.org/10.1186/1471-244X-8-41.
Google Scholar WorldCat

p. 303 Marsland, A. L., Pressman, S., & Cohen, S. (2007). Positive affect and immune function. In R. Ader (Ed.), *Psychoneuroimmunology* (4th ed., pp. 761–779). Amsterdam: Elsevier.
Google Scholar Google Preview WorldCat COPAC

Matei, R., Broad, S., Goldbart, J., & Ginsborg, J. (2018). Health education for musicians. *Frontiers in Psychology*, *9*, 1137. https://doi.org/10.3389/fpsyg.2018.01137.
Google Scholar WorldCat

McCloughana, L. J., Hanrahana, S. J., Anderson R., & Halsonc, S. R. (2016). Psychological recovery: Progressive Muscle Relaxation (PMR), anxiety, and sleep in dancers. *Performance Enhancement & Health*, *4*(1–2), 12–17. https://doi.org/10.1016/j.peh.2015.11.002.
Google Scholar WorldCat

McPherson, G. E., & McCormick, J. (2006). Self-efficacy and performing music. *Psychology of Music*, *34*(3), 321–336. https://doi.org/10.1177/0305735606064841.
Google Scholar WorldCat

Naidoo, J., & Wills, J. (2016). *Foundations for health promotion*. (4th ed.). London: Elsevier.
Google Scholar Google Preview WorldCat COPAC

Nelson, S. H. (1989). Playing with the entire self: The Feldenkrais Method and musicians. *Seminars in Neurology*, *9*(2), 97–104. https://doi.org/10.1055/s-2008-1041310.
Google Scholar WorldCat

Ng, J. Y., Ntoumanis, N., Thøgersen-Ntoumani, C., Deci, E. L., Ryan, R. M., Duda, J. L., & Williams, G. C. (2012). Self-determination theory applied to health contexts: A meta-analysis. *Perspectives on Psychological Science*, *7*(4), 325–340. https://doi.org/10.1177/1745691612447309.
Google Scholar WorldCat

Nusseck, M., & Spahn, C. (2013). Vergleich der studienbezogenen Verhaltens- und Erlebensmuster bei Musikstudierenden des künstlerischen Hauptfachs und der Schulmusik. *Musikphysiologie Musikermedizin*, *20*(3), 117–125.
Google Scholar WorldCat

Nusseck, M., & Spahn, C. (2020). Comparison of postural stability and balance between musicians and non-musicians. *Frontiers in Psychology*, *11*, 1253. https://doi.org/10.3389/fpsyg.2020.01253.
Google Scholar WorldCat

Nutbeam, D. (2000). Health literacy as a public health goal: A challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International*, *15*(3), 259–267. https://doi.org/10.1093/heapro/15.3.259.
Google Scholar WorldCat

Nutbeam, D. (2008). The evolving concept of health literacy. *Social Science and Medicine*, *67*(12), 2072–2078. https://doi.org/10.1016/j.socscimed.2008.09.050.
Google Scholar WorldCat

Ohlendorf, D., Maurer, C., Bolender, E., Kocis, V., Song, M., & Groneberg, D. A. (2018). Influence of ergonomic layout of musician chairs on posture and seat pressure in musicians of different playing levels. *PloS ONE*, *13*(12), e0208758. https://doi.org/10.1371/journal.pone.0208758.
Google Scholar WorldCat

Panebianco-Warrens, C. R., Fletcher, L., & Kreutz, G. (2015). Health-promoting behaviors in South African music students: A replication study. *Psychology of Music*, *43*(6), 779–792. https://doi.org/10.1177/0305735614535829.
Google Scholar WorldCat

Pecen, E., Collins, D. J., & MacNamara, Á. (2018). "It's your problem. Deal with it." Performers' experiences of psychological challenges in music. *Frontiers in Psychology*, *8*, 2374. https://doi.org/10.3389/fpsyg.2017.02374.
WorldCat

Perkins, R., Reid, H., Araújo, L., Clark, T., & Williamon A. (2017). Perceived enablers and barriers to optimal health among music students: A qualitative study in the music conservatoire setting. *Frontiers Psychology*, *8*, 968. https://doi.org/10.3389/fpsyg.2017.00968.
Google Scholar WorldCat

