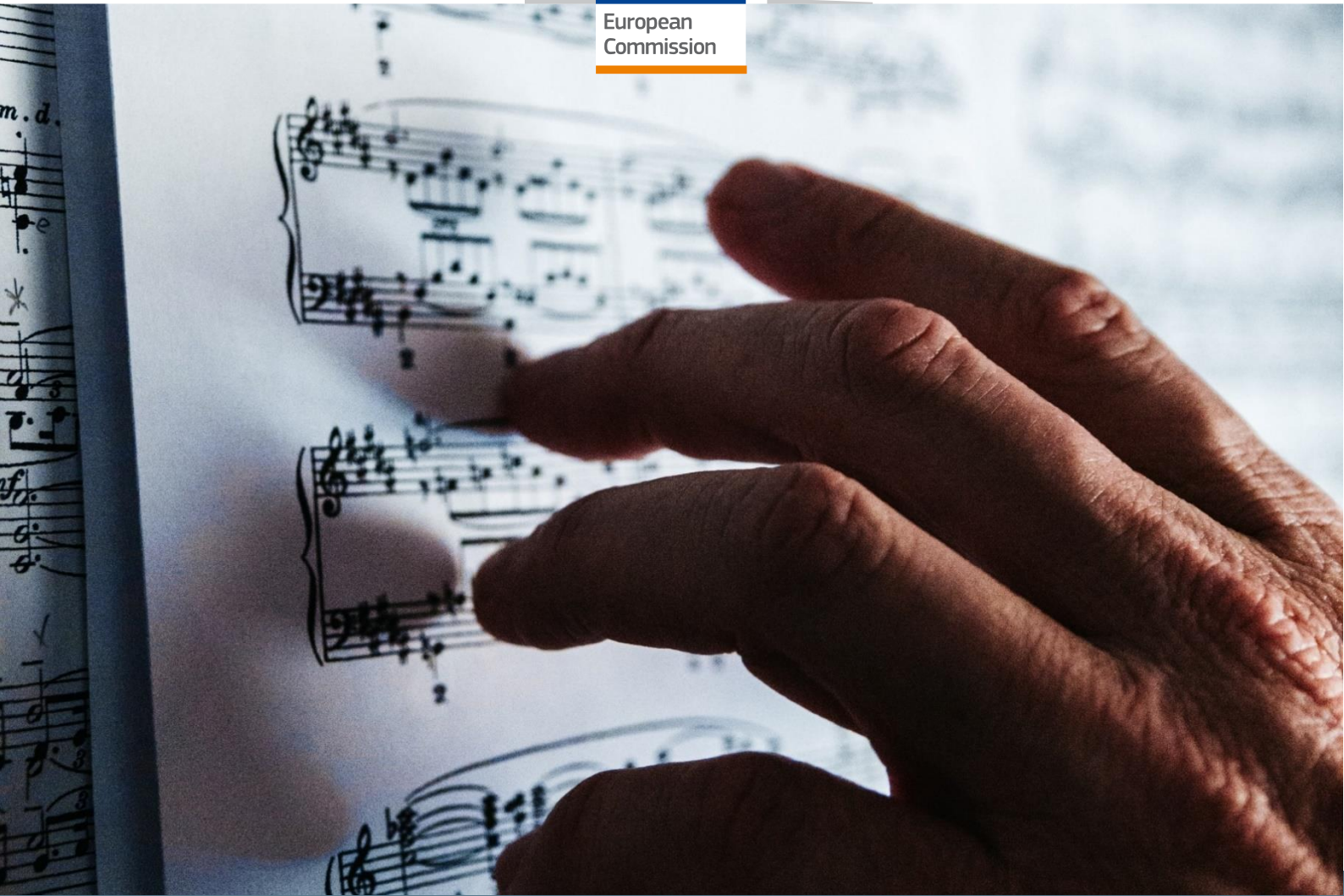




European
Commission



The Health and Wellbeing of Professional Musicians and Music Creators in the EU

insights from research for policy and practice

An independent report commissioned by and authored for
the European Commission

Culture

EUROPEAN COMMISSION

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insights from research for policy and practice

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Table of Contents

Definitions	6
Foreword by European Commissioner Mariya Gabriel	7
Executive Summary	9
Synthèse	15
Zusammenfassung	21
CHAPTER 1. Introduction	29
Objectives, key questions and structure of the report	30
CHAPTER 2. Literature review	31
Mental health problems among music creators	31
Risk factors related to mental health	33
Physical health problems among music creators and physical health risk factors	39
Personal characteristics and environmental factors	41
Positive aspects of playing and creating music	43
Education, prevention and treatment: mental health, physical health, social issues	46
CHAPTER 3. Insights from interviews with music creators and stakeholders	53
Micro level: risks at a personal level	53
Meso level: risks at an organisational level	56
Macro level analysis: broader cultural phenomena and shifts in society	58
CHAPTER 4. Initiatives to support music creators	63
Cluster 1: music medicine	63
Cluster 2: education courses	65
Cluster 3: guides	67
Cluster 4: financial policy	68
Cluster 5: physical health interventions	69
CHAPTER 5. Key conclusions and policy recommendations	71
Risk factors	71
Recommendations for the national/regional/local level	73
Recommendations for the European level	75
Appendix 1. Methodology	77
Appendix 2. Interview topic list: individual musicians and music creators	85
Appendix 3. Interview topic list: experts, organisations, stakeholders	89
Appendix 4. List of good practices	93
Appendix 5. List of participants in the validation workshop	116

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Definitions

- **A musician** performs, records and/or publishes his or her own musical creations or those of others.
- **A music creator** creates, performs, records and/or publishes his or her own music. One can be both a music creator and a musician.
- **An expertise centre** has specialist knowledge of the mental or physical wellbeing aspects of musicians. Centres can be linked to training courses, music schools, universities or hospitals.
- **Disorder**: an underlying psychobiological dysfunction leading to clinically significant distress or disability.

Foreword



Music is the universal language of humankind and holds a unique, uplifting and cohesive power. It is an essential component of Europe's cultural diversity. Music also has great economic importance. The music sector is the third largest employer within the cultural and creative industries in the EU. It is a dynamic and innovative sector with an important growth potential.

Policy initiatives at national level often prove insufficient to address the challenges arising from the global nature of the rapidly changing music industry and music consumption schemes. Against this limitation, the EU launched the **Music Moves Europe** initiative - to complement the efforts of the Member States and support Europe's key assets of the music field: creativity, diversity and competitiveness. Since 2015, Music Moves Europe has served as the foundation for EU action to support the music industry. The initiative supports the sector through targeted financial aid but also through knowledge sharing and policy cooperation.

This study is part of our effort to better understand the challenges the music sector is facing and to provide solutions. It is proof of our ongoing commitment to supporting the music sector, which is constantly transforming as music is now created, produced, distributed, consumed and monetised in new ways. Today, professional musicians and music creators operate in a volatile context of increased competition from global players. The recent COVID-19 pandemic made things more difficult. This changed landscape puts extra pressure and stress on music professionals who now need a range of other skills in addition to their virtuosity and proficiency. This new reality causes a great deal of concern about the health and wellbeing of professional musicians and music creators in the EU.

To raise awareness among policy and decision makers, the European Commission launched this independent study, which:

- Highlights **the main risks** for the physical and mental health of musicians in the EU.
- Distils **key policy lessons** and the supporting **evidence** from the most relevant research and provides recommendations for policy and practice.
- Shows **examples of successful actions** from several EU Member States.

The study shows that the health and well-being of musicians in the EU is vulnerable to a number of **risks** and reveals that **action on many fronts is needed**. Breaking the silence about these challenges can be an important step in our effort to improve policy and the lives of the millions of professional musicians and music creators across the EU.

Mariya Gabriel
European Commissioner for Innovation, Research, Culture, Education and Youth



Executive Summary

Creating and performing music professionally requires physical and psychological resilience. Professional musicians and music creators operate in a rapidly changing context where music is created, produced, distributed, consumed and monetised in completely new ways. This new landscape puts extra pressure and stress on professionals who, to stay afloat, now need a range of other skills (such as digital and business skills), additional to their virtuosity and proficiency. The recent crises, such as the COVID-19 pandemic, made things worse. This new reality causes a great deal of concern about the health and wellbeing of musicians and music creators in the EU.

As a reaction to this challenge, the European Commission launched this study in the context of its **Music Moves Europe** initiative (Preparatory Action 2019). The study shows that the health and well-being of musicians in the EU is vulnerable to a number of risk factors and that action on many fronts is needed.

Risk factors

Professional musicians and music creators are often faced with playing techniques that cause repetitive strain and exposure to high decibels; a heightened sense of competition and the lack of a supportive social network; financial and occupational insecurity; irregular working hours and conditions; the need to combine different jobs in order to make a living; extensive periods away from friends and family; maladaptive self-regulation; outdated practices in music education, which does not equip them to deal with the physical, psychological and social challenges of being a musician or to make a living as a musician in today's fast-changing music industry; and with expensive treatment costs.

The effects of these risks on music makers' mental and physical health are largely determined by their age, gender, musical instrument, music genre, and employment and practice conditions.

Reported occupational health problems in music include performance anxiety, musculoskeletal disorders, noise-induced hearing loss, sleep disorders, vocal damage, (techno)stress, loneliness and social anxiety, substance and alcohol use, vision problems, depression, chronic pain, eating disorders, and playing techniques that cause repetitive strain.

Mental and physical health

Certain personality traits are common among musicians, such as inter- and intrapersonal sensitivity, ruminative thinking and neuroticism. The combination of these traits with performance anxiety and a high-stress environment can be toxic. It can lead to depression, sleep problems, social isolation, anxiety disorders, and addiction. The adrenaline highs and lows of performing, and waiting between performances, can also be triggers for substance abuse.

Musculoskeletal disorders, particularly affecting the wrist, shoulders, hands and neck, damage to the vocal cords, and tinnitus and hearing damage are common among music creators.

Music makers are becoming more aware of the need to take care of their own mental and physical state, both as a matter of personal self-management and of building a sustainable career. Young music creators especially understand the importance of a healthy body and a strong mental state, with many feeling that managing their health is as critical as mastering the instrument. Older music creators appear more reluctant to acknowledge and share their physical and mental health issues.

Because of the high cost of therapies and treatment, many music creators look for cheaper, more accessible solutions within non-traditional medicine, based on referrals from within their own networks.

There is a high reliance on painkillers and/or psychotropic medication, which can provide (temporary) relief to the physical or mental issues facing music creators but are not without long-term health implications.

Quality of work

Organisations in the music and education sector are under financial pressure, especially since the COVID-19 crisis. On an individual level, this has created further financial stress for music creators who were already reliant on several jobs and/or projects to make ends meet.

Seeking help is usually a personal choice but music creators do not feel particularly encouraged by their employers, clients, sectoral federations or public authorities to deal with medical or psychological issues.

Professional musicians are likely to travel extensively and do not usually know where to turn for guidance, treatment and support in different environments.

Research also shows that there are opportunities in the music industry to consume and abuse substances, such as alcohol or drugs, more than in many other working environments.

Although the working conditions of artists is a topic that is high on the EU's cooperation on culture policy agenda, neither the EU nor most Member States have an explicit, coherent and sector-specific policy regarding the health and wellbeing of music creators.

Social, cultural and economic conditions

The digital revolution and technology are a double-edged sword for music creators. Increased visibility through streaming and social media also translates into pressure to maintain an online presence and say yes to all requests. Managing a social media profile can mean considerable extra workload and stress, in addition to privacy issues. As music creators move away from the traditional release schedule of singles and albums, they are forced to release music continuously to keep pace with streaming platforms and social media consumption. While efforts to produce music may have increased, income from music sales and streaming has decreased.

One societal problem exacerbated by the pandemic is that many music creators feel unappreciated by the general public and policymakers; they feel their work is undervalued and underpaid.

Musicians with mental or physical problems are seeking professional help earlier than they used to, but they still perceive medical or psychological guidance and treatment to be inaccessible, expensive, and rarely geared to music-related professions.

Physical activity and sport-specific programmes can reduce pain and improve general stamina as well as satisfaction levels. There is a lot to learn from the professional sports sector, also in terms of how to organise guidance and treatment.

Many countries do promote specific interventions to prevent, treat or educate music creators on health and well-being. An important example is the existence of specialised centres in some EU member states that deal with the topic. However, the extent to which these kinds of initiatives are organised (and how structural they are in nature) varies significantly between Member States and can even differ regionally.

Music schools are increasingly aware of the topic of health and wellbeing. However, still little time is given to protection and prevention in music school curricula. Music education itself often falls short in terms of prevention. Moreover, pain, stress and anxiety can even occur because of these music lessons. The impact of education on the wellbeing of students is dependent on tutors and music schools and varies significantly.

Music creators generally lack a collective voice to signal their grievances to policymakers and society in general. This fragmented representation means that professional music creators are not equally covered, supported or heard.

Despite all these risks and problems, most musicians experience music as life-enhancing and find a great sense of meaning in their work. Music also enhances social skills. As for physical and mental health benefits, playing music can improve manual dexterity, range of motion and help maintain cognitive functions.

Recommendations for the national, regional and local level

Recommendation 1: In their communication and actions on this topic, **national and local authorities should pay attention to all aspects of health and wellbeing of music creators**, including longer term and insidious risks of persistent performance anxiety, (techno)stress, loneliness and social anxiety, financial insecurity, and playing techniques that cause repetitive strain.

Recommendation 2: Federations of musicians and policy advisory bodies in the music sector know they still have much to learn about protection, prevention and treatment. **Policy makers could support actors and organisations in the sector in building bridges outside the music industry**, for example with the professional sports sector, where there is much to learn from the specialised treatment of physical injuries and mental disorders. Social inspection provisions and protection techniques used in other sectors can also provide inspiration. Most importantly, links should be established with the health, education and employment sectors.

Recommendation 3: **The wellbeing of musicians is often overlooked as a topic in tertiary music school curricula.** Every tertiary music school curriculum should include a substantial and compulsory component on physical and mental wellbeing risks and prevention. This subject could feature a combination of theory and specific applied techniques that are known

to prevent physical and mental ailments, for example the Alexander technique, yoga, flexibility exercises, body awareness, and genre-specific muscle relaxation and fitness routines.

Recommendation 4: Music school curricula should also pay more attention to music as a profession: notably, how to make a living as a musician in today's industry.

Recommendation 5: Music schools should warn students more about the negative side-effects of beta-blockers and the long-term use of painkillers. They should also **showcase healthy ways of dealing with/treating/better managing the psychological and social challenges** of being a musician, such as music performance anxiety, loneliness, or being away from friends and family while touring.

Recommendation 6: It is important to make teachers, tutors, directors and managers aware of **specialised programmes and courses** to create a more open culture in which to discuss physical and mental health among musicians and other actors in the music industry.

Recommendation 7: Music creators and experts in the field perceive professional mental and physical therapy as expensive. **National, regional and local authorities should ensure that treatments are not excessively expensive for music creators.** Where not already in place, they should develop a system whereby a part of the specific treatment costs for musicians is covered directly by the health insurance system or reimbursed.

Recommendation 8: There is also a **lack of specific exercise training and education** available for musicians in educational and professional settings. National authorities can provide incentives to higher education to create new and to develop existing training programmes for health professionals helping them to specialise in working with musicians.

Recommendation 9: Early diagnosis and treatment is crucial. Physical and mental issues experienced "on the road" risk becoming chronic injuries if undiagnosed and/or not treated properly. Permanent national or supralocal **mobile teams of specialised health professionals** should be set up. Such mobile teams could go to orchestras, bands, choirs, etc., and provide on-site screening or treatment.

Recommendation 10: Countries should **support intermediate organisations** such as NGOs and voluntary associations so that they can provide quality services to professional musicians and at the same time raise awareness about the professional musicians' health risks and needs among policy makers and in society.

Recommendation 11: **Music creators should be more involved in collective bargaining.** Social dialogue should cover the entire professional music sector and not, for example, only large professional orchestras.

Recommendation 12: It is recommended to **strictly monitor employers' legal obligations** regarding, for example, noise reduction, healthy working conditions (food, space), and travelling schemes, among others.

Recommendations for the European level

Recommendation 13: The EU should **support the Member States in their efforts** to improve the health and wellbeing of music creators. This support could take different forms, including:

- A strengthened “structured dialogue” with the music sector.
- Facilitating the exchange of knowledge, information, good policies and practices among Member States in a sustainable manner. This cooperation could take the format of a peer-learning working group composed of experts and policy officials from the Member States. This should include the sharing of knowledge and experience from countries beyond the EU.
- Mainstreaming the health and wellbeing concerns and needs of professional musicians (e.g.: unemployment protection, health insurance, compensation in case of sickness and the artists' working conditions) in other relevant EU policies and programmes, and as a topic in the EU level cooperation with the Member States in the fields of culture, employment and health.

Recommendation 14: The EU should test the feasibility of establishing an **EU-wide label for “healthy music schools”**, with clear criteria, standards and monitoring. The EU authorities could provide incentives for music schools to obtain that label.

Recommendation 15: As part of the Music Moves Europe initiative, the Commission could launch **pan-European awareness-raising activities** about health and wellbeing risks amongst musicians. These should be targeted at musicians, managers, schools, clinics and therapy centres.

Recommendation 16: The EU should help **valorise existing expertise centres and connect them**. These centres can be a platform for practice-oriented and policy-oriented knowledge.

Recommendation 17: The EU should help **set up an international referral network for treatment and support**. A mapping of locations where music creators can go with questions could help them find treatment or support. It is also important that this is accessible online (e.g.: “Clinique du musician”, “Medicine des Arts”).

Recommendation 18: **Downloadable guides can be valuable**. The good ones that already exist should be translated into all EU languages and become easily available.

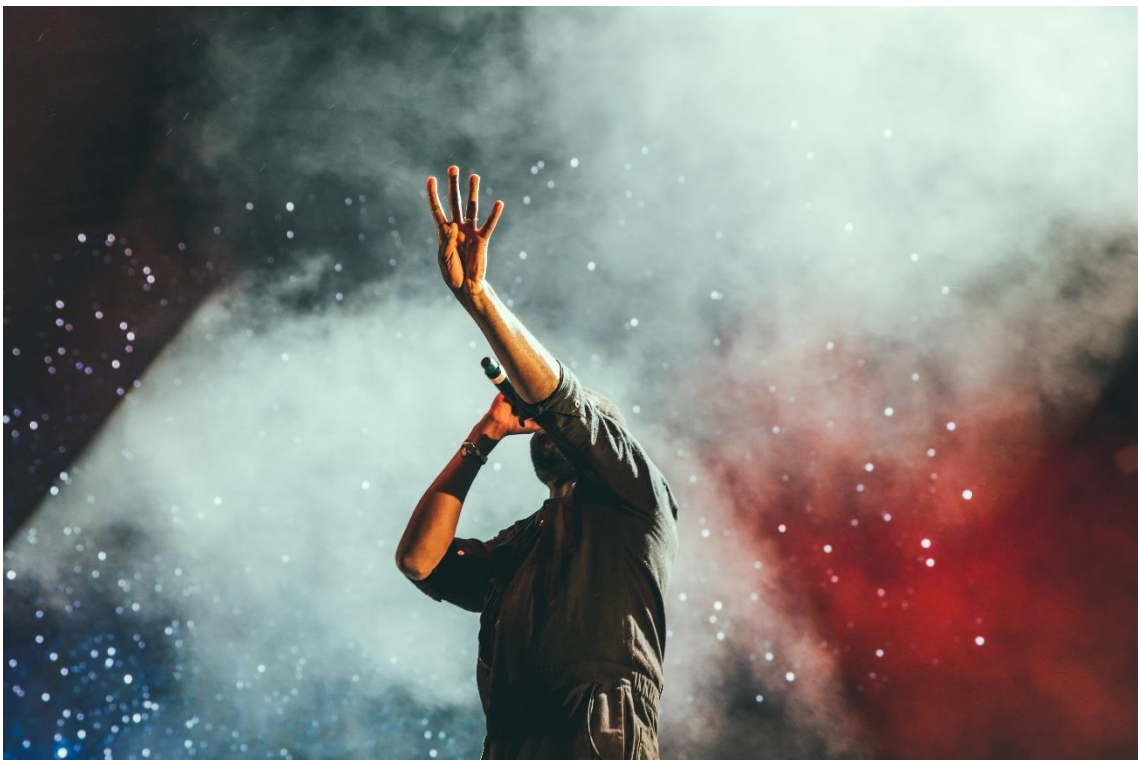
Recommendation 19: The EU could **encourage the Member States to develop reorientation programmes for musicians** who can no longer make music or perform because of mental/physical issues. It would help: a) orient ex-musicians towards other professions so that they can continue their professional life; b) use experienced ex-musicians as prevention mentors to help active music creators from falling victim of the same health and wellbeing risks.

Recommendation 20: The EU should **promote the establishment of academic chairs on the theme of music and health/wellbeing**. The appointed chairs could be made responsible for an ongoing monitoring system to identify the health and wellbeing risks and their prevalence. This system could form the foundation for further research and the development of new policy initiatives.

Recommendation 21: Researchers in Europe are encouraged to look beyond European boundaries when it comes to identifying good practices for the mental health of musicians and music creators. The literature review of this study also revealed several gaps in existing knowledge. The following are some topics that are currently under-researched:

- The differences in health and wellbeing between music students and professional musicians.
- Comparing the health and wellbeing of musicians of different musical genres. Most health research into professional musicians focuses on orchestral musicians.
- Comparing the treatment being offered in different EU Member States.

The European Union, through its research policy and the Horizon Europe programme, could promote research on these topics by including them in future Calls.



Synthèse

Créer et interpréter de la musique à un niveau professionnel exige une résistance physique et psychologique. Les musiciens professionnels et les créateurs de musique évoluent dans un contexte en mutation rapide où la musique est créée, produite, distribuée, consommée et monétisée de manières totalement nouvelles. Ce nouveau paysage exerce une pression et un stress supplémentaires sur les professionnels qui, pour rester à flot, doivent désormais posséder toute une série d'autres compétences (telles que des compétences numériques et commerciales), en plus de leur virtuosité et de leur compétence. Les crises récentes, comme la pandémie de COVID-19, ont aggravé la situation. Cette nouvelle réalité suscite une grande inquiétude quant à la santé et au bien-être des musiciens et des créateurs de musique dans l'UE.

En réaction à ce défi, la Commission européenne a lancé cette étude dans le cadre de son initiative Music Moves Europe (Action préparatoire 2019). L'étude montre que la santé et le bien-être des musiciens dans l'UE sont vulnérables à un certain nombre de facteurs de risque et qu'il est nécessaire d'agir sur plusieurs fronts.

Facteurs de risque

Les musiciens professionnels et les créateurs de musique sont souvent confrontés à des techniques de jeu qui entraînent des tensions répétitives et une exposition à des décibels élevés; un sens aigu de la compétition et l'absence d'un réseau social de soutien; l'insécurité financière et professionnelle; des horaires et des conditions de travail irréguliers; la nécessité de combiner différents emplois pour gagner sa vie; des périodes prolongées loin des amis et de la famille; une autorégulation inadaptée; des pratiques dépassées en matière d'éducation musicale, qui ne leur permettent pas de faire face aux défis physiques, psychologiques et sociaux liés au fait d'être musicien ou de gagner leur vie en tant que musicien dans une industrie musicale qui évolue rapidement; et des coûts de traitement élevés.

Les effets de ces risques sur la santé mentale et physique des musiciens sont largement déterminés par leur âge, leur sexe, leur instrument de musique, leur genre musical et leurs conditions d'emploi et de pratique.

Les problèmes de santé professionnelle signalés dans le domaine de la musique comprennent l'anxiété de performance, les troubles musculo-squelettiques, la perte d'audition due au bruit, les troubles du sommeil, les lésions vocales, le (techno)stress, la solitude et l'anxiété sociale, la consommation de substances et d'alcool, les problèmes de vue, la dépression, les douleurs chroniques, les troubles alimentaires et les techniques de jeu qui provoquent des tensions répétitives.

Santé mentale et physique

Certains traits de personnalité sont communs aux musiciens, tels que la sensibilité inter- et intrapersonnelle, la rumination mentale et le névrosisme. La combinaison de ces traits de caractère avec l'anxiété de performance et un environnement très stressant peut être toxique. Elle peut conduire à la dépression, à des problèmes de sommeil, à l'isolement social, à

des troubles anxieux et à la dépendance. Les montées et les descentes d'adrénaline liées à la prestation, et l'attente entre les prestations, peuvent également être des déclencheurs d'abus de substances.

Les troubles musculo-squelettiques, touchant notamment le poignet, les épaules, les mains et le cou, les lésions des cordes vocales, ainsi que les acouphènes et les lésions auditives sont fréquents chez les créateurs de musique.