Prochaska, J. O., & DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research and Practice*, *19*(3), 276–288. https://doi.org/10.1037/h0088437.
Google Scholar WorldCat

Prochaska, J. O., Norcross, J. C., & DiClemente, C. C. (2013). Applying the stages of change. *Psychotherapy in Australia*, 19(2), 10–15.
Google Scholar WorldCat

Rickert, D. L., Barrett, M. S., & Ackermann, B. (2013). Injury and the orchestral environment: Part I. *Medical Problems of Performing Artists*, *28*(4), 219–229. https://doi.org/10.21091/mppa.2013.4043.
Google Scholar WorldCat

Rickert, D. L., Barrett, M. S., & Ackermann, B. J. (2014). Injury and the orchestral environment: Part II. Organisational culture, behavioural norms, and attitudes to injury. *Medical Problems of Performing Artists*, *29*(2), 94–101. https://doi.org/10.21091/mppa.2014.2020.
Google Scholar WorldCat

Rickert, D. L., Barrett, M. S., & Ackermann, B. J. (2015). Are music students fit to play? A case study of health awareness and injury attitudes amongst tertiary student cellists. *International Journal of Music Education*, *33*(4), 426–441. https://doi.org/10.1177/0255761415582343.
Google Scholar WorldCat

Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs*, 2(4), 328–335. https://doi.org/10.1177/109019817400200403.
Google Scholar WorldCat

Roy L., Zhang Y. (2019). The health of a musician: Identifying musicians' unstated/unrecognized health information needs. In S. Kurbanoğlu, S. Špiranec, Y. Ünal, J. Boustany, M. Huotari, E. Grassian, D. Mizrachi, & L. Roy (Eds.), *Information Literacy in Everyday Life. ECIL 2018* (pp. 115–123). Communications in Computer and Information Science, vol. 989. Cham: Springer. https://doi.org/10.1007/978-3-030-13472-3_11.
Google Scholar Google Preview WorldCat COPAC

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68–78. https://doi.org/10.1037/0003-066X.55.1.68.
Google Scholar WorldCat

Ryan, R. M., Patrick, H., Deci, E. L., & Williams, G. C. (2008). Facilitating health behaviour change and its maintenance: Interventions based on self-determination theory. *The European Health Psychologist*, 10(1), 2–5.
Google Scholar WorldCat

Saatweber, M. (2008). How to help teachers' voices. *Folia Phoniatrica et Logopaedica*, *60*(6), 288–290.
Google Scholar WorldCat

Schaarschmidt, U., & Fischer, A. W. (2003). *Arbeitsbezogenes Verhaltens- und Erlebensmuster AVEM*. Frankfurt: Swets & Zeitlinger.
Google Scholar Google Preview WorldCat COPAC

Schaufeli, W. B., Taris, T. W., & Van Rhenen, W. (2008). Workaholism, burnout, and work engagement: Three of a kind or three different kinds of employee well-being? *Applied Psychology*, *57*(2), 173–203. https://doi.org/10.1111/j.1464-0597.2007.00285.x.
Google Scholar WorldCat

Scholz, M., Neumann, C., Wild, K., Garreis, F., Hammer, C. M., Ropohl, A., Paulsen, F., & Burger, P. H. (2016). Teaching to relax: Development of a program to potentiate stress-results of a feasibility study with medical undergraduate students. *Applied Psychophysiology and Biofeedback*, *41*(3), 275–281. https://doi.org/10.1007/s10484-015-9327-4.
Google Scholar WorldCat

Sivasankar, M., & Leydon, C. (2010). The role of hydration in vocal fold physiology. *Current Opinion in Otolaryngology and Head and Neck Surgery*, *18*(3), 171–175. https://doi.org/10.1097/MOO.0b013e3283393784.
Google Scholar WorldCat

Slavin, S. J., Schindler, D., Chibnall, J. T., Fendell, G., & Shoss, M. (2012). PERMA: A model for institutional leadership and culture change. *Academic Medicine*, 87(11), 1481. https://doi.org/10.1097/ACM.0b013e31826c525a.
Google Scholar WorldCat