Les créateurs de musique sont de plus en plus conscients de la nécessité de prendre soin de leur propre état mental et physique, à la fois comme une question d'autogestion personnelle et pour la construction d'une carrière durable. Les jeunes créateurs de musique comprennent tout particulièrement l'importance d'un corps sain et d'un état mental fort, beaucoup d'entre eux estimant que la gestion de leur santé est aussi importante que la maîtrise de leur instrument. Les créateurs de musique plus âgés semblent plus réticents à reconnaître et à partager leurs problèmes de santé physique et mentale.

En raison du coût élevé des thérapies et des traitements, de nombreux créateurs de musique recherchent des solutions moins coûteuses et plus accessibles dans le cadre de la médecine non traditionnelle, en se basant sur les recommandations de leurs propres réseaux.

Il existe une forte dépendance aux analgésiques et/ou aux médicaments psychotropes, qui peuvent apporter un soulagement (temporaire) aux problèmes physiques ou mentaux auxquels sont confrontés les créateurs de musique, mais qui ne sont pas sans conséquences à long terme sur la santé.

Qualité du travail

Les organisations du secteur de la musique et de l'éducation sont sous pression financière, surtout depuis la crise du COVID-19. Au niveau individuel, cela a créé un stress financier supplémentaire pour les créateurs de musique qui dépendaient déjà de plusieurs emplois et/ou projets pour joindre les deux bouts.

Chercher de l'aide est généralement un choix personnel, mais les créateurs de musique ne se sentent pas particulièrement encouragés par leurs employeurs, leurs clients, les fédérations sectorielles ou les autorités publiques à traiter les problèmes médicaux ou psychologiques.

Les musiciens professionnels sont susceptibles de voyager beaucoup et ne savent généralement pas à qui s'adresser pour obtenir des conseils, un traitement et un soutien dans des environnements différents.

La recherche montre également qu'il existe des opportunités dans l'industrie de la musique de consommer et d'abuser de substances, telles que l'alcool ou la drogue, plus que dans de nombreux autres environnements de travail.

Bien que les conditions de travail des artistes soient un sujet qui figure en bonne place dans le programme de coopération de l'UE en matière de politique culturelle, ni l'UE ni la plupart des États membres ne disposent d'une politique explicite, cohérente et sectorielle concernant la santé et le bien-être des créateurs de musique.

Conditions sociales, culturelles et économiques

La révolution numérique et la technologie sont une arme à double tranchant pour les créateurs de musique. Une visibilité accrue grâce au streaming et aux médias sociaux se traduit également par une pression pour maintenir une présence en ligne et dire oui à toutes les demandes. La gestion d'un profil sur les médias sociaux peut représenter une charge de travail et un stress supplémentaires considérables, en raison du manque d'expérience en ligne et en plus des problèmes de respect de la vie privée. Alors que les créateurs de musique s'éloignent du calendrier traditionnel de sortie des singles et des albums, ils sont contraints de sortir de la musique en continu pour suivre le rythme des plateformes de streaming et de la consommation sur les médias sociaux. Alors que les efforts pour produire de la musique peuvent avoir augmenté, les revenus provenant des ventes de musique et du streaming ont diminué.

L'un des problèmes de société exacerbés par la pandémie est que de nombreux créateurs de musique ne se sentent pas appréciés par le grand public et les décideurs politiques ; ils considèrent que leur travail est sous-évalué et mal rémunéré.

Les musiciens souffrant de problèmes mentaux ou physiques recherchent une aide professionnelle plus tôt qu'auparavant, mais ils perçoivent toujours les conseils et les traitements médicaux ou psychologiques comme étant inaccessibles, coûteux et rarement adaptés aux professions liées à la musique.

Les programmes spécifiques au sport et à l'activité physique peuvent réduire la douleur et améliorer l'endurance générale ainsi que les niveaux de satisfaction. Il y a beaucoup à apprendre du secteur du sport professionnel, notamment en ce qui concerne l'organisation de l'orientation et du traitement.

De nombreux pays encouragent des interventions spécifiques pour prévenir, traiter ou éduquer les créateurs de musique en matière de santé et de bien-être. Un exemple important est l'existence dans certains États membres de centres spécialisés en la matière. Toutefois, le degré d'organisation de ce type d'initiatives (et leur caractère structurel) varie considérablement d'un État membre à l'autre et peut même différer selon les régions.

Les écoles de musique sont de plus en plus sensibilisées au thème de la santé et du bien-être. Cependant, la protection et la prévention sont encore peu présentes dans leurs programmes. L'éducation musicale elle-même est souvent insuffisante en termes de prévention. En outre, ces cours de musique peuvent même provoquer des douleurs, du stress et de l'anxiété. L'impact de l'enseignement sur le bien-être des élèves dépend des tuteurs et des écoles de musique et varie considérablement.

Les créateurs de musique ne disposent généralement pas d'une voix collective pour faire part de leurs doléances aux décideurs politiques et à la société en général. Cette représentation fragmentée signifie que les créateurs de musique professionnels ne sont pas couverts, soutenus ou entendus de manière égale.

Malgré tous ces risques et problèmes, la plupart des musiciens considèrent la musique comme un enrichissement de leur vie et trouvent un grand sens à leur travail. La musique améliore également les compétences sociales. En ce qui concerne les avantages pour la santé physique et mentale, jouer de la musique peut améliorer la dextérité manuelle, l'amplitude des mouvements et aider à maintenir les fonctions cognitives.

Recommandations pour le niveau national, régional et local

Recommandation 1: Dans leur communication et leurs actions sur ce sujet, **les autorités nationales et locales devraient prêter attention à tous les aspects de la santé et du bien-être des créateurs de musique**, y compris les risques insidieux et à plus long terme d'anxiété persistante liée aux performances, du (techno)stress, de la solitude et de l'anxiété sociale, de l'insécurité financière et des techniques de jeu qui provoquent des tensions répétitives.

Recommandation 2: Les fédérations de musiciens et les organes consultatifs politiques du secteur de la musique savent qu'ils ont encore beaucoup à apprendre en matière de protection, de prévention et de traitement. Les décideurs politiques pourraient aider les acteurs et les organisations du secteur à **établir des liens en dehors de l'industrie musicale**, par exemple avec le secteur du sport professionnel, où il y a beaucoup à apprendre du traitement spécialisé des blessures physiques et des troubles mentaux. Les dispositions de l'inspection sociale et les techniques de protection utilisées dans d'autres secteurs peuvent également servir d'inspiration. Plus important encore, des liens devraient être établis avec les secteurs de la santé, de l'éducation et de l'emploi.

Recommandation 3: **Le bien-être des musiciens est souvent négligé en tant que sujet dans les programmes des écoles de musique tertiaires.** Le programme de chaque école de musique tertiaire devrait inclure un volet substantiel et obligatoire sur les risques et la prévention en matière de bien-être physique et mental. Cette matière pourrait comporter une combinaison de théorie et de techniques spécifiques appliquées qui sont connues pour prévenir les troubles physiques et mentaux, par exemple la technique Alexander, le yoga, les exercices d'assouplissement, la conscience du corps et les routines de relaxation musculaire et de remise en forme propres à chaque genre.

Recommandation 4: **Les programmes des écoles de musique devraient également accorder plus d'attention à la musique en tant que profession:** notamment, comment gagner sa vie en tant que musicien dans l'industrie actuelle.

Recommandation 5: Les écoles de musique devraient davantage avertir les élèves des effets secondaires négatifs des bêta-bloquants et de l'utilisation à long terme des analgésiques. Ils doivent également **présenter des moyens sains de faire face, de traiter et de mieux gérer les défis psychologiques et sociaux** liés au métier de musicien, tels que l'anxiété liée à la performance musicale, la solitude ou l'éloignement des amis et de la famille lors des tournées.

Recommandation 6: Il est important de sensibiliser les enseignants, les tuteurs, les directeurs et les managers aux **programmes et aux cours spécialisés** afin de créer une culture plus ouverte pour discuter de la santé physique et mentale des musiciens et des autres acteurs de l'industrie musicale.

Recommandation 7: Les créateurs de musique et les experts du domaine perçoivent la thérapie mentale et physique professionnelle comme coûteuse. **Les autorités nationales, régionales et locales doivent veiller à ce que les traitements ne soient pas excessivement coûteux pour les créateurs de musique.** S'ils ne l'ont pas encore fait, ils doivent mettre en place un système dans lequel une partie des coûts du traitement spécifique des musiciens est couverte directement par le système d'assurance maladie ou remboursée.

Recommandation 8: Il y a également **un manque de formation et d'éducation à l'exercice spécifique** disponibles pour les musiciens dans les milieux éducatifs et professionnels. Les autorités nationales peuvent inciter l'enseignement supérieur à créer de nouveaux programmes de formation et à développer les programmes existants pour les professionnels de la santé afin de les aider à se spécialiser dans le travail avec les musiciens.

Recommandation 9: Un diagnostic et un traitement précoces sont essentiels. Les problèmes physiques et mentaux rencontrés « sur la route » risquent de devenir des blessures chroniques s'ils ne sont pas diagnostiqués et/ou traités correctement. **Des équipes mobiles nationales ou supralocales permanentes de professionnels de la santé spécialisés** doivent être mises en place. Ces équipes mobiles pourraient se rendre dans les orchestres, les fanfares, les chorales, etc., et assurer un dépistage ou un traitement sur place.

Recommandation 10: Les pays doivent **soutenir les organisations intermédiaires** telles que les ONG et les associations bénévoles afin qu'elles puissent fournir des services de qualité aux musiciens professionnels et, dans le même temps, sensibiliser les décideurs politiques et la société aux risques pour la santé et aux besoins des musiciens professionnels.

Recommandation 11: **Les créateurs de musique devraient être davantage impliqués dans les négociations collectives.** Le dialogue social doit couvrir l'ensemble du secteur professionnel de la musique et non, par exemple, uniquement les grands orchestres professionnels.

Recommandation 12: Il est recommandé de **contrôler strictement les obligations légales des employeurs** concernant, par exemple, la réduction du bruit, les conditions de travail saines (nourriture, espace) et les programmes de déplacement, entre autres.

Recommandations pour le niveau européen

Recommandation 13: L'UE devrait **soutenir les États membres dans leurs efforts** pour améliorer la santé et le bien-être des créateurs de musique. Ce soutien pourrait prendre différentes formes, notamment:

- Un « dialogue structuré » renforcé avec le secteur de la musique.
- Faciliter l'échange de connaissances, d'informations, de bonnes politiques et de pratiques entre les États membres d'une manière durable. Cette coopération pourrait prendre la forme d'un groupe de travail d'apprentissage par les pairs composé d'experts et de responsables politiques des États membres. Cela devrait inclure le partage des connaissances et de l'expérience des pays hors de l'UE.
- Intégrer les préoccupations et les besoins des musiciens professionnels en matière de santé et de bien-être (par exemple, la protection contre le chômage, l'assurance maladie, l'indemnisation en cas de maladie et les conditions de travail des artistes) dans d'autres politiques et programmes européens pertinents, et en tant que thème de la coopération avec les États membres au niveau européen dans les domaines de la culture, de l'emploi et de la santé.

Recommandation 14: L'UE devrait tester la faisabilité de l'établissement d'un **label européen pour les « écoles de musique saines »**, avec des critères, des normes et un suivi clair. Les autorités européennes pourraient inciter les écoles de musique à obtenir ce label.

Recommandation 15: Dans le cadre de l'initiative Music Moves Europe, la Commission pourrait lancer des **activités paneuropéennes de sensibilisation** aux risques pour la santé et le bien-être des musiciens. Elles doivent s'adresser aux musiciens, aux responsables, aux écoles, aux cliniques et aux centres de thérapie.

Recommandation 16: L'UE devrait contribuer à **valoriser les centres d'expertise existants et à les connecter**. Ces centres peuvent constituer une plateforme pour les connaissances axées sur la pratique et les politiques.

Recommandation 17: L'UE devrait contribuer à la **mise en place d'un réseau international de référence pour le traitement et le soutien**. Une cartographie des lieux où les créateurs de musique peuvent s'adresser pour poser des questions pourrait les aider à trouver un traitement ou un soutien. Il est également important qu'elle soit accessible en ligne (par exemple : « Clinique du musicien », « Médecine des Arts »).

Recommandation 18: **Les guides téléchargeables peuvent être précieux**. Les bons documents qui existent déjà devraient être traduits dans toutes les langues de l'UE et devenir facilement accessibles.

Recommandation 19: L'UE pourrait **encourager les États membres à développer des programmes de réorientation pour les musiciens** qui ne peuvent plus faire de la musique ou se produire en raison de problèmes mentaux/physiques. Cela permettrait: a) d'orienter les anciens musiciens vers d'autres professions afin qu'ils puissent poursuivre leur vie professionnelle; b) de recourir à d'anciens musiciens expérimentés comme mentors en matière de prévention pour aider les créateurs de musique actifs à ne pas être victimes des mêmes risques pour leur santé et leur bien-être.

Recommandation 20: L'UE doit **promouvoir la création de chaires universitaires sur le thème de la musique et de la santé/du bien-être**. Les présidents désignés pourraient être chargés de mettre en place un système de suivi permanent pour identifier les risques pour la santé et le bien-être et leur prévalence. Ce système pourrait servir de base à d'autres recherches et à l'élaboration de nouvelles initiatives politiques.

Recommandation 21: **Les chercheurs européens sont encouragés à regarder au-delà des frontières européennes lorsqu'il s'agit d'identifier les bonnes pratiques en matière de santé mentale des musiciens et des créateurs de musique**. L'analyse documentaire de cette étude a également révélé plusieurs lacunes dans les connaissances existantes. Voici quelques sujets qui font actuellement l'objet de peu de recherches:

- Les différences de santé et de bien-être entre les étudiants en musique et les musiciens professionnels.
- La comparaison de la santé et du bien-être des musiciens de différents genres musicaux. La plupart des recherches sur la santé des musiciens professionnels portent sur les musiciens d'orchestre.
- La comparaison des traitements proposés dans les différents États membres de l'UE.

L'Union européenne, à travers sa politique de recherche et le programme Horizon Europe, pourrait promouvoir la recherche sur ces sujets en les incluant dans les futurs appels.

Zusammenfassung

Das professionelle Musizieren erfordert physische und psychische Belastbarkeit. Berufsmusikerinnen und -musiker sowie Musikschaffende arbeiten in einem sich rasch verändernden Umfeld, in dem Musik auf völlig neue Weise geschaffen, produziert, verbreitet, konsumiert und vermarktet wird. Diese neue Landschaft übt zusätzlichen Druck und Stress auf die Berufsmusikerinnen und -musiker aus und verlangt ihnen neben ihrer Virtuosität und ihrem Können auch eine Reihe anderer (beispielsweise digitaler und unternehmerischer) Fähigkeiten ab, um sich über Wasser zu halten. Die jüngsten Krisen, wie die COVID-19-Pandemie, haben diese Situation noch verschärft. Diese neue Realität gibt Anlass zu großer Sorge um die Gesundheit und das Wohlergehen der Musikerinnen und Musiker sowie Musikschaffenden in der EU.

Als Reaktion auf diese Herausforderung hat die Europäische Kommission diese Studie im Rahmen ihrer Initiative "Music Moves Europe" (vorbereitende Maßnahme 2019) in Auftrag gegeben. Die Studie zeigt, dass die Gesundheit und das Wohlbefinden von Musikerinnen und Musikern in der EU durch eine Reihe von Risikofaktoren gefährdet sind und dass Maßnahmen an vielen Fronten erforderlich sind.

Risikofaktoren

Professionelle Musiker und Musikerinnen sowie Musikschaffende sind häufig mit Spieltechniken, die zu wiederholten Belastungen führen; hohen Lautstärken; einem ausgeprägten Gefühl für Wettbewerb und dem Fehlen eines unterstützenden sozialen Netzwerks; finanzieller und beruflicher Unsicherheit; unregelmäßigen Arbeitszeiten und -bedingungen; der Notwendigkeit, verschiedene Jobs zu kombinieren, um ihren Lebensunterhalt zu verdienen; langer Abwesenheit vom Freundes- und Familienkreis; unangepasster Selbstregulierung; überholten Praktiken in der Musikausbildung, die sie nicht auf die physischen, psychologischen und sozialen Herausforderungen des Daseins oder auf den Lebensunterhalt als Musikerin bzw. Musiker in der sich schnell verändernden Musikindustrie vorbereiten sowie teure Behandlungskosten konfrontiert.

Die Auswirkungen dieser Risiken auf die psychische und physische Gesundheit von Musikerinnen und Musikern hängen weitgehend von Alter, Geschlecht, Musikinstrument, Musikgenre und den Arbeits- und Übungsbedingungen ab.

Zu den berichteten berufsbedingten Gesundheitsproblemen in der Musikbranche gehören Leistungsangst, Muskel-Skelett-Erkrankungen, lärmbedingter Hörverlust, Schlafstörungen, Stimmbandverletzungen, (Techno-)Stress, Einsamkeit und soziale Phobie, Drogen- und Alkoholkonsum, Sehstörungen, Depressionen, chronische Schmerzen, Essstörungen sowie Verletzungen durch wiederholte Belastungen aufgrund von Spieltechniken.

Geistige und körperliche Gesundheit

Bestimmte Persönlichkeitsmerkmale, wie inter- und intrapersonelle Intelligenz, grüblerische Gedanken und Neurotizismus, sind unter Musikerinnen und Musikern weit verbreitet. Die Kombination dieser Eigenschaften mit Leistungsangst und einem Umfeld mit hohem Stress-

faktor kann toxisch sein. Sie kann zu Depressionen, Schlafstörungen, sozialer Isolation, Angststörungen und Sucht führen. Die Adrenalinschübe bei Auftritten und das Warten zwischen den Auftritten können ebenfalls Auslöser für Drogenmissbrauch sein.

Muskel-Skelett-Erkrankungen, insbesondere der Handgelenke, der Schultern, der Hände und des Nackens, Schäden an den Stimmbändern sowie Tinnitus und Hörschäden sind bei Musikschaffenden weit verbreitet.

Musikerinnen und Musiker erkennen zunehmend die Notwendigkeit, sich um ihren eigenen geistigen und körperlichen Zustand zu kümmern, sowohl im Hinblick auf ihr persönliches Selbstmanagement als auch auf den Aufbau einer nachhaltigen Karriere. Vor allem jungen Musikschaffenden ist die Bedeutung eines gesunden Körpers und einer starken Psyche bewusst. Viele von ihnen sind der Meinung, dass die Pflege ihrer Gesundheit ebenso wichtig ist wie die Beherrschung ihres Instruments. Ältere Musikschaffende hingegen sind offenbar zurückhaltender, wenn es darum geht, ihre physischen und psychischen Gesundheitsprobleme anzuerkennen und mitzuteilen.

Wegen der hohen Kosten für Therapien und Behandlungen suchen viele Musikschaffende nach erschwinglicheren, leichter zugänglichen Lösungen im Bereich der nicht-traditionellen Medizin, die auf Empfehlungen aus ihrem eigenen Netzwerk basieren.

Es besteht eine hohe Abhängigkeit von Schmerzmitteln und/oder psychotropen Medikamenten, die eine (vorübergehende) Linderung der physischen oder psychischen Probleme von Musikschaffenden bewirken können, aber nicht ohne langfristige gesundheitliche Folgen bleiben.

Qualität der Arbeit

Insbesondere seit der COVID-19-Krise stehen die Organisationen im Musik- und Bildungssektor unter finanziellem Druck. Dies hat auf individueller Ebene zu weiteren finanziellen Belastungen für Musikschaffende geführt, die bereits auf mehrere Jobs und/oder Projekte angewiesen waren, um über die Runden zu kommen.

Auch wenn es in der Regel eine persönliche Entscheidung ist, sich Hilfe zu suchen, fühlen sich Musikschaffende von ihren Arbeitgebern, Kunden, Branchenverbänden oder Behörden nicht besonders ermutigt, sich mit physischen oder psychologischen Problemen zu befassen.

Berufsmusikerinnen und -musiker sind meist viel unterwegs und wissen oft nicht, an wen sie sich in den unterschiedlichen Umgebungen wenden können, um Beratung, Behandlung und Unterstützung zu bekommen.

Auch zeigen Untersuchungen, dass es in der Musikindustrie Gelegenheiten zum Konsum und zum Missbrauch von Substanzen, wie Alkohol oder Drogen gibt, mehr als in vielen anderen Arbeitsumgebungen.

Obwohl die Arbeitsbedingungen von Künstlerinnen und Künstlern ganz oben auf der kulturpolitischen Agenda der EU stehen, verfügen weder die EU noch die meisten Mitgliedstaaten über eine explizite, kohärente und sektor-spezifische Politik für die Gesundheit und das Wohlbefinden von Musikschaffenden.

Soziale, kulturelle und wirtschaftliche Bedingungen

Die digitale Revolution und die Technologie erweisen sich für Muskschaffende als zweischneidiges Schwert. Zudem erhöht die bessere Sichtbarkeit durch Streaming und soziale Medien den Druck, eine Online-Präsenz aufrechtzuerhalten und alle Anfragen anzunehmen. Das Führen eines Social-Media-Profiles kann aufgrund mangelnder Online-Erfahrung und zusätzlich zu Datenschutzfragen eine erhebliche zusätzliche Arbeitsbelastung und Stress bedeuten. Durch die Abkehr vom traditionellen Veröffentlichungsrhythmus von Singles und Alben sind Muskschaffende gezwungen, kontinuierlich Musik zu veröffentlichen, um mit den Streaming-Plattformen und den sozialen Medien Schritt zu halten. Während der Aufwand für die Produktion von Musik gestiegen sein mag, sind die Einnahmen aus dem Verkauf und dem Streaming von Musik zurückgegangen.

Viele Muskschaffende fühlen sich von der Öffentlichkeit und den politischen Entscheidungsträgerinnen und trägern nicht gewürdigt; sie sind der Meinung, dass ihre Arbeit unterbewertet und schlecht entlohnt wird. Dieses gesellschaftliche Problem wurde durch die Pandemie noch verschärft.

Musikerinnen und Musiker mit psychischen oder physischen Problemen suchen mittlerweile schneller professionelle Hilfe auf. Jedoch empfinden sie die medizinische oder psychologische Beratung und Behandlung immer noch als unzugänglich, teuer und selten auf musikbezogene Berufe ausgerichtet.

Körperliche Aktivität und sportartspezifische Programme können Schmerzen lindern und die allgemeine Ausdauer sowie das Zufriedenheitsniveau verbessern. So kann vom Profisportsektor, auch in Bezug auf die Organisation von Betreuung und Behandlung, viel gelernt werden.

Viele Länder fördern spezifische Maßnahmen für Muskschaffende zur Prävention, Behandlung oder Aufklärung über Gesundheit und Wohlbefinden. Ein wichtiges Beispiel ist die Existenz spezialisierter Zentren in einigen EU Mitgliedstaaten, die sich mit diesem Thema befassen. Das Ausmaß, in dem diese Art von Initiativen organisiert ist (und wie strukturell sie sind), variiert jedoch erheblich zwischen den Mitgliedstaaten und kann zudem regional unterschiedlich sein.

Die Musikhochschulen sind zunehmend für das Thema Gesundheit und Wohlbefinden sensibilisiert. Dennoch wird dem Schutz und der Prävention in den Lehrplänen der Musikhochschulen immer noch nur wenig Zeit gewidmet. Die musikalische Ausbildung selbst erweist sich im Hinblick auf die Prävention oft als unzureichend. Darüber hinaus können Schmerzen, Stress und Ängste sogar durch diesen Musikunterricht ausgelöst werden. Abhängig von den Dozentinnen und Dozenten sowie von der Musikhochschule variieren die Auswirkungen der Ausbildung auf das Wohlbefinden der Studierenden erheblich.

Den Muskschaffenden fehlt es im Allgemeinen an einer kollektiven Stimme, mit der sie ihre Beschwerden an die politischen Entscheidungsträgerinnen und träger sowie an die Gesellschaft im Allgemeinen herantragen können. Diese fragmentierte Vertretung hat zur Folge, dass professionelle Muskschaffende nicht in gleichem Maße berücksichtigt, unterstützt oder gehört werden.

Trotz all dieser Risiken und Probleme erleben die meisten Musikerinnen und Musiker die Musik als lebensbejahend und ihre Arbeit als sehr sinnstiftend. Musik fördert auch die sozialen Fähigkeiten. Mit Blick auf die körperlichen und mentalen Vorteile kann das Musizieren die Handfertigkeit und die Bewegungsamplitude verbessern sowie zur Aufrechterhaltung der kognitiven Funktionen beitragen.

Empfehlungen für die nationale, regionale und lokale Ebene

Empfehlung 1: Die nationalen und lokalen Behörden sollten in ihren Mitteilungen und Maßnahmen zu diesem Thema alle Aspekte der Gesundheit und des Wohlbefindens von Musikschaffenden berücksichtigen, einschließlich der längerfristigen und heimtückischen Risiken von anhaltender Leistungsangst, (Techno-)Stress, Einsamkeit und sozialer Phobie, finanzieller Unsicherheit und Spieltechniken, die zu wiederholten Belastungen führen.

Empfehlung 2: Musikerverbände und politische Beratungsgremien im Musiksektor wissen, dass sie noch viel über Schutz, Prävention und Behandlung lernen müssen. Die politischen Entscheidungsträgerinnen und Entscheidungsträger könnten die Akteure und Organisationen des Sektors dabei unterstützen, **Brücken außerhalb der Musikindustrie zu schlagen**, z. B. zum Profisport, wo es viel von der spezialisierten Behandlung von körperlichen Verletzungen und psychischen Störungen zu lernen gibt. Auch die in anderen Sektoren angewandten Sozialkontrollbestimmungen und Schutztechniken können als Inspiration dienen. Vor allem aber sollten Verbindungen zum Gesundheits-, Bildungs- und Beschäftigungssektor hergestellt werden.

Empfehlung 3: Das Wohlbefinden von Musikerinnen und Musikern wird in den Lehrplänen der Musikhochschulen häufig übersehen. Jeder Lehrplan einer Musikhochschule sollte einen wesentlichen Pflichtteil über Risiken und Prävention für das körperliche und geistige Wohlbefinden enthalten. Dieses Fach könnte eine Kombination aus Theorie und spezifischen angewandten Techniken beinhalten, die bekanntermaßen körperlichen und geistigen Beschwerden vorbeugen, wie die Alexander-Technik, Yoga, Flexibilitätsübungen, Körperbewusstsein und genrespezifische Muskelentspannungs- und Fitnessroutinen.

Empfehlung 4: In den Lehrplänen der Musikhochschulen sollte auch die Musik als Beruf stärker berücksichtigt werden, insbesondere die Frage, wie man als Musikerin bzw. Musiker in der heutigen Industrie seinen Lebensunterhalt verdienen kann.

Empfehlung 5: Musikhochschulen sollten ihre Studierenden stärker über die Nebenwirkungen von Betablockern und einer langfristigen Einnahme von Schmerzmitteln aufklären. Sie sollten auch **gesunde Wege aufzeigen, wie man mit den psychologischen und sozialen Herausforderungen** des Daseins als Musikerin bzw. Musiker – wie der Auftrittsangst, der Einsamkeit oder der Abwesenheit vom Freundes- und Familienkreis während einer Tournee – umgeht, wie man sie behandelt oder besser bewältigt.

Empfehlung 6: Es ist wichtig, Lehrpersonal, Dozentinnen und Dozenten, Direktorinnen und Direktoren sowie Managerinnen und Manager auf **spezialisierte Programme und Kurse** aufmerksam zu machen, um eine offenere Kultur zu schaffen, in der die körperliche und geistige Gesundheit unter Musikerinnen und Musikern sowie anderen Akteuren der Musikindustrie diskutiert wird.

Empfehlung 7: Muskschaffende sowie Expertinnen und Experten auf diesem Gebiet empfinden die professionelle psychische und physische Therapie als teuer. **Die nationalen, regionalen und lokalen Behörden sollten sicherstellen, dass die Behandlungen für Muskschaffende nicht übermäßig teuer** sind. Sofern dies noch nicht der Fall ist, sollten sie ein System entwickeln, bei dem ein Teil der spezifischen Behandlungskosten für Musikerinnen und Musiker direkt von der Krankenversicherung übernommen oder erstattet wird.

Empfehlung 8: Es besteht auch ein Mangel an **gezieltem Bewegungstraining und einer gezielten Bewegungsausbildung** für Musikerinnen und Musiker in Ausbildung und Beruf. Die nationalen Behörden können den Hochschulen Anreize bieten, neue Ausbildungsprogramme für Angehörige der Gesundheitsberufe zu schaffen bzw. bestehende Programme weiterzuentwickeln, damit diese sich auf die Arbeit mit Musikerinnen und Musikern spezialisieren können.

Empfehlung 9: Eine frühzeitige Diagnose und Behandlung ist entscheidend. Hin und wieder auftretende körperliche und psychische Beschwerden können zu chronischen Leiden werden, wenn sie nicht diagnostiziert und/oder nicht richtig behandelt werden. Es sollten ständige nationale oder überörtliche **mobile Teams aus spezialisierten Angehörigen der Gesundheitsberufe** gebildet werden. Solche mobilen Teams könnten Orchester, Bands, Chöre usw. besuchen und vor Ort Untersuchungen oder Behandlungen anbieten.

Empfehlung 10: Die Länder sollten **zwischengeschaltete Organisationen wie NGO und Freiwilligenverbände unterstützen**, damit diese hochwertige Dienstleistungen für Berufsmusikerinnen und -musiker erbringen und gleichzeitig die politischen Entscheidungsträgerinnen und -träger sowie die Gesellschaft für die Gesundheitsrisiken und Bedürfnisse von Berufsmusikerinnen und -musikern sensibilisieren können.

Empfehlung 11: Die Muskschaffenden sollten stärker in die **Tarifverhandlungen** einbezogen werden. Der gesellschaftliche Dialog sollte sich nicht nur auf die beispielsweise großen Berufsorchester, sondern auf den gesamten professionellen Musiksektor erstrecken.

Empfehlung 12: Es wird empfohlen, die **gesetzlichen Verpflichtungen der Arbeitgeber**, z. B. in Bezug auf Lärmreduzierung, gesunde Arbeitsbedingungen (Verpflegung, Räumlichkeiten) und Reisepläne, streng zu überwachen.

Empfehlungen für die europäische Ebene

Empfehlung 13: Die EU sollte die **Mitgliedstaaten in ihren Bemühungen, die Gesundheit und das Wohlbefinden von Muskschaffenden zu verbessern, unterstützen**. Diese Unterstützung kann auf verschiedenen Wegen erfolgen, z. B. durch:

- einen verstärkten „strukturierten Dialog“ mit dem Musiksektor;
- eine Erleichterung des Austauschs von Wissen, Informationen, bewährten Strategien und Praktiken zwischen den Mitgliedstaaten auf nachhaltige Weise. Diese Zusammenarbeit könnte in Form einer Peer-Learning-Arbeitsgruppe erfolgen, die sich aus Expertinnen und Experten sowie politischen Beamtinnen und Beamten der Mitgliedstaaten zusammensetzt. Dies sollte auch den Austausch von Wissen und Erfahrungen aus Ländern außerhalb der EU umfassen;

- eine Einbeziehung der Belange und Bedürfnisse von Berufsmusikerinnen und –musikern in Bezug auf Gesundheit und Wohlbefinden (z. B. Arbeitslosenschutz, Krankenversicherung, Entschädigung im Krankheitsfall und Arbeitsbedingungen) in andere einschlägige Maßnahmen und Programmen der EU sowie als Thema in die Zusammenarbeit mit den Mitgliedstaaten auf EU-Ebene in den Bereichen Kultur, Beschäftigung und Gesundheit.

Empfehlung 14: Die EU sollte prüfen, ob die Einführung eines **EU-weiten Gütesiegels für „gesunde Musikschulen“** mit klaren Kriterien, Standards und Überwachung möglich ist. Die EU-Behörden könnten den Musikhochschulen Anreize bieten, dieses Siegel zu erwerben.

Empfehlung 15: Im Rahmen der Initiative Music Moves Europe könnte die Kommission **europaweite Sensibilisierungsmaßnahmen** zu den Risiken für die Gesundheit und das Wohlbefinden von Musikerinnen und Musikern durchführen, die sich an Musikerinnen und Musiker, Managerinnen und Manager, Hochschulen, Kliniken sowie Therapiezentren richten sollten.

Empfehlung 16: Die EU sollte dazu beitragen, die bestehenden **Fachzentren aufzuwerten und sie miteinander zu vernetzen**. Diese Zentren können eine Plattform für praxis- und politikorientiertes Wissen sein.

Empfehlung 17: Die EU sollte die Einrichtung eines **internationalen Überweisungsnetzwerks für Behandlung und Unterstützung** fördern. Ein Verzeichnis von Stellen, an die sich Musikschaffende mit Fragen wenden können, könnte ihnen bei der Suche nach einer Behandlung oder Unterstützung helfen. Wichtig ist auch, dass dieses Verzeichnis online zugänglich ist (z. B. "Clinique du musicien", "Medicine des Arts").

Empfehlung 18: **Leitfäden zum Herunterladen können sehr hilfreich sein**. Die bereits existierenden bewährten Dokumente sollten in alle EU Sprachen übersetzt werden und leicht zugänglich sein.

Empfehlung 19: Die EU könnte die **Mitgliedstaaten ermutigen, Neuorientierungsprogramme für Musikerinnen und Musiker zu entwickeln**, die aufgrund von psychischen bzw. physischen Problemen nicht mehr musizieren oder auftreten können. Dies würde dazu beitragen, a) ehemalige Musikerinnen und Musiker für andere Berufe zu motivieren, damit sie ihr Berufsleben fortsetzen können; b) erfahrene ehemalige Musikerinnen und Musiker als Präventionsmentorinnen und -mentoren einzusetzen, um aktive Musikschaffende davor zu bewahren, Opfer der gleichen Risiken für Gesundheit und Wohlbefinden zu werden.

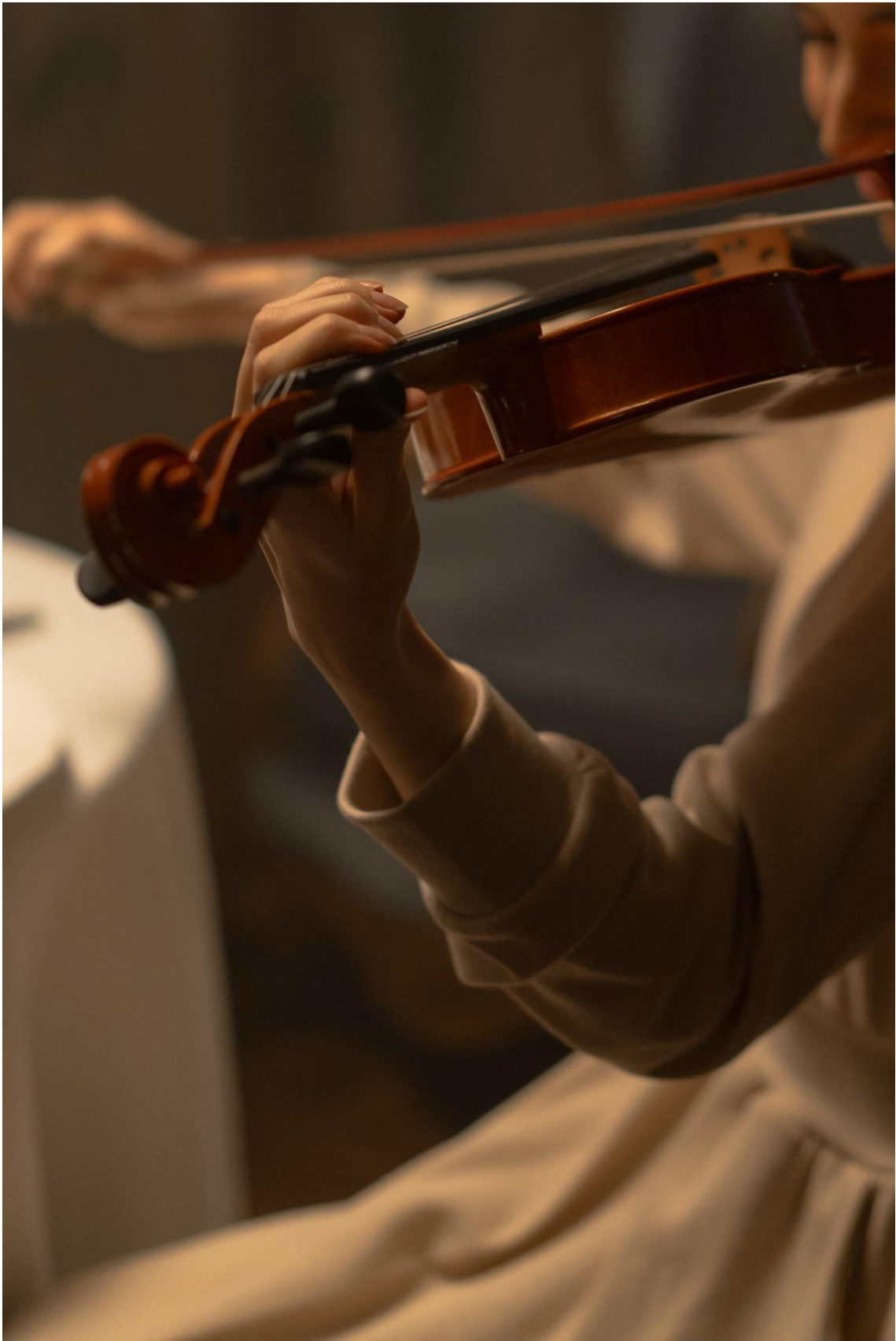
Empfehlung 20: Die EU sollte die **Einrichtung von Lehrstühlen zum Thema Musik und Gesundheit bzw. Wohlbefinden fördern**. Den ernannten Lehrstühlen könnte die Verantwortung für ein laufendes Überwachungssystem übertragen werden, um Risiken für Gesundheit und Wohlbefinden und deren Verbreitung zu ermitteln. Dieses System könnte die Grundlage für weitere Forschungsarbeiten und die Entwicklung neuer politischer Initiativen bilden.

Empfehlung 21: **Forschende** in Europa werden ermutigt, **über die europäischen Grenzen hinauszuschauen, wenn es darum geht, bewährte Verfahren für die psychische Gesundheit von Musikerinnen und Musikern sowie Musikschaffenden zu ermitteln**. Die Literaturrecherche im Rahmen dieser Studie zeigte auch einige Lücken im vorhandenen Wissen auf. Im Folgenden sind einige Themen aufgeführt, die derzeit noch nicht ausreichend erforscht sind:

- die Unterschiede bei Gesundheit und Wohlbefinden zwischen Musikstudierenden und Berufsmusikerinnen und -musikern;
- ein Vergleich der Gesundheit und des Wohlbefindens von Musikerinnen und Musikern verschiedener Musikgenres. Die meisten Untersuchungen zur Gesundheit von Berufsmusikerinnen und -musikern konzentrieren sich auf Orchestermitglieder;
- ein Vergleich der in den verschiedenen EU Mitgliedstaaten angebotenen Behandlung.

Die Europäische Union könnte im Rahmen ihrer Forschungspolitik und des Programms Horizont Europa die Forschung zu diesen Themen fördern, indem sie sie in künftige Aufrufe einbezieht.





CHAPTER 1. Introduction

The music industry has witnessed radical change in recent years. This is putting enormous pressure on musicians, music creators and other actors in this field. Music is being created, produced, distributed, consumed and monetised in completely new ways. The shift to digital has changed everything, including how music creators can earn an income, as has the increased level of competition from global players¹. Where once people accessed music through physical media (buying vinyl records, cassettes, CDs), consumption is now largely via digital streaming.

The monopoly of music studios and record labels has been thwarted by social media, which has in itself become indispensable to the (self)-promotion of music artists. This has led to the continuing growth of the Do-It-Yourself movement and the rise of smaller independent labels². This in turn led to opportunities for greater creative freedom but it has also challenged musicians and music creators to rely more on live performance and to diversify their means of income from music, such as taking side jobs as music teachers, selling music related products such as vinyl, posters and T-shirts or branching out into different genres.

In this new landscape, if music creators wish to make a living from music today, they need a range of other skills, additional to their musical talent and proficiency, which is no longer enough on its own. Most often this means additional pressure and stress³.

Since 2020, these trends are combined with the impact of and recovery from the COVID-19 pandemic, which has hit the music sector particularly hard, and more recently the far-reaching effects of the Russian war in Ukraine and of the energy crisis. This new reality causes a great deal of concern about the health and wellbeing of musicians. This concern is the reason for this study.

The **overall aim of this study** is to help improve the physical and mental health, the wellbeing and safety of musicians and music creators in the European Union.

The study interrogates the **evidence** that is available with a view to:

- **Raise awareness** about this crucial topic among policy-makers and provide a stronger knowledge base for policy-making and for effective investment to the Member States.
- Highlight **the main risks** for the physical and mental health of musicians in the EU.
- Distil **key policy lessons** from the most relevant research and provide recommendations for policy and practice.
- Show **examples of successful actions** from several EU Member States.

This study addresses three key questions:

1 Hracs, B. J. (2012). A creative industry in transition: the rise of digitally driven independent music production. *Growth and Change*, 43(3), 442-461.

2 Idem.

3 Thomson, K. (2013). Roles, revenue, and responsibilities: The changing nature of being a working musician. *Work and Occupations*, 40(4), 514-525.

1. *What health, wellbeing and safety risks do music creators face? What are the implications of these risks for them and for the music sector?*

Answering this question will identify the main risks and their impact; this study looks separately into **physical** and **mental** health risks related to music performance, to the musicians' and music creators' work and business environment.

2. *What good practices, interventions and actions are used to tackle these risks and their impacts?*

The study maps existing practices and solutions used to improve the health, wellbeing and safety of music creators. It presents good practices with respect to *education, prevention* and *treatment*.

3. *What steps can we take to prevent or mitigate the risks related to the health, wellbeing and safety of music creators and musicians?*

Answering this question leads to a set of recommendations for national and EU level actors, and to proposals for EU-level cooperation and support.

Chapter 2 reviews the most relevant academic and policy literature covering professional musicians and music creators of all genres; the physical and mental risks of music creation; and practices, measures and initiatives taken by actors at all levels. It focuses on the situation in the European Union. It provides an overview of the most common **mental health** problems and risks in the music sector, followed by a listing of the most common **physical health** problems and risks. In addition, the chapter discusses some personal characteristics and environmental aspects that put a strain on the wellbeing of musicians, as well as some positive and protective outcomes of playing and creating music. The final section focuses on **education, prevention** and **treatment**.

Chapter 3 is the analysis of the 37 interviews conducted with music creators and experts from the music sector. The goal was to gather personal testimonials from music creators in order to gain insight into their perceptions and attitudes. First, analysis focuses on the micro-level of the **individual** music-creating or music-performing artist. Analysis outlines the elements that influence their health and well-being and how musicians, DJs, composers, managers, etc. manage these various elements. Then the study dissects what was said in the interviews about **organisations and institutions**. After focusing on that meso-level, the study turns to a macro-analysis of **broader social and cultural** trends. Here, it outlines how societal phenomena affect the health and wellbeing of those in the music sector and how musicians and music creators themselves think about them.

Chapter 4 brings in the perspective of organisations and initiatives that help music creators cope with the occupational health risks they encounter. Our ambition is to map which practices or interventions could be implemented across the EU and which policy measures could be taken by competent actors at the Member State and EU level.

Chapter 5 translates the research findings from the previous chapters into recommendations for policy and practice. To validate these findings, the authors brought together a group of international experts in a workshop.

The methodology for this study is explained in Appendix 1.

CHAPTER 2. Literature review

2.1. Mental health problems among music creators

The professional practice of creating music often induces poor psychological health⁴. Research makes clear that musicians are at an increased risk of developing a variety of mental health problems⁵.

Many musicians face work conditions and challenges that cause states of suffering that can manifest as performance anxiety, increased stress and sleep problems. Considerable differences in these states of suffering exist between amateur and professional musicians, between soloists and orchestra musicians, and between musicians of different genres such as jazz, pop, rock, rap, hip-hop, folk and classical music.

Music Performance Anxiety

Of course, I'm nervous. The artist who boasts he is never nervous is not an artist - he is a liar or a fool⁶.

Music performance anxiety (known in the industry as MPA, stage fright or *Lampenfieber*), is one of the most common problems among professional musicians⁷. At the right level, anxiety is considered to be beneficial for both performance and creativity and can even enhance performance, but if excessive, stress can become overpowering and impair performance quality. Performance anxiety is defined as⁸:

The experience of persisting, distressful apprehension and/or actual impairment of performance skills in a public context, to a degree unwarranted given the individual's musical aptitude, training, and level of preparation. MPA has shown to be manifest psychologically, behaviourally, and physiologically and has an impact on the overall quality of life⁹.

Even famous musicians suffer from MPA, as illustrated in an impression of Chopin, who was said to be intimidated by the audience to the point where he felt paralysed at being watched by so many strange faces¹⁰.

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- 4 Ascenso, S., Perkins, R., & Williamon, A. (2018). Resounding meaning: a PERMA wellbeing profile of classical musicians. *Frontiers in Psychology*, 1895.
 - 5 Zarza-Alzugaray, F. J., Casanova, O., McPherson, G. E., & Orejudo, S. (2020). Music self-efficacy for performance: an explanatory model based on social support. *Frontiers in psychology*, 11, 1249.
 - 6 Caruso, 1964, cited in Rushmore, R. (1971). *The singing voice*. New York: Dodd, Mead & Company.
 - 7 Kenny, D., & Ackermann, B. (2015). Performance-related musculoskeletal pain, depression and music performance anxiety in professional orchestral musicians: a population study. *Psychology of Music*, 43(1), 43-60; Bandi, S., Nagy, S. I., & Vas, B. (2017). Anxiety Encoded in Personality: Musical Personality and the Anxiety of Musicians. *STUDIA UBB MUSICA*, LXII, 2, 27-40; R. Matei, & J. Ginsborg (2017). Matei, R., & Ginsborg, J. (2017). Music performance anxiety in classical musicians—what we know about what works. *BJPsych international*, 14(2), 33-35; Zhukov, K. (2019). Physiological evidence of stress during woodwind sight-reading. *Music & Science*, 2, 2059204319840730; Osborne, M. S., McPherson, G. E., Miksza, P., & Evans, P. (2021). Using a microanalysis intervention to examine shifts in musicians' self-regulated learning. *Psychology of Music*, 49(4), 972-988.
 - 8 Mumm, J., Fernholz, I., Ströhle, A., Plag, J., & Schmidt, A. (2020). Performance Anxiety Among Musicians. *Zeitschrift für Neuropsychologie*.
 - 9 Ryan, C., & Andrews, N. (2009). An investigation into the choral singer's experience of music performance anxiety. *Journal of Research in Music Education*, 57(2), 108-126.
 - 10 Jachimecki, Z. (1937). Chopin, fryderyk franciszek. *Polski słownik biograficzny*, 3, 420-26.

MPA is mainly reported in Western classically trained professional musicians, where perfectionism and virtuosity are valued highly and associated with high ego investment, “evaluative threat” and fear of failure¹¹. A review of 43 studies shows a prevalence of MPA in classical musicians of between 16.5% and 60%¹². The large difference in prevalence across these studies is explained partially by participant characteristics such as gender and age. Women tend to report higher levels of MPA than men¹³, and stage fright is more commonly experienced by music students. Another study shows that 33% of music students report MPA as being a serious problem, with a potential negative impact on their career¹⁴. A recent study suggests MPA decreases after the age of 45-50¹⁵.

According to the research literature, most musicians do not have the tools or skills to deal with MPA, which increases their risk of developing general anxiety disorders, depression and other negative health outcomes¹⁶.

Stress

In addition to the anxiety experienced around the specific context of the performance, it seems that musicians tend to perceive more psychological stress in their daily lives than do non-musicians¹⁷. This is related to elements of lifestyle, irregular working hours and job uncertainty, on which we will elaborate further in this review. Female musicians report significantly higher stress symptoms than their male colleagues¹⁸. Moreover, stress is experienced differently within specific instrumental groups in symphony orchestras. For instance, first violinists report greater emotional stress than second violinists¹⁹.

Insomnia and sleep problems

Compared to the general population, insomnia is more prevalent among professional musicians. They report non-restorative sleep, dissatisfaction with sleep²⁰, fewer sleeping hours and difficulties falling asleep.

This increased susceptibility has been linked to specific personality traits, such as extraversion and neuroticism, as well as to different factors originating from lifestyle and work environ-

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- 11 Skoogh, F., & Frisk, H. (2019). Performance values—an artistic research perspective on music performance anxiety in classical music. *Journal for Research in Arts and Sports Education*, 3(1).
 - 12 Fernholz, I., Mumm, J. L., Plag, J., Noeres, K., Rotter, G., Willich, S. N., & Schmidt, A. (2019). Performance anxiety in professional musicians: a systematic review on prevalence, risk factors and clinical treatment effects. *Psychological medicine*, 49(14), 2287-2306.
 - 13 Idem.
 - 14 Studer, R., Gomez, P., Hildebrandt, H., Arial, M., & Danuser, B. (2011). Stage fright: its experience as a problem and coping with it. *International archives of occupational and environmental health*, 84(7), 761-771.
 - 15 Fernholz, I., Mumm, J. L., Plag, J., Noeres, K., Rotter, G., Willich, S. N., & Schmidt, A. (2019).
 - 16 Kenny, D. T. (2004). Music performance anxiety: is it the music, the performance or the anxiety. *Music Forum*, 10, 4, 38-43.
 - 17 Getz, L. M., Marks, S., & Roy, M. (2014). The influence of stress, optimism, and music training on music uses and preferences. *Psychology of Music*, 42(1), 71-85.
 - 18 Holst, G. J., Paarup, H. M., & Baelum, J. (2012). A cross-sectional study of psychosocial work environment and stress in the Danish symphony orchestras. *International Archives of Occupational and Environmental Health*, 85(6), 639-649.
 - 19 Holst, G. J., Paarup, H. M., & Baelum, J. (2012).
 - 20 Vaag, J., Saksvik-Lehouillier, I., Bjørngaard, J. H., & Bjerkeset, O. (2016). Sleep difficulties and insomnia symptoms in Norwegian musicians compared to the general population and workforce. *Behavioral sleep medicine*, 14(3), 325-342.

ment²¹. These factors include irregular working hours, night work, less social support, higher work-related demands, musculoskeletal issues, among others²².