Spahn, C. (2006). *Gesundheit für Musiker:– Entwicklung des Freiburger Präventionsmodells*. Bochum/Freiburg: Projektverlag.
Google Scholar Google Preview WorldCat COPAC

Spahn, C. (2012). *Lampenfieber: Handbuch für den erfolgreichen Auftritt, Grundlagen, Analyse, Maßnahmen*. Leipzig: Henschel.
Google Scholar Google Preview WorldCat COPAC

Spahn, C. (2015). *Musikergesundheit in der Praxis: Grundlagen, Prävention, Übungen*. Leipzig: Henschel.
Google Scholar Google Preview WorldCat COPAC

Spahn, C. (2017). *Körperorientierte Ansätze: Methoden zur Leistungs- und Gesundheitsförderung*. Bern: Hogrefe.
Google Scholar Google Preview WorldCat COPAC

Spahn, C., Burger, T., Hildebrandt, H., & Seidenglanz, K. (2005). Health locus of control and preventive behaviour among students of music. *Psychology of Music*, *33*(3), 257–269. https://doi.org/10.1177/0305735605053733.
Google Scholar WorldCat

p. 305

Spahn, C., Hildebrandt, H., & Seidenglanz, K. (2001). Effectiveness of a prophylactic course to prevent playing-related health problems of music students. *Medical Problems of Performing Artists*, *16*(1), 24–31.
Google Scholar WorldCat

Spahn, C., & Hutter, N. (2021). The healthy orchestra. In G. Mertens (Ed.) *The (fr)agile orchestra.* Mainz: Schott.
Google Scholar Google Preview WorldCat COPAC

Spahn, C., Immerz, A., & Nusseck, M. (2020). "Die Lücke schließen zwischen Unterricht und Musizierpraxis": Eine qualitative Studie zur Evaluation spezifischer pädagogischer Elemente im Bereich körperorientierter Gesundheitsförderung und Prävention bei Musikstudierenden. In T. Fischinger & C. Louven (Eds.), *Jahrbuch Musikpsychologie: Musik im audiovisuellen Kontext* (Vol. 29, e45). https://doi.org/10.5964/jbdgm.2019v29.45.
Google Scholar Google Preview WorldCat COPAC

Spahn, C., Nusseck, M., & Zander M. (2014). Long-term analysis of health status and preventive behavior in music students across an entire university program. *Medical Problems of Performing Artists*, *29*(1), 8–15. https://doi.org/10.21091/mppa.2014.1003.
Google Scholar WorldCat

Spahn, C., Richter, B. & Zschocke, I. (2002). Health attitudes, preventive behavior, and playing-related health problems among music students. *Medical Problems of Performing Artists*, *17*(1), 22–28.
Google Scholar WorldCat

Spahn, C., Strukely, S., & Lehmann, A. (2004). Health conditions, attitudes toward study, and attitudes toward health at the beginning of university study: Music students in comparison with other student populations. *Medical Problems of Performing Artists*, *19*(1), 26–33.
Google Scholar WorldCat

Spahn, C., Voltmer, E., Mornell, A., & Nusseck, M. (2017). Health status and preventive health behavior of music students during university education: Merging prior results with new insights from a German multicenter study. *Musicae Scientiae, Special issue: Music, Health, and Wellbeing*, *21*, 213–229. https://doi.org/10.1177/1029864917698197.
Google Scholar WorldCat

Spire, M. (1989). The Feldenkrais Method: An interview with Anat Baniel. *Medical Problems of Performing Artists*, *4*(4), 159–162.
Google Scholar WorldCat

Steinmüller, W. (2015). Körperbewusstheit für Musiker: Die Feldenkrais-Methode im Freiburger Präventionsmodell. *Freiburger Beiträge zur Musikermedizin Band* 3 (2nd ed.) C. Spahn (Ed.), Bochum/Freiburg: Projektverlag.