Common mental health disorders

Besides sleep problems, musicians are at risk of going on to develop severe mental health disorders²³. According to Vaag and colleagues²⁴, anxiety disorders and depression are more common among professional musicians than among the average working population. And within the population of music creators, the prevalence of mental health disorders is higher among music students than among professional musicians²⁵.

In addition to anxiety and depression, musicians often report symptoms related to substance addiction²⁶, post-traumatic stress disorder²⁷, eating disorders²⁸, and bipolar disorder²⁹. Within the pop music sector in particular, an increased mortality rate has been observed³⁰. Mental suffering among musicians is also confirmed by the large numbers of musicians who make use of psychotherapy and/or psychotropic medication³¹.

2.1.1. Risk factors related to mental health

What are the precise causes of these mental health problems and disorders among music creators? Current literature identifies three categories of risk factors: intrapersonal factors, interpersonal challenges and work-related demands.

Intrapersonal risk factors

➤ Maladaptive forms of self-regulation

The use of meta-adrenoceptor blocking medication, commonly known as **beta-blockers**, is one of the most common maladaptive forms of self-regulation among both professional musicians and music students. Most musicians who report using beta-blockers use them for audi-

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- 21 Saksvik-Lehouillier, I., Bjerkeset, O., & Vaag, J. R. (2017). Individual, lifestyle, and psychosocial factors related to insomnia among Norwegian musicians. *Scandinavian Psychologist*, 4.
 - 22 Saksvik-Lehouillier (2017); Vaag (2016).
 - 23 There is no strict and clear difference between a mental health problem on the one hand and a mental health condition or disorder on the other hand. According to Stein and colleagues (2010) a 'disorder' reflects an underlying psychobiological dysfunction and leads to clinically significant distress or disability. In other words, it is more than experiencing a 'problem' in response to common stressors and losses and it is not solely the result of social deviance or conflicts with society.
 - 24 Vaag, J., Saksvik-Lehouillier, I., Bjørngaard, J. H., & Bjerkeset, O. (2016).
 - 25 Aalberg, A. L., Saksvik-Lehouillier, I., & Vaag, J. R. (2019). Demands and resources associated with mental health among Norwegian professional musicians. *Work*, 63(1), 39-47.
 - 26 Oksanen, A. (2013). Addiction and rehabilitation in autobiographical books by rock artists, 1974–2010. *Drug and alcohol review*, 32(1), 53-59.
 - 27 Kenny, D., Driscoll, T., & Ackermann, B. (2014). Psychological well-being in professional orchestral musicians in Australia: A descriptive population study. *Psychology of Music*, 42(2), 210-232.
 - 28 Kapsetaki, M. E., & Easmon, C. (2019). Eating disorders in musicians: a survey investigating self-reported eating disorders of musicians. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, 24(3), 541-549.
 - 29 Kyaga, S., Landén, M., Boman, M., Hultman, C. M., Långström, N., & Lichtenstein, P. (2013). Mental illness, suicide and creativity: 40-year prospective total population study. *Journal of psychiatric research*, 47(1), 83-90.
 - 30 Kenny, D. T., & Asher, A. (2016). Life expectancy and cause of death in popular musicians: is the popular musician lifestyle the road to ruin? *Medical problems of performing artists*, 31(1), 37-44.
 - 31 Vaag, J., Saksvik-Lehouillier, I., Bjørngaard, J. H., & Bjerkeset, O. (2016).

tions, solo recitals, concert performances, and difficult orchestral or pop and rock performances. Music students often resort to beta-blockers during examinations.

Some beta-blockers can produce unwanted central nervous system side effects, such as fatigue and insomnia³². Other side effects include severe nightmares and hallucinations. These findings could indicate that restricting these drugs should be considered for musicians – certainly if they have a history of depressive illness³³. Furthermore, research points out that the use of drugs, especially sedatives, is sometimes even encouraged by music teachers³⁴.

Besides beta-blockers, the use of **alcohol and other substances** to reduce anxiety is not uncommon among musicians. According to a survey by Kenny³⁵, a significant number of performing artists use alcohol as well as marijuana to manage performance anxiety.

Little is known about the effects of these substances on the quality of musical performance. The (over)consumption of anxiolytics (medication for the symptoms of anxiety) without psychological intervention (like counselling and therapy), or the use of alcohol to mitigate psychological tensions may be considered as maladaptive forms of coping with mental problems³⁶. Both these methods can cause rapid biological addiction. Alcohol can inhibit performance due to its effect on the brain areas regulating voluntary movement and coordination; it also takes a toll on the whole body³⁷.

➤ *Personality and mental health*

Personality traits have an influence on a person's overall wellbeing. They can either increase the risk of developing mental health problems/disorders or act as a stabilising agent against them.

Several studies confirm that the personality traits "openness to experience" and "neuroticism" are more prevalent among musicians than in the general workforce. Other common traits seen in professional musicians are "inter- and intrapersonal sensitivity", "agreeableness", "divergent thinking" and "precision"³⁸. By contrast, interestingly, the personality trait "conscientiousness" is found to be less prevalent among musicians³⁹.

In addition, MacLellan⁴⁰ points out the clear preference of musicians for "feeling over thinking", "intuition over sensing" and "perceiving over judging". Along with these characteri-

32 MIMS Australia (2010). *St Leonaards*. Australia: UBM Medica.

33 Idem.

34 Bandi, S., Nagy, S. I., & Vas, B. (2017).

35 Kenny, D. (2011). *The psychology of music performance anxiety*. OUP Oxford.

36 Dobson, M. C. (2011). Insecurity, professional sociability, and alcohol: Young freelance musicians' perspectives on work and life in the music profession. *Psychology of Music*, 39(2), 240-260.

37 Breitenfeld, D., Thaller, V., Peric, B., Jagetic, N., Hadzic, D., & Breitenfeld, T. (2008). Substance abuse in performing musicians. *Archives of Psychiatry Research*, 44(1), 37.

38 Butkovic, A., & Rancic Dopudj, D. (2017). Personality traits and alcohol consumption of classical and heavy metal musicians. *Psychology of Music*, 45(2), 246-256.

39 Torrance, T. A., & Bugos, J. A. (2017). Music ensemble participation: Personality traits and music experience. *Update: Applications of Research in Music Education*, 36(1), 28-36.

40 MacLellan, C. R. (2011). Understanding your band, orchestra, and choir students: Personality similarities and differences and what they mean for you. *Music Educators Journal*, 97(4), 37-42.

stics, Butkovic *et al.*⁴¹ and Mason *et al.*⁴² found musicians to have more psychosis-prone personality traits than the control group.

Elevated levels of rumination are also seen in musicians in comparison to non-musicians. The combination of a ruminative way of thinking and high stress appears to be a toxic one, which can lead to a higher incidence of depression and other mental health problems⁴³.

More specific personality distinctions can be drawn from within the population of musicians. Research has shown that folk musicians are generally more extraverted than classical and jazz musicians, but within classical musicians, vocalists and percussionists show higher rates of extraversion. A high level of creativity, divergent thinking and high scores for openness to new experiences is typical for jazz musicians, for folk musicians, vocalists and key instrument players. A hunger for sensation appears to make jazz, rock, pop and reggae musicians more impulsive, with more risk-taking behaviour than classical musicians⁴⁴.

Neuroticism is observed in all kinds of musicians, but especially in vocalists and bowed string musicians⁴⁵. The impact of neuroticism is worth noting because it is a predictor for health impairment, being associated as it is with psychological distress, emotional instability, depression and anxiety, i.e. negatively associated with mental wellbeing and resilience⁴⁶.

Resilience is an important personal resource that underpins mental health. Kegelaers⁴⁷ underlines this point: resilience functions as an inverse predictor of depression and anxiety. If mediated by resilience, levels of neuroticism can decrease to make way for adaptiveness and flexibility. This psychological flexibility allows for a person's adaptation to environmental differences and changing circumstances. Given the risks and consequences of the unpredictable professional life of music creators⁴⁸, this is significant.

Besides resilience, another crucial resource is a sense of mastery. A developed sense of mastery enables a person to gain more control over life events affecting their health and wellbeing. For musicians, the development of resilience and mastery is necessary to cope with the risks inherent to the profession⁴⁹.

41 Butkovic, A., & Rancic Dopudj, D. (2017).

42 Mason, O., & Daniels, H. (2018). Psychotic traits in musicians. *Psychological Medicine*, 48(12), 2096-2097.

43 Michl, L. C., McLaughlin, K. A., Shepherd, K., & Nolen-Hoeksema, S. (2013). Rumination as a mechanism linking stressful life events to symptoms of depression and anxiety: longitudinal evidence in early adolescents and adults. *Journal of abnormal psychology*, 122(2), 339; Quinn, M. E., & Joormann, J. (2015). Stress-induced changes in executive control are associated with depression symptoms: Examining the role of rumination. *Clinical Psychological Science*, 3(4), 628-636; Roy, M. M., Radzevick, J., & Getz, L. (2016). The manifestation of stress and rumination in musicians. *Muziki*, 13(1), 100-112.; Watkins, E. R., & Roberts, H. (2020). Reflecting on rumination: Consequences, causes, mechanisms and treatment of rumination. *Behaviour Research and Therapy*, 127, 103573.

44 Vuust, P., Gebauer, L., Hansen, N. C., Jørgensen, S. R., Møller, A., & Linnet, J. (2010). Personality influences career choice: Sensation seeking in professional musicians. *Music Education Research*, 12(2), 219-230.

45 Benedek, M., Borovnjak, B., Neubauer, A. C., & Kruse-Weber, S. (2014). Creativity and personality in classical, jazz and folk musicians. *Personality and individual differences*, 63, 117-121; J. Vaag, E. R. Sund, & O. Bjerkeset (2018). Vaag, J., Sund, E. R., & Bjerkeset, O. (2018). Five-factor personality profiles among Norwegian musicians compared to the general workforce. *Musicae Scientiae*, 22(3), 434-445.

46 Aalberg, A. L., Saksvik-Lehouillier, I., & Vaag, J. R. (2019).

47 Kegelaers, J., Wylleman, P., Blijlevens, S., Boonstoppel, A., & Hendriks, M. (2020). A coaches' perspectives on team resilience during major international competition. *International Journal of Sport Psychology*, 51(3), 221-246.

48 Aalberg, A. L., Saksvik-Lehouillier, I., & Vaag, J. R. (2019).

49 Ungar, M., & Theron, L. (2020). Resilience and mental health: How multisystemic processes contribute to positive outcomes. *The Lancet Psychiatry*, 7(5), 441-448.; Aalberg 2019: 39-47; McDonnell, S., & Semkowska, M. (2020). Resilience as mediator

Next to neuroticism and its association with health impairment, the personality trait of perfectionism has been strongly associated with high levels of anxiety and distress. Perfectionists feel pressured to live up to their own high standards and those of others⁵⁰.

As a personality trait, perfectionism can have both positive and negative outcomes. Stoeber and Eismann⁵¹ find that there are two dimensions to perfectionism: perfectionistic strivings (positive) and perfectionistic concerns (negative). In musicians, striving for perfection is associated with intrinsic motivation, self-determination, a sense of independence, high effort and high achievement. Worries about *imperfection* are associated with performance anxiety, emotional fatigue and somatic symptoms. These negative aspects can result from extrinsic motivators such as judgement and the feeling of being controlled by others. Perfectionistic concerns cause anxiety but perfectionistic strivings as such do not⁵².

➤ **Predisposition to psychic vulnerabilities: alcohol, addiction**

In addition to identifying the adverse impact of professional musicianship, it is important to underline the impact of a musician's predispositions to mental health problems. Several risks, symptoms and disorders develop as a result of gene-environment interaction. Mental health issues such as substance abuse and anxiety have considerable genetic and biological components⁵³. Researchers suggest common underlying genetic vulnerabilities for personality traits such as neuroticism, extraversion and sensation seeking, as well as for psychopathological problems such as addiction and anxiety⁵⁴.

Alongside biological predispositions, Bellis *et al.*⁵⁵ highlight the role of the stressful environment, where vulnerabilities can develop. Many musicians, especially high-profile pop and rock musicians, function in stressful environments where alcohol and drug misuse are virtually the norm and lead to other health problems. We return to this issue later.

between extraversion, neuroticism, and depressive symptoms in university students. *Journal of Positive Psychology & Wellbeing*, 4(1), 26-40.

50 Stoeber, J., & Eismann, U. (2007). Perfectionism in young musicians: Relations with motivation, effort, achievement, and distress. *Personality and Individual Differences*, 43(8), 2182-2192; Bandi 2017

51 Idem.

52 Idem.

53 Patston, T., & Osborne, M. S. (2016). The developmental features of music performance anxiety and perfectionism in school age music students. *Performance Enhancement & Health*, 4(1-2), 42-49; Martin-Gagnon, G., & Creech, A. (2019). Cool jazz: Music performance anxiety in jazz performance students. *Music Education Research*, 21(4), 414-425.

54 Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking 'big' personality traits to anxiety, depressive, and substance use disorders: a meta-analysis. *Psychological bulletin*, 136(5), 768; Sadler, M. E., & Miller, C. J. (2010). Performance anxiety: A longitudinal study of the roles of personality and experience in musicians. *Social Psychological and Personality Science*, 1(3), 280-287; Vuust 2010; Wermter, A. K., Laucht, M., Schimmelmann, B. G., Banaschewski, T., Sonuga-Barke, E. J., Rietschel, M., & Becker, K. (2010). From nature versus nurture, via nature and nurture, to gene x environment interaction in mental disorders. *European child & adolescent psychiatry*, 19(3), 199-210; Green, K. E., Blue, J. R., & Natal, S. N. (2021). An Integrated Model of Nature and Nurture Factors that Contribute to Addiction and Recovery. *Substance Use & Misuse*, 56(8), 1095-1107.

55 Bellis, M. A., Hennell, T., Lushy, C., Hughes, K., Tocque, K., & Ashton, J. R. (2007). Elvis to Eminem: quantifying the price of fame through early mortality of European and North American rock and pop stars. *Journal of Epidemiology & Community Health*, 61(10), 896-901.

Interpersonal risk factors

A professional career in the music sector is not only determined by musical excellence but also by strong social networking and social support. Musicians are expected to function in multiple social contexts and need to adapt smoothly to different social roles⁵⁶.

The psychosocial environment, which is defined as the interaction between an individual's personal experiences and the characteristics of the workplace⁵⁷, can have a detrimental impact on the wellbeing of professional musicians. Détári *et al*⁵⁸ confirm differences in the psychosocial environment of musicians compared to that of the general working population.

Similarly, a lack of social support is adverse to mental health. Aalberg *et al*.⁵⁹ found a negative association between social support and psychological distress. What is more, social support and social persuasion are positively associated with self-efficacy, the quality of performance and musical success⁶⁰. In this vein, Kegelaers *et al*⁶¹ describe how social support is a protective resource that contributes to resilience, Détári *et al*⁶² underline how social support is beneficial for mental health, and Vaag *et al*⁶³ confirm that family coherence and social resources are known to be protective factors against mental illness.

For music students who experience major social transition when they enter a completely new professional environment, peer support is indispensable⁶⁴. Zarza-Alzugaray *et al*⁶⁵ describe different sources of social support and find that the support of peers and teachers has an impact on music performance anxiety. The social support of parents appears to influence beliefs about self-efficacy. Despite the obvious need for social support, musicians tend to receive little of it from their colleagues.

Due to their irregular working hours and general lifestyle, the social life of musicians is complicated. This can result in social isolation⁶⁶. The work schedules, leisure and sleep times of professional musicians are often out of sync with those of the general population, making it difficult to organise their day, engender a sense of social wellbeing, and causing problems with interpersonal relationships⁶⁷. Moreover, musicians experience a pressure to fit into the social image of their profession, which can entail unhealthy eating, substance use and insomnia⁶⁸.

56 Vaag, J., Saksvik-Lehouillier, I., Bjørngaard, J. H., & Bjerkeset, O. (2016).; Pecun, 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.

57 Kivimäki, M., Batty, D. G., Kawachi, I., & Steptoe, A. (Eds.). (2017). *The Routledge international handbook of psychosocial epidemiology*. Routledge.

58 Détári, A., Egermann, H., Bjerkeset, O., & Vaag, J. (2020). Psychosocial work environment among musicians and in the general workforce in Norway. *Frontiers in Psychology*, 1315.

59 Aalberg, A. L., Saksvik-Lehouillier, I., & Vaag, J. R. (2019).

60 Zarza-Alzugaray, F. J., Casanova, O., McPherson, G. E., & Orejudo, S. (2020). Music self-efficacy for performance: an explanatory model based on social support. *Frontiers in psychology*, 11, 1249.

61 Kegelaers, J., Wylleman, P., Blijlevens, S., Boonstoppel, A., & Hendriks, M. (2020).

62 Détári, A., Egermann, H., Bjerkeset, O., & Vaag, J. (2020).

63 Vaag, J., Saksvik-Lehouillier, I., Bjørngaard, J. H., & Bjerkeset, O. (2016).

64 Détári, A., Egermann, H., Bjerkeset, O., & Vaag, J. (2020).; Kegelaers 2020.

65 Zarza-Alzugaray, F. J., Casanova, O., McPherson, G. E., & Orejudo, S. (2020).

66 Stotijn, M., & Schrauwers, A. (2006).

67 Détári, A., Egermann, H., Bjerkeset, O., & Vaag, J. (2020).

68 Saksvik-Lehouillier (2017).

Another negative aspect is the often-undervalued social status of musicians, which is rarely a reflection of their intense studies or corresponds to their professional capacities. In practice, this can translate into lower remuneration than other professionals with similar capacities and educational time investments⁶⁹.

Another cause of stress and insecurity is the heightened sense of competition among musicians. The constant need to perform better than peers in order to secure an orchestra job, soloist recital or position in a band can be challenging for a musician's mental health.

Furthermore, some evidence states that overt competition in creative practice is counter-productive for the evolution of an artist's unique identity⁷⁰. Due to their competitive lifestyle, injuries are often ignored and therefore aggravated out of a fear of appearing weak or incapable of performing the job in hand.

Work related risk factors

A survey among Danish orchestra musicians reveals that an adverse psychosocial work environment is strongly associated with stress symptoms. Musicians experience higher emotional demands; a sense of low influence at work; less social support; a minimal sense of community (social isolation); and lower job satisfaction than Danish workers in general⁷¹. These musicians did however report a higher sense commitment to their workplace.

In contrast to musicians with a permanent employment contract, freelance musicians encounter specific psychosocial work environment stressors such as an unpredictable future and the lack of a given structure (unstable economy, lack of definite prospects); stress on families, a challenging work/life balance and external pressure, namely "identity pressure"⁷².

According to Vaag *et al.*⁷³ musicians reported higher degrees of job demands and an increased level of work-family conflicts compared to the general workforce. They also reported less social support, acknowledgement, job satisfaction and motivation, and fewer rewards than the mainstream workforce. Vaag *et al.*⁷⁴ also find that musicians who combine employment with freelance work are more prone to develop sleep difficulties than other musicians.

In line with these findings, Teague & Smith⁷⁵ find that musicians often take on more work than they can manage, at the cost of their personal or family life. They depict blurred boundaries and an imbalance between work and family life as important causes of mental health issues. In their research⁷⁶, all the interviewees were pop musicians but most of their findings probably apply to musicians in other genres as well. Musicians' testimonials include dwindling mental health, sleep deprivation, substance abuse and juggling different jobs, mostly teaching, per-

69 Stotijn, M., & Schrauwers, A. (2006).

70 P. Holmes, P. (2017). Towards a conceptual framework for resilience research in music training and performance: A cross discipline review. *Music Performance Research*, 8, 114-132.

71 Holst, G. J., Paarup, H. M., & Baelum, J. (2012).

72 Vaag, J., Saksvik-Lehouillier, I., Bjørngaard, J. H., & Bjerkeset, O. (2016).

73 Idem.

74 Idem.

75 Teague, A., & Smith, G. D. (2015). Portfolio careers and work-life balance among musicians: An initial study into implications for higher music education. *British Journal of Music Education*, 32(2), 177-193.

76 Idem.

forming, or management and owning a business. Most of these musicians acknowledged the negative effects of these activities on their health⁷⁷.

Additionally, a clear gender-related difference can be observed in approaches to work-life balance. While women tend to fit their careers around child-rearing, men often take on extra jobs to make this possible⁷⁸. Touring life is seen as being least compatible with family life as it involves eating fewer meals with the family. It also encourages poor eating habits such as eating quickly on the road⁷⁹. Music teaching, working on local music circuits or managing one's own business are thought to be more family-friendly work situations by comparison.

Nedelcut *et al*⁸⁰ found some healthy lifestyle patterns and characteristics among musicians: they tend to smoke less and are better at expressing their emotions than their peers in other professions.

2.2. Physical health problems among music creators

Research shows that a range of physical problems is more prevalent among musicians and music creators than is the case among the general work force.

Depending on the study and the population examined, different yet high prevalence rates of problems are reported. For example, one study found that 77-87% of orchestral musicians, 67% of college level music students and 23-93% of pianists reported musculoskeletal problems⁸¹. Research among Danish professional orchestra musicians shows that neck, shoulder, hand and wrist issues are more prevalent in musicians than in the general working population⁸². Musculoskeletal disorders even take up around 70% of all compensation claims lodged by professional musicians⁸³.

2.2.1. Physical health risk factors

Making music regularly, which of course professional musicians do, involves specific physical risks. But there is little consensus about which precise factors cause them a greater risk of physical injury. Certain factors seem to recur in most if not all research, namely: type of instrument, number of hours exposed to sound and high volumes, maintaining forced postures and

77 Idem.

78 Idem.

79 Nedelcut, S., Leucuta, D. C., & Dumitrascu, D. L. (2018). Lifestyle and psychosocial factors in musicians. *Clujul Medical*, 91(3), 312.

80 Idem.

81 D t ri, A., Egermann, H., Bjerkeset, O., & Vaag, J. (2020).

82 Paarup, H. M., Baelum, J., Holm, J. W., Manniche, C., & Wedderkopp, N. (2011). Prevalence and consequences of musculoskeletal symptoms in symphony orchestra musicians vary by gender: a cross-sectional study. *BMC musculoskeletal disorders*, 12(1), 1-14.

83 Stanhope, J., Weinstein, P., & Pisaniello, D. (2020). What can musicians' claims data reveal about their musculoskeletal conditions? *Archives of Environmental & Occupational Health*, 75(3), 177-190.

repetitive movement⁸⁴. The effects of these factors are dependent on individual characteristics such as age, gender and medical background⁸⁵.

Since there is a huge variety of musical instruments, how they influence the risk for injuries varies enormously and depends on factors such as the shape and weight of the instrument, the force that is needed to handle it, the sound levels and the manner of playing (blowing, plucking, pressing, ...) ⁸⁶. There is a lack of comparative research on the impact of different instruments on specific types of musculoskeletal problems. One study involving professional orchestral players made a distinction between upper body strings (violin, viola), lower-body strings (cello, bass), woodwinds, brass and percussion. Among musicians of these instrument groups, percussionists all reported having some form of musculoskeletal issue, and nearly all of the lower body string players (93%) reported similar problems, namely back issues. Violinists were mostly affected by neck issues⁸⁷. Forced postures and repetitive movements are heavily influenced by playing techniques and general “physical hygiene” with regards to practice and performing.

Regardless of the instrument, the general consensus is that the right playing technique and posture should be in a physically relaxed and balanced position that allows for repetitive movements to be performed with minimal force for maximum effectiveness⁸⁸. This study only looked at orchestral musicians and is on a relatively small scale. Further research is therefore needed to reach more robust conclusions.

The number of hours spent making music is a second risk factor that correlates strongly with physical risks. If the music creator is exposed to extensive and intensive sessions of either practising, performing or recording then the risk of physical injury obviously increases. Another harmful constant is extensive exposure to high decibels. Due to the nature of the profession there is a higher risk of musicians being exposed more frequently to extreme sound levels of over 140 dB than the general working population. At these sound levels, immediate acoustic trauma is possible. Furthermore, extensive exposure to moderate sound levels of around 80 dB (equivalent to the noise level of heavy traffic) can cause hearing damage if prolonged over long periods without adequate rest⁸⁹.

In general, it is important to note that all the aforementioned risk factors can be significantly diminished if enough attention is paid to physical “hygiene”. This includes proper practice habits, frequent breaks, warm-up/cool-down and posture⁹⁰. This is an important takeaway as these elements can be taught to musicians and implemented in music education.

84 Rodríguez-Romero, B., Pérez-Valiño, C., Ageitos-Alonso, B., & Pértega-Díaz, S. (2016). Prevalence and associated factors for musculoskeletal pain and disability among Spanish music conservatory students. *Medical Problems of Performing Artists, 31*(4), 193-200.

85 Stotijn, M., & Schrauwers, A. (2006).

86 Idem.

87 Abréu-Ramos, A. M., & Micheo, W. F. (2007). Lifetime prevalence of upper-body musculoskeletal problems in a professional-level symphony orchestra: age, gender, and instrument-specific results. *Medical Problems of Performing Artists, 22*(3), 97-104.

88 Stotijn, M., & Schrauwers, A. (2006).

89 Barlow, C. (2010). Potential hazard of hearing damage to students in undergraduate popular music courses. *Medical problems of performing artists, 25*(4), 175-182.

90 Gembris, H., Menze, J., Heye, A., & Bullerjahn, C. (2020). High-performing young musicians' playing-related pain. Results of a large-scale study. *Frontiers in psychology, 3533*.

2.3. Personal characteristics and environmental factors

➤ *Personal characteristics: gender and age*

Research into the relationship between gender and the occurrence of musculoskeletal problems shows that women are generally more prone to these types of risks than men. Research among professional orchestral musicians shows that around 87.5% of female respondents compared to 79.7% of male respondents reported suffering certain types of musculoskeletal problems⁹¹. This finding is consistent with other research. A meta-study on musculoskeletal problems among music creators concluded that almost all research that has included gender as a variable shows that female music creators experience more musculoskeletal problems during their career⁹².

Given the physical nature of music making, it is to be expected that ageing has a negative impact on the risk of physical issues among musicians; it represents the accumulation of physical and mental strain over the years. Ageing thus has a significant impact on music creators' capacity to keep performing at a professional level in later life.

Apart from the obvious factors related to ageing, research into the impact of age on risk levels and musicians' health paints a more complex picture. According to Abreu and Micheo⁹³, both the youngest (22-29) and oldest (50-61) age groups reported musculoskeletal issues. A first important element is that both age groups reported the highest number of hours played (28.7 and 32 hours per week respectively), which is higher than musicians aged between 29 and 50. Another important element is that, on the one hand, the youngest age groups include a significant number of musicians that were still in an education programme while the oldest group include the most section leaders⁹⁴. Although not proved by this research, the lack of experience and perhaps proper techniques might be an important factor for the younger age groups, while the older musicians might be more affected by the physical strain of performing for many hours.

A study conducted among more than 2,500 German musicians was able to establish this relationship and make it more concrete: the ages 40-50 are considered to be a time of change for most musicians. Most felt that they had passed their peak musical performance and were on a downward slope in terms of musical capabilities.

This German study of orchestral players also stresses the importance of experience as a mediating factor in the loss in physical prowess. Respondents were asked how far they could use their experience to compensate for a decline in performance when growing older. Half of the youngest musicians under 30 said they could use their experience to compensate for any decline in performance, but 85% of the musicians over 60 reported drawing on their experience to compensate for decline⁹⁵.

Ageing can therefore have advantages. Long-term professional music creators will create a network around themselves, especially as music creation is often a group effort. Given the

91 Abréu-Ramos, A. M., & Micheo, W. F. (2007).

92 Gembris, H., & Heye, A. (2014). Growing older in a symphony orchestra: The development of the age-related self-concept and the self-estimated performance of professional musicians in a lifespan perspective. *Musicae Scientiae*, 18(4), 371-391.

93 Abréu-Ramos, A. M., & Micheo, W. F. (2007).

94 Idem.

95 Gembris, H., & Heye, A. (2014).

nature of the sector, with many short-term contracts and performances, a solid network is important. There are, however, clear and prominent examples of highly functional professional musicians who perform up until the age of 90 or older, which would be impossible for other creative professionals such as dancers.

➤ *Environmental aspects: music genre and quality of work*

Professional music creation and performance is atypical work compared to that of the general working population. Atypical work is generally characterised by a deviation from the standard of full-time, regular, open-ended employment with a single employer over a long-time span⁹⁶. Another atypical aspect of musicians' work is the significantly higher proportion of self-employed or freelancers.

Another employment characteristic that is distinctive for many workers within the professional music sector is the high proportion of part-time employment, those on short-term contracts and those combining jobs.

Frequent short-term contracts and freelance work creates a lack of consistency in the working pattern of the music creator, which can lead to higher degrees of income instability. To compensate for this volatility, many music creators (and creative professionals in general) have an additional income source from a second job to maintain some financial stability. They sometimes supplement their income as performers with music teaching or other roles, both in and outside of the music sector. Apart from stability of income, they can gain additional social security benefits and protection (paid leave, unemployment protection, pension contributions, etc.). Alternatively, some musicians choose to combine different projects or even art forms, out of artistic interest⁹⁷.

Professional music creators experience more mobility than is generally the case in the working population, particularly active live performers for whom travel is a reality of the profession. This peripatetic lifestyle can be beneficial for those who enjoy the diversity of working in different locations, but it has its known risks and downsides. One issue is the lack of regulation for musicians who work abroad, which can mean poorer social protection and more complex taxation and intellectual property rules⁹⁸. Other risks associated with this lifestyle include the stress of sticking to performance schedules, being away from friends and loved ones for extended periods and the general fatigue of life on the road.

Live performers work when others have time off: at weekends and late into the night⁹⁹, which has a huge impact on their physical and general health, not to mention the tensions and conflicts with family and friends due to absence and a disrupted social life.

A lot of non-performance musical work is also time sensitive, with strict deadlines. Studio time, for example, is expensive and valuable, as is rehearsal time (especially in large groups).

96 Eurofound (n.d.). <https://www.eurofound.europa.eu/observatories/eurwork/industrial-relations-dictionary/atypical-work>

97 EENCA (2020). Study on the status and working conditions of artists and creative professionals. <https://ec.europa.eu/culture/news/study-artists-working-conditions-published>

98 EENCA (2020).

99 Jacukowicz, A. (2016). Psychosocial work aspects, stress and musculoskeletal pain among musicians. A systematic review in search of correlates and predictors of playing-related pain. *Work*, 54(3), 657-668.

2.4. Positive effects of playing and creating music

Despite the risks of a destabilising personal and work environment, most musicians experience music as life-enhancing. Recent research confirms that music itself is an effective resource for mental wellbeing. Musicians themselves report beneficial affective experiences, feelings of belonging and mood regulation through music making¹⁰⁰. This can be attributed to the emotional engagement and motivation to keep going – traits that are indispensable for a successful musician¹⁰¹.

According to Saarikallio¹⁰², music operates through three types of elements: *social elements* (strengthening of social bonds, belonging, unity, and strengthening of group cohesion and identity); *mental elements* (introspection, mental work, and personal growth, often in relation to altered states of consciousness and spiritual experiences); and *emotional elements* (reflection and evoking emotions, enabling expression and experience, regulating emotions). We discuss all three in this section, including how physical wellbeing may be enhanced by making music.

➤ Positive social aspects of playing and creating music

Following Koelsch¹⁰³, Overy and Molnar-Szakacs¹⁰⁴ state that music is beneficial for important social functions. In making music, music creators experience a connection with one another; they coordinate and synchronise their actions by being literally attuned to one another, and are engaged both on a musical and an affective level.

While playing, musicians trigger and train specific brain areas responsible for social cognition, communication, and language. The neural substrates formed through musical activity allow these newly acquired social competences to be applied in everyday life. In line with this, Rinta *et al*¹⁰⁵ find an association between engagement in social music activities and subjective feelings of being socially included in daily life. Additionally, Novembre and Keller¹⁰⁶ emphasise how music-playing stimulates equal and mutual interactions between people. This adaptation to others is essential for adequate interpersonal functioning.

➤ Positive mental and emotional aspects of playing and creating music

Besides the socially beneficial aspect of music, it is important to recognise the individual expression embedded in the shared experience of playing together. Lindblad and de Boise¹⁰⁷ highlight the importance of being in contact with the core self while engaging in musical play.

100 Saarikallio, S., Stensaeth, K., Horwitz, E. B., Ekholm, O., & Bonde, L. O. (2020). Music as a resource for psychological health for music professionals: A Nordic survey. *Nordic Journal of Arts, Culture and Health*, 2(1), 38-50.

101 Guptill, C. A. (2011). The lived experience of professional musicians with playing-related injuries: a phenomenological inquiry. *Medical problems of performing artists*, 26(2), 84-95.

102 Saarikallio, S. (2011). Music as emotional self-regulation throughout adulthood. *Psychology of music*, 39(3), 307-327.

103 Koelsch, S. (2014). Brain correlates of music-evoked emotions. *Nature Reviews Neuroscience*, 15(3), 170-180.

104 Overy, K., & Molnar-Szakacs, I. (2009). Being together in time: Musical experience and the mirror neuron system. *Music perception*, 26(5), 489-504.

105 Rinta, T., Purves, R. S., Welch, G., Stadler Elmer, S., & Bissig, R. (2011). Connections between children's feelings of social inclusion and their musical backgrounds. *Journal of Social Inclusion*, 2(2), 34-57.

106 Novembre, G., & Keller, P. E. (2014). A conceptual review on action-perception coupling in the musicians' brain: what is it good for? *Frontiers in human neuroscience*, 8, 603.

107 Lindblad, K., & de Boise, S. (2020). Musical engagement and subjective wellbeing amongst men in the third age. *Nordic Journal of Music Therapy*, 29(1), 20-38.

In line with this view, Schnare *et al*¹⁰⁸ state that music itself can be seen as a core element of the sense of self. The “musical self” both explains and demands the considerable investment of time and energy needed to develop into a musician. It has been said that the “musical self” would prefer to enjoy music for its own sake rather than for the alternative and inferior motivations to play that are being forced by the music sector¹⁰⁹.

A study by Bonde¹¹⁰ found that amateur musicians reported better health than professional musicians, which implies a loss of enjoyment in music making for the latter and a possible loss of flexibility and playfulness for those heading towards or maintaining a professional career. Koops¹¹¹ also stresses the importance of personal musical enjoyment and gives a detailed description of conditions that encourage musical joy in children. According to her research, essential aspects for optimal personal, social and cognitive development within music playing include active musical and physical engagement, a mix of musical familiarity and novelty, a balance of structure and freedom, a sufficient level of being in control, and a safe and playful music environment. She also highlights the importance of flexible, interactive ways of playing together.

In addition, Lawendowski and Bieleninik¹¹² find an association between musical activities and self-esteem. In line with their empirical evidence, Gold¹¹³ illustrates the different ways in which music can be used, noting that music therapists focus on the beneficial effects of music that is mostly experienced by amateur musicians. Making music in music therapy, and musical improvisation in particular, supports health and quality of life in many ways: it can be used as a tool for mood regulation, it can increase a sense of connectedness to others, and it is a resource for constructing one’s identity¹¹⁴.

Darrow and Segall¹¹⁵ state that music can also serve as a motivator or reward for healthy behaviours and can be used to promote general wellness. Because of its versatile nature, music can easily accompany physical, cognitive and social activities and be used as a basis for physical and social activities and a vehicle for discussing emotions¹¹⁶.

According to Ascenso *et al*¹¹⁷ musicians, conductors and composers score highly on all fields of the PERMA wellbeing profile: positive emotion, engagement, relationships, meaning and perception of accomplishment. A sense of meaning regarding their work emerges as the most

108 Schnare, B., MacIntyre, P., & Doucette, J. (2012). Possible selves as a source of motivation for musicians. *Psychology of Music*, 40(1), 94-111.

109 Schnare, B., MacIntyre, P., & Doucette, J. (2012).

110 Bonde, L. O., Juel, K., & Ekholm, O. (2018). Associations between music and health-related outcomes in adult non-musicians, amateur musicians and professional musicians—Results from a nationwide Danish study. *Nordic Journal of Music Therapy*, 27(4), 262-282.

111 Koops, L. H. (2017). The enjoyment cycle: A phenomenology of musical enjoyment of 4-to 7-year-olds during musical play. *Journal of Research in Music Education*, 65(3), 360-380.

112 Lawendowski, R., & Bieleninik, Ł. (2017). Identity and self-esteem in the context of music and music therapy: A review. *Health Psychology Report*, 5(2), 85-99.

113 Gold, C. (2018). Music in therapy and in daily life: health of musicians, concepts of aesthetics, measurement, and new media. *Nordic Journal of Music Therapy*, 27(4), 257-258.

114 Ruud, E. (2020). *Toward a sociology of music therapy: Musicking as a cultural immunogen*. Barcelona Publishers.

115 Darrow, A. A. (2016). The Every Student Succeeds Act (ESSA) What it means for students with disabilities and music educators. *General Music Today*, 30(1), 41-44.

116 Darrow, A. A. (2016).

117 Ascenso, S., Perkins, R., & Williamon, A. (2018). Resounding Meaning: A PERMA Wellbeing Profile of Classical Musicians. *Frontiers in Psychology*, 9, 1–14.

prominent factor. Furthermore, musicians show higher scores for positive emotion and relationships than the general population. Perkins *et al.*¹¹⁸ also state that making music can enhance positive emotions and support positive psychological functioning, and can evoke experiences of pleasure, fun, joy and happiness (Koelsch)¹¹⁹.

The benefits of musical activities have a neurological basis¹²⁰. Among other things, music making reinforces “rhythmic entrainment”, which has cognitive and neural effects. Timing-related anticipation and prediction such as the understanding of musical structures and phrases are associated with dopamine release, a neurotransmitter that engenders positive reinforcement and feelings of reward¹²¹. Besides this release of dopamine, oxytocin levels increase through participation in musical activities, particularly during musical improvisation. Another considerable neurological impact of musical activities is decreased cortisol (stress hormone) levels. Overall, these neurological effects corroborate the positive outcomes of music on mental health¹²².

➤ Positive physical aspects of playing and creating music

The authors were not able to identify many studies that examine how the creation and performance of music improves (or helps to maintain) physical abilities and skills that are not directly related to making or producing music. This may be because physical benefits are often closely related to mental health, so it is difficult to separate one type of benefit from another¹²³.

Studies show that ongoing cognitive engagement in later life helps to maintain overall cognitive functioning¹²⁴. Playing music in later life may benefit certain types of executive functions. In the domain of language, the effects of playing an instrument continue to be effective even after a musician stops playing¹²⁵. Musical training has the potential to reduce decline in speech perception and in a person’s ability to understand speech in noisy environments in later life¹²⁶.

118 Perkins, R., Yorke, S., & Fancourt, D. (2018). How group singing facilitates recovery from the symptoms of postnatal depression: a comparative qualitative study. *BMC psychology*, 6(1), 1-12.

119 Koelsch, S. (2014). Brain correlates of music-evoked emotions. *Nature Reviews Neuroscience*, 15(3), 170-180.

120 Reybrouck, M., Vuust, P., & Brattico, E. (2021). Neural Correlates of Music Listening: Does the Music Matter? *Brain Sciences*, 11(12), 1553.

121 Salimpoor, V. N., Benovoy, M., Larcher, K., Dagher, A., & Zatorre, R. J. (2011). Anatomically distinct dopamine release during anticipation and experience of peak emotion to music. *Nature neuroscience*, 14(2), 257-262; Salimpoor, V. N., & Zatorre, R. J. (2013). Neural interactions that give rise to musical pleasure. *Psychology of Aesthetics, Creativity, and the Arts*, 7(1), 62; Miendlarzewska, E. A., & Trost, W. J. (2014). How musical training affects cognitive development: rhythm, reward and other modulating variables. *Frontiers in neuroscience*, 279; Weigmann, K. (2017). Feel the beat: Music exploits our brain's ability to predict and the dopamine-reward system to instill pleasure. *EMBO reports*, 18(3), 359-362; Celma-Mirallas, A., & Toro, J. M. (2019). Ternary meter from spatial sounds: Differences in neural entrainment between musicians and non-musicians. *Brain and cognition*, 136, 103594.

122 Harvey, A. R. (2020). Links between the neurobiology of oxytocin and human musicality. *Frontiers in Human Neuroscience*, 14, 350.

123 Lehmborg, L. J., & Fung, C. V. (2010). Benefits of music participation for senior citizens: A review of the literature. *Music Education Research International*, 4(1), 19-30.

124 Reybrouck, M., & Brattico, E. (2015). Neuroplasticity beyond sounds: neural adaptations following long-term musical aesthetic experiences. *Brain Sciences*, 5(1), 69-91.

125 Strong, J. V., & Midden, A. (2020). Cognitive differences between older adult instrumental musicians: Benefits of continuing to play. *Psychology of Music*, 48(1), 67-83.

126 Fleming, D., Belleville, S., Peretz, I., West, G., & Zendel, B. R. (2019). The effects of short-term musical training on the neural processing of speech-in-noise in older adults. *Brain and Cognition*, 136, 103592.

Musicians also obtain better and faster speech recognition in noisy environments with multiple simultaneous speakers¹²⁷. Playing music has proven associations with strengths in verbal memory^{128,129}. Furthermore, musicians demonstrate better selected, divided and sustained visual attention ability, according to a study by Rodrigues *et al*¹³⁰. Their research showed that the earlier musicians start with musical studies, the better their reaction times in all visual attention tests. Wilson¹³¹ argues that music is a powerful tool to enhance different types of learning as it has positive effects on the brain itself and the ability of the brain to induce experience-dependent neuroplasticity.

Research involving older classical pianists also showed that playing the piano helped to maintain cognitive-motor skills, and is especially helpful to slow down age-related decline, specifically in the domain of cognitive-motor skills needed to play the piano¹³². Also, other instrument-specific benefits¹³³ found evidence that singing enhances respiratory function and playing a piano keeps the fingers and feet agile and less prone to arthritis.

Additionally, research shows that active engagement in music has other health benefits, such as increased manual dexterity and range of motion, stress reduction and mood enhancement. Listening to music (receptive participation) improves mood states and increases physical endurance¹³⁴.

2.5. Education, prevention and treatment

As discussed earlier, music creators and musicians are exposed to a variety of mental and physical health risks when creating, recording or performing music, some of which can hinder the musical process itself.

When considering the occupational health risks they face, there is a small but growing body of research into the role of education in preventing and treating the adverse health effects related to performance and music creation. This section reviews the studies on this topic.

➤ *Education, prevention and treatment of mental health issues*

The negative states of mind that can hinder the musical process itself include anxiety, depression, stress and sleeping problems and are often the result of adverse working environments, social isolation, social insecurity, and irregular, unhealthy lifestyle behaviours.

127 Musicians Show Improved Speech Segregation in Competitive, Multi-Talker Cocktail Party Scenarios. *Frontiers*.

128 Chan, A. S., Ho, Y. C., & Cheung, M. C. (1998). Music training improves verbal memory. *Nature*, 396(6707), 128-128.

129 Jakobson, L. S., Lewycky, S. T., Kilgour, A. R., & Stoesz, B. M. (2008). Memory for verbal and visual material in highly trained musicians. *Music Perception*, 26(1), 41-55.

130 Rodrigues, A. C., Loureiro, M. A., & Caramelli, P. (2013). Long-term musical training may improve different forms of visual attention ability. *Brain and cognition*, 82(3), 229-235.

131 Wilson, I. M., Doherty, L., & McKeown, L. (2014). Perceptions of Playing-Related Musculoskeletal Disorders (PRMDs) in Irish traditional musicians: a focus group study. *Work*, 49(4), 679-688.

132 Krampe, R. T., & Ericsson, K. A. (1996). Maintaining excellence: deliberate practice and elite performance in young and older pianists. *Journal of experimental psychology: general*, 125(4), 331.

133 Hays, T., & Minichiello, V. (2005). The contribution of music to quality of life in older people: An Australian qualitative study. *Ageing & Society*, 25(2), 261-278.

134 Darrow, A. A. (2016).; M. Reybrouck, P. Podlipniak & D. Welch (2022). Music Listening and Homeostatic Regulation: Surviving and Flourishing in a Sonic World. *International Journal of Environmental Research and Public Health*, 18, 1(1).

According to Kaleńska-Rodzaj¹³⁵, the high prevalence of anxiety and depression in young musicians is reason enough for music educators to not “throw young musicians in at the deep end, forcing them to perform in competitive situations whatever the personal cost, but to carefully develop their emotional awareness and emotional regulation skills”. (p. 88)

Researchers tend to agree that the mental health needs of musicians are often poorly managed and that there is a need for more (ill) health prevention programmes¹³⁶. Their advocacy for early prevention and education has had some success as in recent decades several education programmes for musicians have been developed, especially on how to regulate negative (pre-performance) emotions. These programmes rely on different techniques such as progressive muscle relaxation, yoga, body-awareness techniques, and general physical exercises.

When musicians suffer from music performance anxiety (MPA) or other psychopathological disorders, the treatments being offered are usually pharmacological or psychotherapy focused, or a combination of both. As mentioned before, musicians tend to resort to beta-blockers. These medications reduce the so-called vegetative symptoms of anxiety such as sweating, tremors, and increased heart rate rather than the actual fear and negative cognitions¹³⁷. And although these beta-blockers might reduce some manifestations of performance anxiety, they have recognised drawbacks, such an increase in salivation¹³⁸.

Psychotherapy comprises many different forms of treatment. According to Bandelow *et al.*¹³⁹, Kenny¹⁴⁰ and Brugués¹⁴¹, cognitive behavioural therapy (CBT) has proved effective in the treatment of MPA. Other types of therapy such as acceptance and commitment therapy (ACT) and a trial therapy of intensive short-term dynamic psychotherapy (ISTDP) are considered to be effective too¹⁴². ACT is a new therapy; unlike other types of CBT its goal is not to reduce symptoms of MPA but to enhance psychological flexibility in the event of unwanted symptoms. ISTDP is commonly used for more severe forms of MPA with depressive symptoms and panic¹⁴³. Interestingly, although MPA affects musicians, music therapy is generally overlooked as a possible treatment for MPA.

135 Kaleńska-Rodzaj, J. (2020). Pre-performance emotions and music performance anxiety beliefs in young musicians. *Research Studies in Music Education*, 42(1), 77-93.

136 Ackermann, B. J., Kenny, D. T., O'Brien, I., & Driscoll, T. R. (2014). Sound Practice—improving occupational health and safety for professional orchestral musicians in Australia. *Frontiers in Psychology*, 5, 973.

137 Mumm, J., Fernholz, I., Ströhle, A., Plag, J., & Schmidt, A. (2020).

138 Brugués, A. O. (2011). Music performance anxiety—part 2: a review of treatment options. *Medical problems of performing artists*, 26(3), 164-171.

139 Bandelow, B., Lichte, T., Rudolf, S., Wiltink, J., & Beutel, M. (Eds.). (2014). S3-Leitlinie angststörungen. Springer-Verlag.

140 Kenny, D. & Ackermann, B. (2015). Performance-related musculoskeletal pain, depression and music performance anxiety in professional orchestral musicians: A population study. *Psychology of Music*, 43(1) 43–60.
DOI: 10.1177/0305735613493953.

141 Brugués, A. O. (2011).

142 Juncos, D. G., & Markman, E. J. (2016). Acceptance and commitment therapy for the treatment of music performance anxiety: a single subject design with a university student. *Psychology of Music*, 44(5), 935-952.

143 Kenny, D. T., Arthey, S., & Abbass, A. (2014). Intensive short-term dynamic psychotherapy for severe music performance anxiety: assessment, process, and outcome of psychotherapy with a professional orchestral musician. *Medical Problems of performing artists*, 29(1), 3-7.

Music therapy is one of the most effective forms of therapy for stress, depression, and psychological disorders, three known triggers for MPA¹⁴⁴. Participation in active therapeutic music improvisation is characterised by flexible and playful interactions. These are acknowledged to contribute to the development of self-regulation and have lasting results in musicians¹⁴⁵. Also, the combination of different forms of therapy has shown to be effective in reducing MPA and other mental problems directly related to music performance. Combining video feedback, exercises in body awareness techniques and insights into cognitive strategies was studied by Spahn *et al*¹⁴⁶ and found to be useful in reducing MPA. The same goes for the combination of CBT with mindfulness training¹⁴⁷.

Prevention programmes for musicians have been developed in recent decades, which often focus on psychological education and pre-performance emotion regulation and rely on different techniques such as progressive muscle relaxation and general physical exercises. Hinz¹⁴⁸ for instance found that muscle relaxation is an excellent form of prevention as it seems to reduce symptoms of MPA better than beta-blockers. Given these positive experiences, it is no surprise that, according to Mumm *et al.*¹⁴⁹, many music schools have already implemented at least some of these techniques in their curriculum. This way, musicians learn to implement coping strategies from a young age, which will help them to avoid stress and anxiety later on¹⁵⁰. Some of these prevention programmes are explored in more depth in the case study section of this study (Chapter 4).