Stern, J. R. S., Khalsa, S. B. S., & Hofmann, S. G. (2012). Yoga intervention for music performance anxiety in conservatory students. *Medical Problems of Performing Artists*, *27*(3), 123–128.
Google Scholar WorldCat

Sweigard, L. (1974). *Human movement potential: Its ideokinetic facilitation*. New York: Dodd, Mead and Co.
Google Scholar Google Preview WorldCat COPAC

Tannahill, A. (1985). What is health promotion? *Health Education Journal*, *44*(4), 167–168.
https://doi.org/10.1177/001789698504400402.
Google Scholar WorldCat

Tannahill, A. (2008). Beyond evidence—to ethics: A decision-making framework for health promotion, public health and health improvement. *Health Promotion International*, *23*(4), 380–390. https://doi.org/10.1093/heapro/dan032.
Google Scholar WorldCat

Todd, M. (1937). *The thinking body: A study of the balancing forces of dynamic man* (Reprint). New York: Dance Horizons.
Google Scholar Google Preview WorldCat COPAC

Todd, M. E. (1921). Principles of posture, with special reference to the mechanics of the hip-joint. *New England Journal of Medicine*, *184*(25), 667–673. https://doi.org/10.1056/NEJM192106231842502.
Google Scholar WorldCat

Vaag, J., Saksvik-Lehouillier, I., Bjørngaard, J. H., & Bjerkeset, O. (2015). Sleep difficulties and insomnia symptoms in Norwegian musicians compared to the general population and workforce. *Behavioural Sleep Medicine*, *14*(3), 325–342. https://doi.org/10.1080/15402002.2015.1007991.
Google Scholar WorldCat

p. 306

Vetter, J. (2012). *Two studies in the aspects of body awareness methods on musicians.* Unpublished master's thesis, Hochschule für Musik Freiburg.

Voltmer, E., Kieschke, U., & Spahn, C. (2007). Work-related behaviour and experience patterns of physicians compared to other professions. *Swiss Medical Weekly*, *137*(31-32), 448–453.
Google Scholar WorldCat

Voltmer, E., Schauer, I., Schröder, H., & Spahn, C. (2008). Musicians and physicians: A comparison of psychosocial strain patterns and resources. *Medical Problems of Performing Artists*, *23*(4), 164–168.
Google Scholar WorldCat

Voltmer, E., Zander, M. F., Fischer, J. E., Kudielka, B. M., Richter, B., & Spahn, C. (2012). Physical and mental health of different types of orchestra musicians compared to other professions. *Medical Problems of Performing Artists*, *27*(1), 9–14. https://doi.org/10.21091/mppa.2012.1003.
Google Scholar WorldCat

Walker, M. P., Brakefield, T., Morgan, A., Hobson, J. A., & Stickgold, R. (2002). Practice with sleep makes perfect: Sleep-dependent motor skill learning. *Neuron*, *35*(1), 205–211. https://doi.org/10.1016/S0896-6273(02)00746-8.
Google Scholar WorldCat

Weissenberg, J. (2015). *Alexandertechnik und Bühnenpräsenz: Die Wirkung der Alexandertechnik auf Bühnenpräsenz und Podiumssicherheit*. München: Utz-Verlag.
Google Scholar Google Preview WorldCat COPAC

Wheaton, A. G., Chapman, D. P., & Croft, J. B. (2016). School start times, sleep, behavioral, health, and academic outcomes: A review of the literature. *Journal of School Health*, *86*(5), 363–381. https://doi.org/10.1111/josh.12388.
Google Scholar WorldCat

Wijsman, S., & Ackermann, B. J. (2019). Educating Australian musicians: Are we playing it safe? *Health Promotion International*, *34*(4), 869–876. https://doi.org/10.1093/heapro/day030.
Google Scholar WorldCat

World Health Organization. (1948). British Medical *Journal*, 2, 302. https://doi.org/10.1136/bmj.2.4570.302.
WorldCat

World Health Organization. (2010). *Global recommendations on physical activity for health*. World Health Organization – see https://apps.who.int/iris/handle/10665/44399.
WorldCat

Zander, M., Voltmer, E., & Spahn, C. (2010). Health promotion and prevention in higher music education: Results of a longitudinal study. *Medical Problems of Performing Artists*, *25*(2), 54–65.
Google Scholar WorldCat

Notes

1 PAMA = Performing Arts Medicine Association, United States
2 British Association for Performing Arts Medicine