➤ *Education, prevention and treatment of physical health issues*

There are several causes for the many physical effects experienced by creating and playing music. Some of them may be due to technical errors such as poorly adjusted instruments. Since musicians often practise at home, usually without proper supervision, these errors are hard to avoid, certainly at the early stages of music education¹⁵¹. As a consequence, many professional musicians use mild painkillers to reduce pain. For instance, the study by Paarup *et al*¹⁵² of 441 musicians from six Danish symphony orchestras showed that nearly half of the musicians reported using painkillers in the previous 12 months, with neck problems being the most frequently reported cause.

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- 144 Golden, T. L., Springs, S., Kimmel, H. J., Gupta, S., Tiedemann, A., Sandu, C. C., & Magsamen, S. (2021). The use of music in the treatment and management of serious mental illness: a global scoping review of the literature. *Frontiers in psychology*, 12, 880.
- 145 Rush, S. (2013). Improvisational Therapy Methods May Help Alleviate Music Performance Anxiety Symptoms in College Musicians. *Ursidae: The Undergraduate Research Journal at the University of Northern Colorado*, 3(2), 6.
- 146 Spahn, C., Walther, J. C., & Nusseck, M. (2016). The effectiveness of a multimodal concept of audition training for music students in coping with music performance anxiety. *Psychology of Music*, 44(4), 893-909.
- 147 Steyn, B. J., Steyn, M. H., Maree, D. J., & Panebianco-Warrens, C. (2016). Psychological skills and mindfulness training effects on the psychological wellbeing of undergraduate music students: an exploratory study. *Journal of Psychology in Africa*, 26(2), 167-171.
- 148 Hinz, A., Grosse, I., & Krüger, N. (2005). Kardiovaskuläre und psychische Reaktivität bei Musikern: Eine Interventionsstudie zur Podiumsangst. *Rohrblatt*, 23(1), 25-30.
- 149 Mumm, J., Fernholz, I., Ströhle, A., Plag, J., & Schmidt, A. (2020).
- 150 Bandi, S., Nagy, S. I., & Vas, B. (2017).
- 151 Nawrocka, A., Mynarski, W., Powerska-Didkowska, A., Grabara, M., & Garbaciak, W. (2014). Musculoskeletal pain among Polish music school students. *Medical Problems of Performing Artists*, 29(2), 64-69.
- 152 Paarup, H. M., Baelum, J., Holm, J. W., Manniche, C., & Wedderkopp, N. (2011).

As a high number (76%) of high-performing young musicians report playing-related pain, Gembris and colleagues¹⁵³ argue that it is important to take young musicians' complaints more seriously.

*This can probably best be achieved by integrating the topic of playing-related pain and healthy music-making into the training of future instrumental teachers and offering them appropriate continuing education courses.*¹⁵⁴

Other scholars favour more appropriate information and preventive exercises in education to avoid playing-related pain.¹⁵⁵ The most appropriate exercises are considered to be muscle-strengthening training and endurance training, but even though these exercises are widely recommended, Araújo *et al.*,¹⁵⁶ argue that the evidence of their effectiveness in music is still rather limited. They also suggest that, as with the psychological demands, the physical demands of music making may be specific to the instrument and the training.

In other words, to understand the potential effects of practice and training on musicians' fitness, one also has to consider the specific instrument and promote genre-specific fitness routines. Research shows that it is important to start with these routines early on in a musical career or even before the career takes off as many musicians believe that exercising can be risky in itself and cause muscle fatigue that may hinder practice and performance¹⁵⁷.

Another important aspect in preventing physical complaints is “warming up” – stretching and exercises shortly before practising or performing¹⁵⁸. Warming up is common among classical musicians, but not necessarily in other musical genres¹⁵⁹. The specific practice culture among different groups of musicians may influence their openness to warming up exercises. Taking breaks during practice and avoiding sudden spurts of playing are often considered as important as warming up, as are cooling-down periods after practice time. These activities are also sometimes neglected by musicians.

In a recent study, Stanhope, Weinstein and Pisaniello¹⁶⁰ analyse how musicians themselves perceive their own musculoskeletal disorders and the causes of them. They find that musicians do not always attribute their physical pain to playing and performing music. One out of five symptomatic musicians they interviewed reported extraneous physical factors as one of the main causes for their physical pain, ranging from lifting heavy bags to bad footwear.

To prevent physical injuries, education should focus on these matters. After all, they are more easily fixed than the risk factors directly linked to the instrument (e.g., the weight of an instrument or sitting on a drum stool). But although scholars agree that preventing physical

153 Gembris, H., Menze, J., Heye, A., & Bullerjahn, C. (2020).

154 Gembris, H., Menze, J., Heye, A., & Bullerjahn, C. (2020).

155 Spahn, C., Richter, B., & Altenmüller, E. (Eds.). (2012). *MusikerMedizin: diagnostik, therapie und prävention von musiker-spezifischen Erkrankungen*. Georg Thieme Verlag.

156 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.

157 Chan, C., Driscoll, T., & Ackermann, B. (2014). Exercise DVD effect on musculoskeletal disorders in professional orchestral musicians. *Occupational medicine*, *64*(1), 23-30.

158 Zaza, C. (1994). Research-based prevention for musicians. *Medical Problems of Performing Artists*, *9*(1), 3-6.

159 Stanhope, J., & Weinstein, P. (2019). Why do we need to investigate non-classical musicians to reduce the burden of musicians' musculoskeletal symptoms? *Industrial health*, *58* (3).

160 Stanhope, J., & Weinstein, P. (2019).

complaints and pain is an important mission for musical education, there still appears to be a lack of specific exercise training and education available for musicians in educational and professional settings¹⁶¹.

➤ *Education, prevention and treatment of social issues*

Playing music in company offers a sense of connection and togetherness and improves interpersonal functioning. That said, the act and the context of creating, recording and performing music professionally can lead to adverse social factors, such as defective social networks, lack of social support, loneliness and isolation. These social aspects are mental health risks that are often neglected. It may be no coincidence that many rock and pop songs are actually about feelings of loneliness and fear. This may be due to the profession itself that is often characterised by a life “on the road”. It may also be caused by other factors, such as the mental issues or physical pain and injuries discussed earlier¹⁶².

One of the main reasons for the lack of attention to health risks is that music is not usually associated with negative social emotions¹⁶³. On the contrary, it is usually experienced as a medium to improve or increase positive social emotions; something that people can play and enjoy together. Playing in a band or orchestra or singing in a choir automatically increases social interactions and offers experiences of togetherness and company. Whether it is the music itself that plays a decisive role in this is not yet fully understood. Some scholars claim that it is just feeling part of a group that yields these benefits¹⁶⁴. Because of their positive effects, therapies that treat people for depression or anxiety often rely on musical activities (either active or receptive techniques like improvisation, writing song lyrics, singing or musical games).

Very few musicians are prepared for the lifestyle that goes with the job and the effect it can have on their social life and environment, even though the top four sources of stress musicians report are separation from family, irregular working hours, the monotony of rehearsals, and travelling¹⁶⁵. The reason there is little or no preparation for this is simple: musical training does not usually include any health promotion and is certainly not related to any social emotions or to the prevention of a poor social life. The same applies to music teachers, for whom the isolation of a studio can be a constraint on the development of their professional identity¹⁶⁶. Since music teachers themselves are not educated in prevention, and teach from their own experience, the problem can be self-perpetuating¹⁶⁷.

Although no research has been carried out into the effect of information, prevention and education in creating positive social relationships, scholars are clear that music education

161 Araújo, L. S., Wasley, D., Redding, E., Atkins, L., Perkins, R., Ginsborg, J., & Williamon, A. (2020).

162 Guptill, C. A. (2011). The lived experience of professional musicians with playing-related injuries: a phenomenological inquiry. *Medical problems of performing artists*, 26(2), 84-95.

163 Karapetsas, A.V., & Laskaraki, R.M. (2015). Coping with loneliness through music. *Encephalos*, 52, 10-13.

164 Pearce, E., Launay, J., Machin, A., & Dunbar, R. I. (2016). Is group singing special? Health, well-being and social bonds in community-based adult education classes. *Journal of community & applied social psychology*, 26(6), 518-533.

165 Kenny, D.T. (2004). Music performance anxiety: is it the music, the performance or the anxiety. *Music Forum* 10, 38-43.

166 Burwell, K., Carey, G., & Bennett, D. (2019). Isolation in studio music teaching: The secret garden. *Arts and Humanities in Higher Education*, 18(4), 372-394.

167 Norton, N., Ginsborg, J., Greasley, A., & McEwan, I. (2015, August). *Instrumental and vocal music teachers' views on a multi-disciplinary team approach to health promotion for musicians*. In Proceedings of the Ninth Triennial Conference of the European Society for the Cognitive Sciences of Music, Manchester (pp. 605-611).

should pay more attention to the social dimension of musicians' wellbeing¹⁶⁸. Based on research among College Music Students and Amateur Musicians, Antonini Philippe¹⁶⁹ and his colleagues argue that, as in the field of sports, some coach-, parent- and peer-support might enhance musician's motivation and health.



168 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.

169 Antonini Philippe, R., Kosirnik, C., Vuichoud, N., Williamon, A., & Von Roten, F. C. (2019). Understanding wellbeing among college music students and amateur musicians in Western Switzerland. *Frontiers in Psychology, 10*, 820.



CHAPTER 3. Insights from interviews with music creators and stakeholders

3.1. Micro level: risks at personal level

Which factors influence the health and wellbeing of musicians and music creators and how do they manage them? This section analyses the feelings, perceptions, experiences and personal opinions of the individuals we interviewed.

A growing but patchy awareness

Many of the interviewees confirm that the theme of this study is a major concern for those in the music industry. Among musicians in particular, there is a growing awareness of the need to actively take care of their own mental and physical state as it is a question of personal self-management, for example the increasing use of earplugs in loud environments. However, our respondents also stress that such behavioural changes are taking place slowly, and also that those concerned change their behaviour at different rates.

Our interview data show that it is mainly the young music makers who emphasise the importance of a healthy body and a strong mental state. Their awareness is based on information picked up throughout their own music education, stories from fellow musicians and information found on the internet.

The older musicians interviewed sometimes looked back with regret at the fact they did not always take proper care of their own body and mind, or that they suffered from problems for too long without seeking help. Besides the benefit of experience, broader social and cultural shifts also seem to explain this growing awareness.

Musicians with mental or physical complaints do seem to be seeking professional help sooner than before. Although the interviews reveal that there is still some element of taboo around this subject, professional musicians now appear more willing to be treated or guided by professionals for physical and mental setbacks. The comparison with top-level sports is often made by the interviewees; there too, mental and physical care over time has become more professionalised. Direct barriers to obtaining professional help can be of a psychological nature, but quite often also of a practical one: time constraints do not always allow musicians to follow treatment or guidance. Finally, financial means also play an important role here, as both professional mental and physical care can be expensive.

The “school of perfection”

Many related factors can cause physical and mental health to decline or come under pressure. In line with the findings of the literature review, our interview data shows that a lot depends on the ergonomics of the instrument and the required posture of the player. Strained muscles and joints due to overpractising cause major physical problems, such as short-term inflammation or long-term injuries. That a musician must repeat the same movement with the same muscles and joints is largely unavoidable, however.

For this reason, it is important to allow the body to rest and to include targeted relaxation and variety into daily routine. The interviews reveal two possible reasons why musicians do not always do so. First, sometimes it is not taught properly. Many musicians received musical training that involved practising a lot and for long periods; “*if it doesn’t hurt, it doesn’t work*”, was the mantra recalled by one former student. One interviewee called this the ‘school of perfection;’ something of a misnomer as it wears out the body and fatigues the mind. The lack of specialised educational policies for mental and physical care lies at the root of this issue.

Second, many young musicians experience a sense of urgency at the beginning of their careers. The feeling that “career progression has to happen *now*” leads them to (over)practise and perform a lot.

Over-exerting certain muscles is often caused by playing for too long but it can also be the result of a poorly learned technique or incorrect execution. A technique, after all, must be judged not only by the sounds it produces but also by the ergonomic feasibility for its performer. (Music creator on pain as a professional musician):

It affects your whole life because you are practically investing your life in this profession, and you are absolutely unhappy with it. You are constantly thinking about it and, as happened in my case, I was just practising more and more, probably squeezing a lot of things. It was a time that was very risky. (Romania, music creator).

In terms of mental health, performance anxiety is cited as one of the main causes of disorders by the interviewees. This confirms the findings of our earlier research, especially among classical musicians, certainly soloists. Performance anxiety is very common, state the respondents.

On a personal level, performance anxiety can have many triggers. One is related to the expectations of the environment (the audience, the employer), but also to individual expectations. Performing arts means a performance “in the moment”, which produces adrenaline that can lead to euphoria (eustress) but often also results in nerves, social pressure and negative stress (distress)¹⁷⁰. A number of the musicians that we talked to had indeed developed a form of anxiety.

The professional context also plays a role. The financial insecurity experienced by many independent musicians, living in an environment where alcohol, drugs and medication are common, plus having to deal with irregular working hours, are all causes of anxiety mentioned in the interviews. They confirm what is reported in the scientific literature.

We work in an environment where there is always alcohol available. A meeting, you order a beer. In a concert you end up drinking a beer together. (Belgium, music sector).

Other aspects are less documented in the scientific literature. Technostress, for instance, is the pressure to communicate through social media and to profile oneself constantly; the continuous peer pressure that well-known musicians can experience online (e.g., the pressure to say “yes” to all favours being asked). These aspects were mentioned fairly frequently by interviewees - both working musicians and managers - as being major and ever-increasing stressors. We return to them later in this chapter.

170 Reybrouck, M., Vuust, P., & Brattico, E. (2021). Neural Correlates of Music Listening: Does the Music Matter? *Brain Sciences*, 11(12), 1553.

The interviews revealed many instances of physical pain or mental problems that disrupted the work-life balance or led to new, cumulative complaints (e.g., lack of sleep, fatigue, and mood changes). At the same time, it was striking how many of the respondents managed to turn the negative impact of pain, stress or insecurity into something positive and were able to restore the balance in their lives over time.

Care/support/treatment: hard to find and expensive

Many musicians and music creators turn to professional medical or psychological support, care or treatment at some point in their careers. According to the many stories we were able to record on this subject, support, care or treatment is often sought late, when psychological or physical problems are already manifest. In general, the musicians we interviewed did not have the impression that their employers, clients, sectoral federations or public authorities either properly understood or supported them.

Our literature study showed that one of the most common interventions for both physical and psychological complaints (e.g., stress but also loneliness) is medication – mainly painkillers and psychotropic drugs. We listened to a few anecdotes about the (over)use of such medication.

Interviewees also indicated that they found medical or psychological treatments to be expensive and, importantly, rarely tailored to those in the music profession. Many recounted their long search for the right treatment, support or guidance. To find the right help, they mostly turned to their own immediate environment or network, where solutions are often found by adjusting technique (e.g., Alexander technique), sports or exercise (e.g., walking, swimming, weightlifting, and yoga). Breathing exercises are also frequently mentioned as a common means of reducing stress. Some mention was also made of non-traditional medical remedies.

I don't believe there is anyone here who knows how to deal with these injuries. There are sports therapists that may understand what's going on, (...) similarly with mental health. I don't know any practitioners who deal with this. (Malta, music creator).

The musicians and experts we talked to therefore advocate for more affordable, specialised professional health care.

Finally, several musicians told us that they (or someone they knew) had made (or are planning to make) career changes as a result of their physical or psychological problems. Sometimes these could be major shifts, such as quitting their job as a professional musician, or minor ones such as changing instrument or quitting as a soloist to become a band member.

Combining jobs to tackle financial uncertainty

Many music creators find it difficult to earn a decent living as a self-employed musician or music creator. They might have no long-term assignments or need to deal with assignments that are unpaid, poorly paid or paid very late. At the same time, they are under pressure to take on many assignments, however poorly paid, as a steppingstone to better paid opportunities. This can result in cumulative financial pressure.

Quite a few of the musicians we interviewed combined their job as an independent musician with other work, mostly teaching. Some did this in the interests of variety, others to ensure that they compensated for the pressure and stress of the musical profession. The main driving

force is however the financial uncertainty that comes with being a self-employed musician, which can send passionate musicians away from the profession and the music industry all together.

3.2. Meso-level: risks at an organisational level

This level of analysis looks at ideas and statements about the organisations that work with professional musicians and music creators, and covers a wide variety of music organisations and schools. Education is an important aspect at this level, which is why users' experiences of music schools, conservatories, and expertise centres are considered here as well.

The changing mindset in music schools

Given the increasing awareness of and attention to health and wellbeing among musicians, several music schools across Europe have committed themselves to informing and teaching students about the importance of taking care of mental and physical health.

Significant differences are found among countries and within their music education institutions, but throughout the interviews there are testimonials about music schools that have taken substantial steps to prepare their students for a healthy and sustainable career.

In Austria, for instance, a course for musicians on music physiology has been introduced in certain music schools. And in Germany the music school curricula include the prevention of physical and mental complaints, as well as music practice. Unfortunately, music schools in other countries appear to have done very little along these lines and continue to underestimate the importance of health and wellbeing.

In other countries the focus is often on short-term and one-off initiatives (e.g., an introduction to Pilates or one session on mental wellbeing). The experts we interviewed said that such initiatives were not sufficient to have any impact.

Outside educational institutions, several countries run supra-local initiatives to highlight the importance of health and wellbeing among music creators. Many musicians do not find this new awareness among employers and customers, or at least not to the same extent as in music schools.

Overloaded music school curricula and the teaching of bad habits

The importance of music physiological education in high schools has been improved in the last 20 years. Significantly. (Germany, music sector).

Several music schools across Europe are aware of and actively involved in the health and wellbeing of musicians and students. While some institutions provide classes and information on subjects such as the Alexander technique and other health-related courses, others still pay insufficient attention to the prevention of injuries and the general health of music students.

With regard to education itself, an issue that arose in several interviews was the approach of some teachers to training pupils. Several interviewees reported that teachers often taught from their own experience of learning to master an instrument. This can lead to passing on bad playing habits, both in terms of posture and technique, and some teachers encourage

students to “overpractise”. That said, we also heard about individual teachers who did make a huge difference in a positive way.

Both experts in the music industry and musicians regret that there is still too little time for prevention in the curricula. Curricula are overloaded and music schools have a limited budget to implement preventive measures in a decent way.

In music schools you often hear everybody saying “physical and mental wellbeing is so important”. But that doesn’t mean they spend a lot of money to work on that. (The Netherlands, music sector).

Power relations at play

One issue that was raised in interviews was the relationship between music creators and their management. Despite the general professionalisation of both music creators and managers within the sector, it seems that problematic relationships and arrangements between these parties are not uncommon.

Many music creators step into the industry with little knowledge of the practical, business side of the profession. Some interviewees reported that this can lead to unfair and abusive contract terms, where the knowledge gap is exploited in favour of the manager. If the music creator was more knowledgeable about business, they might not agree to the contractual terms offered.

Power relations might also be at play here. The more the music creator depends on the manager for opportunities and income, the more vulnerable they become to exploitation. When speaking to both managers and music creators in the sector, it is clear that both sides sometimes purposefully choose a loose relationship, with few formal attachments. This allows both parties to cancel collaboration rather easily after a certain period if problems arise and one party chooses to part ways. These arrangements are referred to as “sunset provisions” or “sunset clauses”¹⁷¹; a type of contract used in other sectors to allow people to opt out of agreements that are unfavourable to them.

Specific care, support and treatment by expertise centres

Much research has been carried out in Europe about the injuries and health of musicians. This was clear throughout the literature review and confirmed when talking to several experts. For the purpose of this study, we spoke to some experts that are part of the staff of an “expertise centre”, an organisation working specifically on the mental or physical wellbeing aspects of being a musician.

Sometimes these expertise centres are part of a university and provide forms of care as well. The institute of Music Physiology and Musicians’ Medicine is part of the Hanover University of Music, Drama and Media. At the University of Music Lübeck (MHL), also in Germany, a chair for ‘music and health’ has been created recently. Sometimes expertise centres are civil society organisations or federations, for example the professional Austrian society for musicians’ medicine or the Kapfenberg Castle Foundation in Germany, which is dedicated to actively supporting musicians to stay fit and healthy from an early age. And finally, there are also

171 A clause in a contract or in a piece of legislation that provides an automatic repeal of all or part of the contract/law once a specific date is reached.

specialised institutions that are part of a hospital (e.g., Louis Armstrong Department of Music and Medicine in New York). All these types of organisations listed above together form a network of agencies that provide research, care, support and treatment.

Financial hardship for the music industry and the music education sector

Many organisations in the music industry and music education sector are struggling, financially. Successive financial crises and the COVID-19 pandemic have led to budget cuts and made it difficult to take extra initiatives to take care of music creators who face mental and psychological difficulties. Schools, orchestras, and umbrella organisations are doing their utmost but are often, for economic reasons, obliged to conclude short-term contracts themselves or to work with freelancers. They are being forced to reduce curricula to the core and squeeze occupational health and wellbeing. In this respect, organisations are contributing, sometimes unintentionally, to a larger cultural shift that is putting pressure on musicianship.

3.3. Macro level analysis: broader cultural phenomena and shifts in society

Many of the difficulties, risks and struggles that face modern music creators reflect broader shifts taking place at the societal level.

Health and wellbeing, elements of contemporary career management

It became clear from the interviews that the health and wellbeing of music creators is nevertheless gaining recognition as a topic. Interviewees with several decades of experience noted this growing sense of awareness and urgency and believe that the sector as a whole has learned from its historical lack of attention to the subject.

When delving deeper into this awareness shift, the most important driver seems to be a general societal tendency to actively maintain and be vigilant of health and wellbeing (both physical and mental). In addition, based on the experiences of both experts and performing music creators, it seems that the sector is becoming more professionalised generally. A large and increasing number of people within the sector believe that actively managing health is an important part of building a sustainable career, just as important as mastering the instrument. In other words, health and wellbeing is also now considered to be a matter of career management rather than a taboo, although most interviewees believe there is still progress to be made.

Depending on the country of origin, some interviewees addressed the topic of cultural differences, where not every country in Europe is experiencing this general shift towards health awareness and openness to the same extent.

Some interviewees believed that generational differences also play a role here, with older music creators being more reluctant to share medical issues.

A certain degree of competitiveness remains a barrier in talking openly about medical issues. In highly competitive environments such as that of an orchestra, it seems that maintaining an image of invulnerability remains commonplace.

I think that everyone has become more professional. Thirty years ago, people were much more sex, drugs and rock 'n roll. We were all learning the business and everyone was learning. With

that in mind and what you hear and see on TV, the general opinion on health has changed and over the years, also within the sector. (Spain, music sector).

A culture of individualisation of risks

The individualisation of risks and responsibilities is inherent to the music sector, not only in terms of employment and contracts but also in the way work is organised.

Based on the interviews with music creators themselves, it is clear that demands are generally very high, but possibilities to prepare for them are limited. This imbalance is a source of pressure and stress for a large number of professionals and explains the many physical and mental issues they experience.

Another concrete example of this individualisation of risks is the high degree of flexibility that is expected of music creators, where neither their travel time nor the associated costs are taken into account by the employer.

Also, the fact that many music creators are hired through a series of temporary contracts might lead to difficulties in combining these different obligations and ensuring enough rest and recovery time.

Some interviewees mention competition between musicians, others feel a general sense of collegiality, spurred on by a sense of “we’re all in this together” – it seems to depend on the context. For those facing fierce competition and the risk of losing playing opportunities if they fail (e.g., losing a permanent place in an orchestra), then performance anxiety and other performance-related stress are higher because the margins of error are small.

Interviewees make it clear that music creators lack a collective voice to signal their grievances to policymakers and society in general. Compared to the collective representation of employees in other sectors, music sector representation is far more fragmented, small-scale and diverse, and depends on genre, type of employment and field of expertise.

Returning to the issue of technostress, it is clear that the range of tasks the modern music creator has to manage goes far beyond the musical aspect alone. Those who perform in their own name are required to promote themselves through social media channels, which allows them considerable scope to be actively involved with fans and advertise themselves, but it also creates pressure and problems that are inherent to having an online presence. For a start, it is time consuming to maintain and create large amounts of content and stay in contact with fans. Time that is already lacking for many music creators. Furthermore, the sharing of personal content might become a privacy issue for some, as very few music creators are properly informed about online marketing.

Another downside of this direct form of communication is the online criticism that can turn into harassment and impact the mental wellbeing of the music creator. When talking with managers within the sector it was clear that these issues do not only apply to the big names and well-known artists, those with a smaller following face them as well.

The constantly online culture is threatening as well. There is no way you can be a professional artist and not be on social media. This is really a threat to some. It puts an enormous amount of pressure on artists, certainly for those who are more introvert. The pressure is very high. (Belgium, music sector).

Such individualised risks and responsibilities contrast sharply with the creative process of making music, which is quite often a collective process. Aside from the trend of individualisation and despite the general trend in health awareness and active health management that is addressed above, some other issues crop up in multiple interviews. One of the most prominent is the use and abuse of substances. However, as we already indicated, we heard few direct accounts of the use and abuse of substances during the interviews. In this respect, most interviewees referred to the experiences of other musicians they knew.

Nevertheless, these anecdotes do make it clear that alcohol and drugs are still prevalent within the sector and - in the experience of many interviewees - are still an integral part of the entertainment and music industry. This general availability makes drugs easier to use and abuse.

Another factor that might affect some is the hanging around involved in live performance, where musicians need to be at venues early and recording often involves waiting for others in the recording process. These periods of inactivity, combined with boredom and the general availability of alcohol and drugs, can be problematic triggers for substance abuse.

A third contributing factor highlighted by some interviewees is the peaks of adrenaline that many music creators experience during a performance. For some it can be difficult to cope with the moments after the adrenaline highs, when the situation has normalised. Some interviewees believe that for certain music creators, alcohol and drugs are a way to artificially produce the adrenaline rush experienced in live performance.

This relates directly to another problem that is addressed in several interviews. As many music creators work with short-term temporary contracts, they have little leeway if they feel unwell. Failing to turn up because of illness or pain risks the termination of a contract and reputational damage. Painkillers and psychopharmaceuticals are used to cope with this pressure.

With regards to substance abuse, musicians are likely to use medication to handle psychological pressure or injuries than they use recreation drugs. Those who use drugs drop out, because they're not able to carry on with their job. (Malta, music creator).

All the issues addressed above are problematic in themselves. However, for many interviewees the recent health crisis has demonstrated that society generally is unaware or even dismissive of music creators as working members of society. Several interviewees believe that in the eyes of the general public, music creation and performing music is not really a proper profession. This in turn leads to a common lack of interest and/or willingness to improve the working and employment conditions of professional music creators. This lack of understanding and solidarity is difficult to cope with for many professionals within the sector, given the difficult circumstances they often contend with to earn a living.

Education: various approaches in Europe

When it comes to actively improving the health of musicians, there is a significant heterogeneity among EU Member States. Based on the interviews with local experts and music creators, it seems that some educational institutions have an extensive programme to prevent and aid students maintain their mental and physical health, while other pay little or no attention to the issue and have few initiatives, if any. In some countries, this heterogeneous provision varies between educational institutions as well.

It is quite remarkable that a significant number of our interviewees have received little or no information or education on injury prevention or other forms of health management during their education as musicians.

I really hope that in our country the government should understand that health carers are very necessary and should work in each institution. We don't have a mental coach or physiotherapist in our conservatory or university. (Italy, music creator).

Care, support and treatment: the gulf between research and general practice

Despite the growing body of research into the health and wellbeing of music creators, our interviews showed that there is still a divide between research and general practice. Few studies try to communicate and translate their findings in a way that is accessible and usable for the actual music creator. This issue is not exclusive to the music sector, of course, but it is important to highlight it.

More work for less pay

If music creators find themselves unable to work because of injury or other medical problems, the impact will usually be heavier on them than on people working under a well-regulated employment contract. This lack of protection and support is particularly striking when one considers the working conditions of many music creators; the irregular working times, high degrees of flexibility and mobility, physical demands of certain instruments, etc. All this calls for a shift in organisational culture.

Like corporations provide health care packages to their employees, art institutions should offer psychological support, physical support as well, it needn't be one per orchestra. (Malta, music creator-composer).

The growing digitalisation within the music industry has a significant influence on the sector and those that are active in it. Unfortunately, most of the interviewees believe that these trends rarely favour music creators. One major evolution has been the shift away from physical media towards streaming services. The music creators and managers we interviewed mostly agree that this shift has led to a reduction in income from music sales because less income from streaming goes to the artist than was the case with physical sales. Sectoral organisations such as the European Composer & Songwriter Alliance (ECSA) have also warned for this extremely low level of remuneration that is generally provided to artists by streaming platforms. They demand a fairer and more transparent ecosystems for music streaming¹⁷².

It has also changed music creators' way of working and writing music – to fit around streaming media consumption. The old album and single concept are making way for a model of releasing singles continuously. This translates as a constant pressure to write, produce and release music, which is especially hard for those more used to the “traditional” release and production system.

Less income from physical music sales means that it is more important to earn money from live performances, which can increase music creators' work pressure even more. Artists failing to earn a living from music often resort to alternative forms of income not directly related to music creation, but of course still need to manage all the tasks and demands they had before.

¹⁷² ECSA (2021): Music streaming and its impact on composers and songwriters: Why we should fix streaming now.

Several interviewees felt that they now needed to work and combine more tasks for the same or even less income than before.

[about digitalisation within the sector] I don't think there is a point fighting it. I do see a lot of frustration amongst musicians that want to do so. But I don't think there is a point to it. It just takes energy to be against it (Estonia, music creator).



CHAPTER 4. Initiatives to support music creators

This chapter outlines the key features of the good practices that exist to support music creators in their mental and physical health and wellbeing. During the data analysis, common characteristics of practices emerged, so the practices are classified in five clusters:

- music medicine
- education courses
- guides
- financial policy
- physical health interventions.

Each cluster starts with a brief overview of the practices, followed by a more detailed description of the characteristics of each cluster, to the extent that information was available.

4.1. Cluster 1: music medicine

“SportMedischAdvies” (SMA) in Aalsmeer is a treatment initiative in the Netherlands aiming to identify the origin of (top) athletes’ complaints and start customised treatment. The focus is on physical complaints such as pain and tension. Since 2018, instrumentalists and dancers have been referred to SMA Aalsmeer. Consultations are performed by Dr. Liesbeth Lim who is trained to work with instrumentalists and dancers and is a member of the Nederlandse Vereniging voor Dans- en Muziekgeneeskunde (a Dutch association for dance and music medicine).

The **“Clinic of Performing Arts Medicine”** is part of the Department of Occupational and Environmental Medicine of the Odense University Hospital in Denmark. Founded in 2013, the clinic aims to provide the music industry with expertise on occupational health, treatment and prevention of physical and mental health risks. In the beginning, its primary focus was on symphony orchestras and the Danish Musicians Union. Since then, more and more musicians and general practitioners have learned from this initiative. They provide services such as health examinations, exposure assessment, and treatment and advice concerning preventive measures.

The **“Austrian Society for Music Performance Medicine and Music Physiology”** (Österreichischen Gesellschaft für Musik und Medizin – ÖGfMM) was founded in 2009. The society supports all actors involved in the education and professional support of musicians by exchanging knowledge and research findings on musicians’ health, psychology, education and training. The association’s goal is to improve prevention measures, diagnoses and therapies. To this end, they organise meetings and working groups with experts and practitioners of music medicine and psychology and publish specialised research papers on musicians’ health.

More information about these three practices can be found in Appendix 4.

Barriers: These programmes must compete with other programmes targeting life-threatening conditions such as cancer, which is why they often miss out on funding. Since there is little publicity about music medicine, it is important to rectify this to allow access to more subsidies and budgetary opportunities.

Facilitators: The above-mentioned practices encompass a lot of knowledge about different instruments, music styles and related complaints. All practitioners are members of an association for music medicine and all are involved in related scientific research. The practices adopt an interdisciplinary approach (physical practitioners and psychologists are involved); there is evidence that this approach is effective for sustainable recovery. An informative website: SMA Aalsmeer, helps to inform musicians about the health risks and prevention/treatment options.

Transferability: All three good practices, especially the working groups of the “Austrian Society for Music Performance Medicine and Music Physiology”, are transferable to other countries and practices. The challenge is to involve all music industry actors and to disseminate the guidelines and other materials to all stakeholders and end users in the industry. The multidisciplinary approach of the Clinic of Performing Art Medicine and SMA Aalsmeer can be implemented in medical and revalidation centres in other European countries. Any treatment should preferably be performed in a hospital or organisation where occupational medicine is practised because this offers the opportunity to include other specialists if necessary. This is also in line with SMA Aalsmeer practice. If there are more (regional) multidisciplinary and specialised centres, musicians will have quicker access to appropriate treatment. It is important to have adequate financial resources to ensure the (continuity of) these programmes’ resources.

Achievements: All the above-mentioned initiatives have already reached a broad group of musicians, music and health professionals and researchers, making them aware of the importance of preventing music-related health complaints and risks. For instance, the Danish clinic has treated more than 400 musicians so far and is reaching a more diverse public, (including music students, freelancers, orchestras). The ÖGfMM grew in the last decade from 30 to 110 members from different, interdisciplinary backgrounds. All practitioners are involved in activities related to research and knowledge sharing, for example by supervising student or internships or publishing international peer-reviewed articles. Dr. Lim (from SMA Aalsmeer in the Netherlands) organises joint consultations with a hand physiotherapist and the Danish clinic is part of the Nordic conference on Musicians Health and Performance. It is worth mentioning that all practitioners make significant efforts to reach out to (music) students via collaborations with teachers and physiologists in local conservatories, providing lectures on health, supporting the set-up of an entirely new health department in the University of Music or establishing an annual ‘Health Day’ with courses at several Music Universities. Thanks to these wonderful initiatives all practitioners have already managed to reach hundreds of students and make them aware of the importance of preventing health and wellbeing issues.

Innovativeness/added value: The added value (e.g., at SMA Aalsmeer) is the national and international interdisciplinary collaboration with universities, general practitioners and other counsellors trained in musicians’ health. In this way, musicians can be referred to the most appropriate counsellor in their neighbourhood and having such an interdisciplinary network helps to share knowledge and new insights into musicians’ health. The connection between

scientific findings and practice in musicians' health and working conditions via interdisciplinary cooperation (e.g., at the "Clinic of Performing Art Medicine" and the "Austrian Society for Music Performance Medicine and Music Physiology") is also an added value.

4.2. Cluster 2: education courses

The course '**Health education for musicians**' (United Kingdom) is a compulsory health education course for undergraduate music students at the Royal Northern College of Music (added to the curriculum in the academic year 2016-17)¹⁷³. The course includes seven lectures: (1) how to practise more effectively, (2) how to rehearse more effectively, (3) introduction to health and wellbeing, (4) life skills for musicians, including behaviour change techniques, (5) anatomy and physiology for musicians, (6) managing music performance anxiety, (7) presentation skills; and five seminars intended to reflect the content of the seven lectures, delivered by a team of appropriately qualified teachers. Students are also required to submit a portfolio of assessments. Tutors are typically performing musicians, which encourages a more intimate and informed interaction with students.

The "**education and prevention course on body awareness and attitudes toward health and prevention**" was introduced in 2014-15 to first-year music students of the Iceland Academy of the Arts¹⁷⁴ and focuses on physical health risks. The goal of the course is to teach top athletes how to use sport-related principles to increase and maintain their health and wellbeing. Later, the course was added to the regular curriculum of the university, except in 2020 when it was suspended due to COVID-19.

PRESTO-Play (the Netherlands) is a biopsychosocial education course, since 2014 creating awareness about musicians' health, human anatomy and physiology in relation to playing an instrument, providing strategies to cope with anxiety, stress and overcommitment and how to handle pain and discuss general health issues¹⁷⁵. The course consists of 11 classes per academic year. The focus of the first six classes is on body posture while playing, incorporating principles from the postural exercise therapy methods of Mensendieck or Cesar. Core themes are body awareness, balanced posture and controlled movements, awareness of tension and relaxation and functional respiration. Instrument-specific instructions are given on playing in a biomechanically correct position according to the method of Samama. The aim of this method is to assume a posture that provides stable balance and prevents overload on the muscles used to play the instrument. From class seven onwards, there is discussion about psychosocial themes.

The course "**Ergonomics and the prevention of musculoskeletal injuries**" started in 2007-08 at the High Conservatory of Music of Salamanca (Spain) and focuses on incorporating correct postural habits and warm-up exercises (mobilisation, friction, self-massage, traction, and stretching). Students are taught how to evaluate the possible risks associated with playing their instruments and informed about the most frequent medical problems, warm-up habits,

173 Matei, R., Broad, S., Goldbart, J., Ginsborg, J. (2018). Health education for musicians. *Frontiers in Psychology*, 9, 1137.

174 Arnason, K., Briem, K., & Arnason, A. (2018). Effects of an education and prevention course for university music students on their body awareness and attitude toward health and prevention. *Medical Problems of Performing Artists*, 33(2), 131-136.

175 Baadjou, V. A. E., Verbunt, J. A. M. C. F., van Eijsden-Besseling, M. D. F., de Bie, R. A., Girard, O., Twisk, J. W. R., & Smeets, R. J. E. M. (2018). Preventing musculoskeletal complaints in music students: A randomised controlled trial, *Occupational Medicine*, 68, 469-477.

postural hygiene, effective prevention strategies and different treatment options for these pathologies¹⁷⁶.

More information about these four courses can be found in Appendix 4.

Barriers: The most important barrier in all courses is the taboo, which still exists, about discussing physical and mental complaints among musicians and actors in the music industry. Also, the cost of prevention and education programmes is high – involving implementation costs, personnel costs and teaching facilities¹⁷⁷ (e.g., a room and equipment). To deal with this last barrier, the education and prevention course in Iceland for example organised classes in a private clinic nearby instead of in the university itself and (unfortunately) the teachers' salary was low. The lack of a national curriculum in Iceland on musicians' health and the lack of adequate training opportunities also makes it difficult to create more awareness¹⁷⁸. However, there is often a great demand for programmes that are tailored to individual needs.

Facilitators: Creating awareness about the importance of healthy music making is identified as an important facilitator¹⁷⁹. It is therefore essential to start education courses on musicians' health and wellbeing from the first year of the curriculum. A programme director who believes in this concept and wants (and is able) to incorporate this into the music curriculum is a prerequisite.

The UK course shows that tutors who are performing musicians can create a more intimate atmosphere in the classroom¹⁸⁰. The seminars also need to be conducted in an informal, relaxed manner, enabling students to ask questions freely and teachers/tutors to adapt the content to the individual needs of groups of students¹⁸¹. Assignments can help to bridge the gap between theory and practice; students can think more about what they have learned and how to apply it in their music making¹⁸².

Transferability: As the above-mentioned courses cover universal music-related health topics, they can easily be transferred to other countries in the European Union. More awareness-raising campaigns and preventive health programmes incorporated into the national curriculum of music colleges from year one are recommended. A biopsychosocial approach, including physical as well as mental health, is preferred.

Achievements: The main achievement of all the courses is the inclusion of (body) awareness during practice and daily living activities and the recognition that mental health is also impor-

176 Lopez, T. M., & Martinez, J. F. (2013). Strategies to promote health and prevent musculoskeletal injuries in students from the high conservatory of music of Salamanca, Spain. *Medical Problems of Performing Artists*, 28(2), 100-106.

177 Arnason, K., Briem, K., & Arnason, A. (2018). Effects of an education and prevention course for university music students on their body awareness and attitude toward health and prevention. *Medical Problems of Performing Artists*, 33(2), 131-136.

178 Matej, R., Broad, S., Goldbart, J., Ginsborg, J. (2018).

179 Baadjou, V. A. E., Verbunt, J. A. M. C. F., van Eijsden-Besseling, M. D. F., de Bie, R. A., Girard, O., Twisk, J. W. R., & Smeets, R. J. E. M. (2018).

180 Matej, R., Broad, S., Goldbart, J., Ginsborg, J. (2018).

181 Idem.

182 Idem.

tant for healthy music making^{183,184,185,186}. Interestingly, more than half of the students in the UK programme chose a mental health topic for their assignment. In Iceland and Spain, music students really appreciated the course and understood the need to incorporate it in the curriculum. In Iceland and the UK, the education course was added to the regular curriculum. In Iceland and Spain, students are doing significantly more warm-up exercises than other students after following a course.

Innovativeness/added value: Focus on awareness and the importance of physical as well as mental health are the most important added values of music courses^{187,188}.

4.3. Cluster 3: Guides

“The young freelancer’s guide to mental health and the music industry” was created by the Musicians’ Union for the MU Young Members Network in the UK in 2019. The guide aims to provide helpful insights and advice for young freelancers who navigate the music industry. It looks at common challenges that freelance musicians face and signposts sources of support, including tips on identifying and managing anxiety and other issues, and when to seek help or access specialist support. The guide is a digital document of 46 pages, last updated in 2021.

“The MMF guide to mental health” is for music managers, created by Music Support in cooperation with the Music Managers Forum (MMF) in the UK, 2017. The guide aims to support music managers to (1) do their job healthily, (2) help their artists when they are having difficulties, and (3) refer them to organisations and services that can support them (during emergencies and in the longer term). The guide is a digital document of 24 pages and discusses topics such as anxiety and depression, alcoholism and drug addiction and work balance and boundaries. The guide also includes personal testimonials and quotes, and lists organisations and services to contact for further help; last updated in 2021.

More information about these guides can be found in Appendix 4.

Barriers: The study did not find any barriers for the guides.

Facilitators: Both guides can be downloaded free of charge by anyone anywhere and are available on well-known websites in the music industry, potentially reaching a large audience. Both guides are well written with clear information and recommendations tailored to two specific target groups: freelancers and music managers. They draw on practical experience and are applicable to the health issues confronting both groups.

Transferability: As both guides are free of charge and cover universal music-related health topics, they can easily be translated to other countries in the European Union. Only the part

183 Arnason, K., Briem, K., & Arnason, A. (2018).

184 Baadjou, V. A. E., Verbunt, J. A. M. C. F., van Eijsden-Besseling, M. D. F., de Bie, R. A., Girard, O., Twisk, J. W. R., & Smeets, R. J. E. M. (2018).

185 Lopez, T. M., & Martinez, J. F. (2013).

186 Matei, R., Broad, S., Goldbart, J., Ginsborg, J. (2018).

187 Arnason, K., Briem, K., & Arnason, A. (2018).

188 Baadjou, V. A. E., Verbunt, J. A. M. C. F., van Eijsden-Besseling, M. D. F., de Bie, R. A., Girard, O., Twisk, J. W. R., & Smeets, R. J. E. M. (2018).

referring to organisations and services for further help are country specific, but this can be adapted by each country. Translating the guides to other target groups is possible but will take more effort as they are tailor-made to young freelancers' and music managers' needs. Tailoring content to individual needs is an important facilitator.

Achievements: Unfortunately, there is no data on the impact of these guides.

Innovativeness/added value: Besides providing individual tips and advice, “The MMF guide to mental health” also intends to create an open culture for discussing mental health in the music industry.

4.4. Cluster 4: financial policy

The “**French scheme for intermittent workers in the performing arts**” (*la régime des salariés intermittents du spectacle*) has been operating since 1936, with multiple changes over the years. It was set up to offset the inherent discontinuity of periods of employment in the live performance (dance, theatre, music), film and audio-visual sector. Workers who have worked 507 hours over a period of 10 months are entitled to unemployment benefits during periods when they are not working^{189,190}. The scheme is financed through payroll taxes from both employees and employers/organisations.

More information about the scheme is included in Appendix 4.

Barriers: Firstly, only workers who worked 507 hours over a period of 10 months can benefit from the regulation. This might cause stress for artists and affect their mental and physical health, even though the regulation aims to prevent these issues¹⁹¹. Secondly, during periods of illness or pregnancy, the quota for unemployment benefits is 600 hours of work over 12 months, which causes additional stress for already unwell workers (who do not receive sickness benefits)¹⁹². The regulation does not apply to artists suffering from long-term illnesses. Thirdly, only working hours related to creative and artistic projects count, teaching hours (that artists do for wage security) do not¹⁹³.

Facilitators: The scheme fits with the project-based nature of the cultural sector, firstly allowing organisations and firms to recruit workers on very short fixed-term contracts (with no limitation on the number of consecutive contracts) and secondly it allows workers to operate as self-employed while enjoying the benefits of being an employee. For this reason, it is widely appreciated by workers in the live performance sector¹⁹⁴. In response to the corona pandemic, the French government relaxed the scheme: those covered were granted a “blank” year on 6 May 2020¹⁹⁵. So, if an artist had not worked 507 hours, she or he was entitled to un-

189 Casse, C. (2020). *The art of managing the intermittent artist status in France*. The European Trade Union Institute. Retrieved from: <https://www.etui.org/publications/art-managing-intermittent-artist-status-france>.

190 Menger, P. (2012). *Job growth and unemployment increase. French flexible labor markets and their insurance shelter in the performing artists*. *Economia Della Cultura*, 17-34.

191 Casse, C. (2020).

192 Idem.

193 Idem.

194 Idem.

195 Coronavirus : une année blanche pour les intermittents du spectacle, 2020

employment insurance until August 2021. This shows that the scheme is flexible and can be adapted to changing circumstances.

Transferability: The scheme could be transferrable to other countries as similar systems operate within different countries of the European Union^{196 197}. The challenge is to map the barriers in each national system and find an efficient way to tackle them on a Europe-wide level (so that the systems correspond to the needs of performing artists). The music industry should be made aware of schemes such as the French one so that affected artists can benefit from them.

Achievements: According to the latest available figures (from 2017), some 143.321 workers were registered for the French unemployment scheme for intermittent workers in the performing arts, which is 66% of the total number of workers in performing arts in 2017 (i.e., 217.153)¹⁹⁸.

Innovativeness/added value: Participation in creative artistic projects is a condition for access to the intermittent workers scheme. This allows and motivates artists to develop their own creative projects. Other dimensions of work that are necessary for the creative project, such as documentation, reading, and meeting people, are also compensated^{199,200}.

4.5. Cluster 5: physical health interventions

The Schallschutz **project** in Germany engages orchestras to make use of better hearing protection. The project lends screens or, as they call them, “noise barriers” (*Schallschutzwände* in German; see the picture in Appendix 4) to orchestras across the entire country. All orchestras can borrow the barriers once for free and decide afterwards whether to buy them. The project is supported by the Deutscher Musiker-Verband (DeMuV), the German union for musicians. It operated from 2011 until the beginning of the pandemic in 2020.

In Denmark, a **sports programme** was developed by scientists from the Department of Sports Science and Clinical Biomechanics at the University of Southern Denmark²⁰¹. This programme focuses on both the prevention and treatment of musculoskeletal symptoms among professional symphony orchestra musicians and includes a general fitness training (on a bicycle ergometer) and specific strength training (for the neck and shoulders). It was operating in 2016-17.

The Sports University Cologne (Germany) developed a **sport-specific programme** to prevent musculoskeletal problems, focusing on string musicians and their specific challenges. The programme dates from 2011 and employs a holistic approach as it includes both endurance

196 EENCA, (2020).

197 De Wispelaere, F., Jorens, Y., Rocca, M., Schepers, W., Nerinckx, E., Duchateau, L. (2021). *Cross-border employment in the live performance sector. Exploring the social security and employment status of highly mobile workers*. Leuven: HIVA-KU Leuven.

198 Casse, C. (2020).

199 Casse, C. (2020).

200 Menger, P. (2012).

201 Andersen, L. N., Mann, S., Juul-Kirstensen, B., & Sogaard, 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), 94-100.

training (walking, running, cycling and swimming) as well as strength training (focusing on strength of the shoulders, upper limbs and core) and flexibility training (for the shoulders)²⁰².

More information about these three interventions is included in Appendix 4.

Barriers: The success rate of such group interventions depends on the welfare culture and communication by the organisation and management, according to the representative of the Schallschutz project. If the manager or director does not understand the health problems of musicians, no beneficial outcome can be expected. Creating a shared vision about the importance of health interventions among all stakeholders is crucial.

Facilitators: First, the above-mentioned sports programmes were adapted to the individual needs and physical health status of the musicians and the type of instrument played. This enhances the effectiveness of the programmes and increases the musician's motivation^{203,204}. The noise barriers were installed in line with the needs, condition and layout of the rehearsal room. The orchestras were provided with a short lecture on the importance of hearing protection and the correct use of the noise barriers. Next, all interventions were offered for free. This helps to reach a large audience of musicians (as many music creators deal with financial insecurity). Cooperation with orchestral conductors (rather than individual musicians) increases the success rate and sustainability of the intervention.

Transferability: The physical health interventions are easy to transfer to other countries as they cover universal music-related health issues/topics. Nevertheless, it could be a challenge because countries have to find (1) funding and assure continuity of this funding and (2) partner organisations with expertise and connections in the music industry (like the DeMuV) to facilitate the implementation of these interventions.

Achievements: The Schallschutz project reached 54 orchestras (or 42% of all orchestras in Germany). Many orchestras purchased the noise barriers after borrowing them first. The project received lots of credit for the personal and tailored approach. The sports programme in Denmark showed significant reductions in pain, improvement in aerobic capacity and overall participant satisfaction (80% of the participants were satisfied and 57% extremely satisfied)²⁰⁵. The German sports programme did not monitor the health or satisfaction of participants.

Innovativeness/added value: Besides loaning out noise barriers, the Schallschutz project focused on the bigger picture by raising musicians' and managers' awareness of health. Support for each orchestra was offered concerning communication on health promotion and they initiated open conversations with those who showed resistance. In addition, they created a network by connecting orchestras with similar health-related challenges.

202 Wilke, C., Priebus, J., Biallas, B., & Froböse, I., (2011). Motor activity as a way of preventing musculoskeletal problems in string musicians. *Medical Problems of Performing Artists*, 26(1), 24-29.

203 Andersen, L. N., Mann, S., Juul-Kirstensen, B., & Sogaard, K. (2017).

204 Wilke, C., Priebus, J., Biallas, B., & Froböse, I., (2011).

205 Andersen, L. N., Mann, S., Juul-Kirstensen, B., & Sogaard, K. (2017).

CHAPTER 5. Key conclusions and policy recommendations

While a significant body of literature is dedicated to the health of music creators, most of the research focuses on orchestral musicians and there is only a small amount of comparative research differentiating musical genres. A review of recent articles on musicians' health estimated that approximately 69% of the latest literature discussed the health of orchestral musicians only²⁰⁶. This limits our understanding of the issue as there are probably significant differences between the experiences of professional classical musicians and those working in other genres.

Some of these differences can be found, *inter alia*, in sound production (amplified vs non-amplified); playing techniques; performance style; education; approach to music and performance; types of contracts; and playing frequency. This is not to say that classical musicians and those from other genres do not face similar issues. The challenges of an irregular lifestyle and stress-related mental health problems can be seriously detrimental for all music creators, regardless of instrument or genre. These issues are a significant **risk** for music creators in general and an unfortunate **reality** for many.

Risk factors

Virtuosity and perfection are traditionally highly valued in music performance and education. For musicians, the standards of excellence by which they are judged entail high ego investment, intense anxiety and a fear of failure.

The health and wellbeing of music creators is vulnerable to five types of risk factors:

- i. *intrapersonal, such as maladaptive self-regulation and certain personality traits frequently observed in music creators;*
- ii. *interpersonal, such as a heightened sense of competition and the lack of a social network;*
- iii. *physical risk factors due to the repetitive strain of playing an instrument and exposure to high decibels;*
- iv. *work environment risk factors related to the state of the music industry; financial and occupational insecurity, irregular working hours and conditions, the need to combine jobs, travel, and blurred boundaries between work and family life;*
- v. *societal: the digital revolution, outdated practices in music education and a lack of social support for music creators.*

The effects of these risks on music makers' mental and physical health are largely determined by their age, gender, musical instrument, music genre and individual employment and practice conditions.

206 Stanhope, J., Weinstein, P., & Pisaniello, D. (2020). What can musicians' claims data reveal about their musculoskeletal conditions? *Archives of Environmental & Occupational Health*, 75(3), 177-190.

Mental and physical health

Certain personality traits are common among musicians, such as inter- and intrapersonal sensitivity, ruminative thinking and neuroticism. The combination of these traits with performance anxiety and a high-stress environment is a toxic one. It can lead to depression, sleep problems, social isolation, anxiety disorders, and addiction. The adrenaline highs and lows of performing, and waiting between performances, can also be triggers for substance abuse.

Musculoskeletal disorders, particularly affecting the wrist, shoulders, hands and neck, damage to the vocal cords, and tinnitus and hearing damage are common among music creators.

Music makers are becoming more aware of the need to take care of their own mental and physical state, both as a matter of personal self-management and of building a sustainable career. Young music creators especially understand the importance of a healthy body and a strong mental state, with many feeling that managing their health is as critical as mastering the instrument. Older music creators appear more reluctant to acknowledge and share their medical and mental issues.

Because of the high cost of therapies and treatment, many music creators look for cheaper, more accessible solutions within non-traditional medicine, based on referrals from within their own networks.

There is a high reliance on painkillers and/or psychotropic medication, which can provide (temporary) relief to the physical or mental issues facing music creators but are not without long-term health implications.

Quality of work

Organisations in the music and education sector are under financial pressure, especially since the COVID-19 crisis. On an individual level, this has created further financial stress for music creators who were already reliant on several jobs and/or projects to make ends meet.

Seeking help is usually a personal choice but music creators do not feel particularly encouraged by their employers, clients, sectoral federations or public authorities to deal with medical or psychological issues.

Professional musicians are likely to travel extensively and do not usually know where to turn for guidance, treatment and support in different environments.

The general and ready availability of alcohol and drugs in the music industry means there are more opportunities to use and abuse substances than in most other work environments.

Although the working conditions of artists is a topic that is high on the EU's cooperation on culture policy agenda, neither the EU nor most Member States have an explicit, coherent and sector-specific policy regarding the health and wellbeing of music creators.

Social, cultural and economic conditions

The digital revolution and technology are a double-edged sword for music creators. Increased visibility through streaming and social media also translates into pressure to maintain an online presence and say yes to all requests. Managing a social media profile can mean conside-

able extra workload and stress, in addition to privacy issues. As music creators move away from the traditional release schedule of singles and albums, they are forced to release music continuously to keep pace with streaming platforms and social media consumption. While efforts to produce music may have increased, income from music sales and streaming has decreased.

One societal problem exacerbated by the pandemic is that many music creators feel unappreciated by the general public and policymakers; they consider their work to be undervalued and poorly recompensed.

Musicians with mental or physical problems are seeking professional help earlier than they used to, but they still perceive medical or psychological guidance and treatment to be inaccessible, expensive, and rarely geared to music-related professions.

Sport-specific programmes can reduce pain and improve general stamina as well as satisfaction levels. There is a lot to learn from the professional sports sector, also in terms of how to organise guidance and treatment.

Many countries do promote specific interventions to prevent, treat or educate music creators on health and well-being. An important example is the existence of specialised centres in some EU member states that deal with the topic. However, the extent to which these kinds of initiatives are organised (and how structural they are in nature) varies significantly between Member States and can even differ regionally.

Music schools are increasingly aware of the topic of health and wellbeing. However, still little time is given to protection and prevention in music school curricula. Music education itself often falls short in terms of prevention. Moreover, pain, stress and anxiety can even occur because of these music lessons. The impact of education on the wellbeing of students is dependent on tutors and music schools and varies significantly.

Music creators generally lack a collective voice to signal their grievances to policymakers and society in general. This fragmented representation means that professional music creators are not equally covered, supported or heard.

Despite all these risks and problems, most musicians experience music as life-enhancing and find a great sense of meaning in their work. Music also enhances social skills. As for physical benefits, playing music can improve manual dexterity, range of motion and help maintain cognitive functions.

Recommendations for the national/regional/local level

Recommendation 1: In their communications and actions on this topic, national and local authorities should pay attention to all aspects of health and wellbeing of music creators, including the slower and more insidious risks of persistent performance anxiety, (techno)stress, loneliness and social anxiety, financial insecurity, and playing techniques that cause repetitive strain.

Recommendation 2: Federations of musicians and policy advisory bodies in the music sector know they still have much to learn about protection, prevention and treatment. Policy makers could support actors and organisations in the sector in building bridges outside the music

industry, for example with the professional sports sector, where there is much to learn from the specialised treatment of physical injuries and mental disorders. Social inspection provisions and protection techniques used in other sectors can also provide inspiration. Most importantly, links should be established with the health, education and employment sectors.

Recommendation 3: The mental wellbeing of musicians is often overlooked as a topic in tertiary music school curricula. Every tertiary music school curriculum should include a substantial and compulsory component on psychological and mental wellbeing risks and prevention. This subject could feature a combination of theory and specific applied techniques that are known to prevent physical and mental ailments, for example the Alexander technique, yoga, flexibility exercises, body awareness, and genre-specific muscle relaxation and fitness routines.

Recommendation 4: Curricula should also pay more attention to music as a profession: notably, how to make a living as a musician in today's industry.

Recommendation 5: Music schools should warn students more about the negative side-effects of beta-blockers and the long-term use of painkillers. They should also showcase healthy ways of dealing with/treating/better managing the psychological and social challenges of being a musician, such as music performance anxiety, loneliness, or being away from friends and family while touring.

Recommendation 6: It is important to make teachers, tutors, directors and managers aware of specialised programmes and courses to create a more open culture in which to discuss physical and mental health among musicians and other actors in the music industry.

Recommendation 7: Music creators and experts in the field perceive professional mental and physical therapy as expensive. National, regional and local authorities should ensure that treatments are not excessively expensive for music creators. Where not already in place, they should develop a system whereby a part of the specific treatment costs for musicians is covered directly by the health insurance system or reimbursed.

Recommendation 8: There is also a lack of specific exercise training and education available for musicians in educational and professional settings. National authorities can provide incentives to higher education to create new and to develop existing training programmes for health professionals helping them to specialise in working with musicians.

Recommendation 9: Early diagnosis and treatment is crucial. Physical and mental issues experienced "on the road" risk becoming chronic injuries if undiagnosed and/or not treated properly. Permanent national or supralocal mobile teams of specialised health professionals should be set up. Such mobile teams could go to orchestras, bands, choirs, etc., and provide on-site screening or treatment.

Recommendation 10: Countries should support intermediate organisations such as NGOs and voluntary associations so that they can provide quality services to professional musicians and at the same time raise awareness about the professional musicians' health risks and needs among policy makers and in society.

Recommendation 11: Music creators should be more involved in collective bargaining. Social dialogue should cover the entire professional music sector and not, for example, only large professional orchestras.

Recommendation 12: It is recommended to strictly monitor employers' legal obligations regarding, for example, noise reduction, healthy working conditions (food, space), and travelling schemes, among others.

Recommendations for the European level

Recommendation 13: The EU should support the Member States in their efforts to improve the health and wellbeing of music creators²⁰⁷. This support could take different forms, including:

- A strengthened “structured dialogue” with the music sector.
- Facilitating the exchange of knowledge, information, good policies and practices among Member States in a sustainable manner. This cooperation could take the format of a peer-learning working group composed of experts and policy officials from the Member States. This should include the sharing of knowledge and experience from countries beyond the EU.
- Mainstreaming the health and wellbeing concerns and needs of professional musicians (e.g.: unemployment protection, health insurance, compensation in case of sickness and the artists' working conditions) in other relevant EU policies and programmes, and as a topic in the EU level cooperation with the Member States in the fields of culture, employment and health.

Recommendation 14: The EU should test the feasibility of establishing an EU-wide label for “healthy music schools”, with clear criteria, standards and monitoring. The EU authorities could provide incentives for music schools to obtain that label.

Recommendation 15: As part of the Music Moves Europe initiative, the Commission could launch pan-European awareness-raising activities about health and wellbeing risks amongst musicians. These should be targeted at musicians, managers, schools, clinics and therapy centres.

Recommendation 16: The EU should help valorise existing expertise centres and connect them. These centres can be a platform for practice-oriented and policy-oriented knowledge.

Recommendation 17: The EU should help set up an international referral network for treatment and support. A mapping of locations where music creators can go with questions could help them find treatment or support. It is also important that this is accessible online (e.g.: “Clinique du musician”, “Medicine des Arts”).

²⁰⁷ According to the EU Treaties, the European Union has a supporting competence both in the field of culture (including music) and in the field of health. As a result, the EU's role in culture and health policy is complementary to national policies; Member States are in the lead. To date, there is no explicit EU-level policy cooperation process to address the health and wellbeing of music creators specifically. However, the working conditions of artists is high on the agenda for EU policy cooperation with the Member States in the field of culture, in particular in the light of the challenges from COVID-19.

Recommendation 18: Downloadable guides can be valuable. The good ones that already exist should be translated into other EU languages and become easily available.

Recommendation 19: The EU could encourage the Member States to develop reorientation programmes for musicians who can no longer make music or perform because of mental/physical issues. It would help: a) orient ex-musicians towards other professions so that they can continue their professional life; b) use experienced ex-musicians as prevention mentors to help active music creators from falling victim of the same health and wellbeing risks.

Recommendation 20: The EU should promote the establishment of academic chairs on the theme of music and health/wellbeing. The appointed chairs could be made responsible for an ongoing monitoring system to identify the health and wellbeing risks and their prevalence. This system could form the foundation for further research and the development of new policy initiatives.

Recommendation 21: Researchers in Europe are encouraged to look beyond European boundaries when it comes to identifying good practices for the mental health of musicians and music creators. The literature review of this study also revealed several gaps in existing knowledge. The following are some topics that are currently under-researched:

- The differences in health and wellbeing between music students and professional musicians.
- Comparing the health and wellbeing of musicians of different musical genres. Most health research into professional musicians focuses on orchestral musicians.
- Comparing the treatment being offered in different EU Member States.

The European Union, through its research policy and the Horizon Europe programme, could promote research on these topics by including them in future Calls.



Appendix 1 Methodology

Literature review

A targeted review of the most recent academic and policy literature, and other sources, is a necessary step for a well-grounded and evidence-based analysis of the occupational health risks that musicians and music creators face (research question 1) and of the practices that could be used to overcome them (research question 2). The literature review, in Chapter 2 of this report, is broad in scope, covering professional musicians and music creators of all genres; physical and mental risks; and practices, measures and initiatives from all actors and at all levels. Note that disentangling drivers, risk-aggravating factors and impacts is not straightforward, as issues or challenges may go together or reinforce each other. That is why also cumulative effects are explored in the review. The review also looks at the positive effects of creating and/or playing music as they relate to the work, health and wellbeing of music creators and musicians.

For the literature review we used bibliographic electronic search databases (Web of Science, Eric, JSTOR, Taylor & Francis, Springer, and Sage) with extensive and up-to-date resources. The review went beyond the academic literature, taking into consideration legal and policy documents, publications of social partners and associations and federations, and other sources. Considering the so-called grey literature was important to us as the impacts of recent trends, such as globalisation and digitalisation, on health, safety and wellbeing may not be fully covered in the academic literature. We focused on publications written in English, French, German or Dutch.

As well as initial search, snowballing techniques were used to identify relevant studies from bibliographies of relevant papers. Additional literature was also found following the advice of the experts and stakeholders who were approached in the fieldwork (see below).

Because of the latest significant changes within the music sector, we chose to focus mainly on literature that was published after 2010. Some exceptions were made when no recent literature was available or where older articles provided more general information and background on the topic.

Finally, we would like emphasise our focus on literature that applies to European Union Member States, because the recommendations of this report are aimed specifically towards a European policy and European field of practice (Chapter 5). Since literature on the occupational health and wellbeing of musicians is mainly dominated by Anglo-Saxon research, this Eurocentric viewpoint is highly relevant.

Interviews with music creators and key stakeholders

37 interviews were conducted, 21 of which with musicians and music creators, 16 with experts or stakeholders working in, with or for the music sector. All interviews were semi-structured in nature and lasted between 30-90 minutes.

In order to enrich the literature review with personal testimonials from music creators and musicians and acquire a more thorough understanding of the impact and role of occupational health, safety and wellbeing in the music sector in EU, we conducted a set of in-depth interviews.

The goal of the interviews was to gather personal testimonials from music creators to gain insights into their perceptions, attitudes and experiences of occupational health. Our questions elicited responses on the health, safety and wellbeing challenges musicians have faced or are still facing, the underlying circumstances of these challenges, the impact of the challenges on their personal

and professional lives, and the steps they have taken to overcome these challenges and impacts (cf. Appendix 1).

Besides the interviews with music creators and musicians, another set of interviews was carried out with experts and stakeholders such as academics, representative organisations, sector federations, providers of treatments and of preventive actions. A long list of these experts and stakeholders was established beforehand. In addition, some individual experts and organisations were interviewed based on recommendations other interviewees gave throughout the interviewing phase. The goal of the expert and stakeholder interviews was to get a good understanding of the experts' and organisations' experiences and initiatives (cf. Appendix 2).

In total the research team completed 37 interviews. Some 21 interviews with musicians and music creators and another 16 interviews with experts or stakeholders working in, with or for the music sector (see table below). All interviews were semi-structured in nature and lasted between 30-90 minutes each.

Interviewees' country	Number of musicians/ music creators interviewed	Number of experts and stakeholders from the music sector (academics, expertise centres, federations, etc.) interviewed
Austria	1	
Belgium	7	5
Croatia		1
Czech Republic	1	
Denmark		1
Estonia	1	1
Finland	1	
France	1	
Germany	2	1
Greece	1	
Hungary	1	
Ireland		1
Italy		1
Malta	1	
Netherlands	2	2
Poland		1
Romania	1	
Spain		1
EU level		1
Other	1	
TOTAL	21	16

Our ambition was to achieve a balanced and well-distributed sample of at least 24 interviewees, also in terms of their nationality/country of residence and region of the EU. Nevertheless, these variables were less decisive in the sampling strategy than the content of the interviews. In other words, the first and most important ambition was to find enough information-rich cases and conduct interviews that led to new insights in response to the research questions. This goal was achieved and surpassed: a total of 37 interviews were conducted.

EU Region	Country	Interview(s) completed: yes (V)
British Isles	Ireland	V
Central Europe	Austria	V
Central Europe	Czech Republic	V
Central Europe	Germany	V
Central Europe	Hungary	V
Central Europe	Poland	V
Central Europe	Slovakia	
E Europe	Estonia	V
E Europe	Latvia	
E Europe	Lithuania	
S Europe	Italy	V
S Europe	Malta	V
S Europe	Portugal	
S Europe	Spain	V
Scandinavia	Denmark	V
Scandinavia	Finland	V
Scandinavia	Sweden	
SE Europe	Bulgaria	
SE Europe	Croatia	V
SE Europe	Cyprus	
SE Europe	Greece	V
SE Europe	Romania	V
SE Europe	Slovenia	
W Europe	Belgium	V
W Europe	France	V
W Europe	Luxembourg	
W Europe	The Netherlands	V

In the table below we offer some more background information (gender, age, music genre) on the respondents that were interviewed.

	Country of origin/residence of the interviewee
Gender	
Male	<ul style="list-style-type: none"> - Belgium - Finland - France - Germany - Greece - Malta - The Netherlands - Romania
Female	<ul style="list-style-type: none"> - Belgium - Czech Republic - Estonia - Germany - Hungary - The Netherlands - Poland
Age	
-30	<ul style="list-style-type: none"> - Hungary
30-45	<ul style="list-style-type: none"> - Belgium - Estonia - Germany - Finland - Malta - The Netherlands - Poland - Romania
45-60	<ul style="list-style-type: none"> - Belgium - The Netherlands
+60	<ul style="list-style-type: none"> - Germany - Greece
Genre	
Classical	<ul style="list-style-type: none"> - Belgium - Germany - Hungary - Malta - The Netherlands - Romania
Rock/Pop/jazz/blues/traditional	<ul style="list-style-type: none"> - Belgium - Czech Republic - Estonia - Finland - France - Greece - The Netherlands - Poland
Composers/directors	<ul style="list-style-type: none"> - Belgium - Malta - Estonia

Each of the research partners performed several interviews. Most of the interviews took place online. After the interviews were finished, they were transcribed and summarised to facilitate analysis and allow other research partners to compare interviews.

Every research partner summarised the main findings of each interview and looked for communalities between the interviews they were responsible for. These findings were discussed and compared with the entire research team to find overarching themes across all interviews. Once the main findings were concluded and agreed upon by all, a final overview was written. This

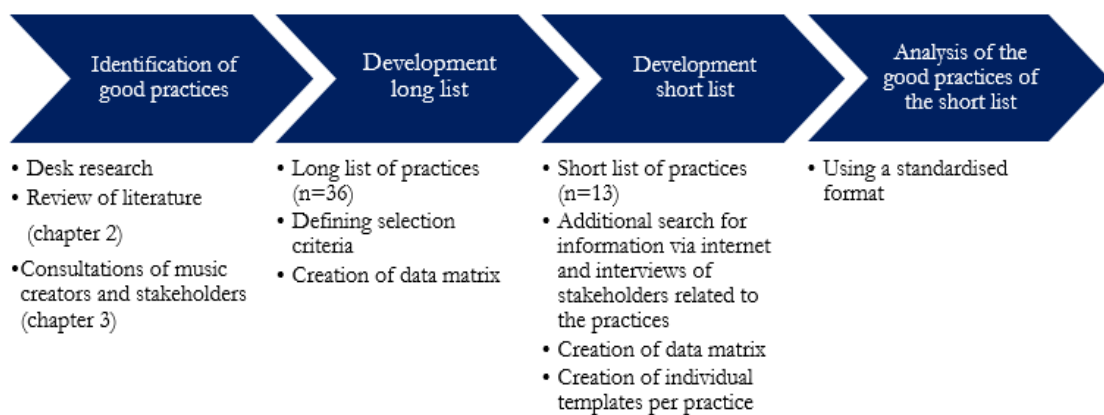
overview includes all these findings and formulates them in a newly established framework (micro-meso-macro). The aim of the interview chapter is to answer both research question 1 and 2 from the perspective of the current music creators and other stakeholders in the field. The results can be found in Chapter 3 of this report.

Mapping existing initiatives to support music creators

In order to fully answer research question 2, it was critical to bring in the perspective of the initiatives and organisations that support music creators to cope with the occupational health risks they encounter, which is elaborated upon in Chapter 4. For a proper interpretation, it is important to briefly explain our approach to the mapping exercise. We first highlight the approach we used to identify good practices for the construction of a *long list* and discuss the general characteristics found here. Second, we describe how we conducted a final selection of 13 good practices for the *short list* and discuss the general features of that list.

Step 1: Identification of good practices and the development of a long list

The flowchart below shows how initiatives were identified, selected, described, and analysed.



A combination of approaches was used to create an inventory or a long list of practices. First, we gathered data addressing practices through the literature review (Chapter 2) and the interviews with music creators and experts in the field (Chapter 3). Besides the articles mentioned in the literature review, we carried out an additional search for scientific literature on platforms such as Web of Science, Pubmed, Medline and Google Scholar with the following (combinations of) search terms: 'health education', 'health promotion', 'musicians', 'course design', 'course evaluation', 'good practices', 'musicians' health', 'instrumentalists', 'recommendations', 'pain', 'musicians' medicine', 'prevention'. This search resulted in over 100 possibly relevant articles which we screened for relevance based on title, abstract and country of origin (only EU member states and the British Isles were included). We ended up with 62 interesting and relevant scientific articles and 20 interesting practices that were mentioned in the interviews. We narrowed these 82 good practices down to 36, considering additional criteria (see table below). Appendix 3 of this report shows the final long list of good practices, which includes 21 good practices from the desk research and 15 good practices from interviews.

The table below demonstrates some background information on the good practices included in the long list.

Region (We strived for a balanced distribution over these 5 regions)	North	4
	South	2
	East	3
	West	22
	British Isles	5
Level of implementation	European	3
	National	15
	Local	18
Actors involved (We strived for a balanced distribution)	Public	12
	Non-public	24
Type of risk (We strived for a minimum of 10 good practices for each. Note that some good practices covered both mental and physical health risks and therefore the total number is higher than 36)	Mental	16
	Physical	31
Focus (We strived for a minimum of 7 good practices for each. Note that some good practices had more than one focus and therefore the total number is higher than 36)	Education	15
	Prevention	25
	Treatment	14

Our initial aim to have interviewees from a minimum of five countries in each EU ‘region’ was not met. It was particularly hard to find good practices from Northern, Southern, and Eastern Europe. We tried to compensate for this by explicitly asking interviewees in these regions if they knew of any good practices in their country. Unfortunately, the answer was mostly no. Also, we found that Western European countries (and especially Germany) were clearly overrepresented in the scientific literature about musicians’ health and related good practices.

We noticed an imbalance in the availability of good practices concerning type of risk. Within Europe, we found significantly more practices covering the physical health of musicians than the mental health of musicians, both in scientific literature and in interviews. The topic of substance (ab)use seemed to be understated in the interviews, which surprised us given that this topic is prominent in the literature review (Chapter 2). Some countries or regions outside Europe such as Australia, New Zealand and the USA seem to have more advanced knowledge and practices about mental health and substance abuse. For the purpose of this study we also looked at these practices but a thorough investigation has not been possible in this EU-focused study. One recommendation of this study will therefore be to look across European boundaries when it comes to identifying good practices for mental health of musicians and music creators.

In addition to the criteria above, we described the following characteristics of all the good practices (where the information was available and applicable): name and size of the organisation, funding source, aim, target group, year of introduction, advantages, drawbacks/barriers, facilitators, innovativeness, effectiveness, sustainability on the long run, scalability and transferability, interpretation and additional comments and references. All this information is included in Appendix 3.

Step 2: Selection and description of a short list

In the second step, we selected a short list of good practices. This selection of practices mirrors our ambition to reach a balanced distribution across countries, levels, actors, types of risks and focus (see table below). The long list was screened and discussed by three researchers from different consortium partners with the aim to end up with a short list of practices which were (1) effective and reliable and (2) scalable or transferable to other countries or contexts. Good practices were often limited to a particular pilot project, group or region. Our ambition was to trace which practices or interventions could be implemented across the EU, and which policy measures could be taken at the Member State and EU levels by public authorities and non-

governmental bodies. Appendix 4 shows the final short list of good practices (n=13) which includes eight good practices from the desk research and five good practices from interviews.

The table below includes some background information on the good practices included in the short list.

Variables used to construct the sample		Number of countries included in the short list
<i>Regions in the EU</i>	North	3
	South	1
	East	0
	West	6
	British Isles	3
<i>Level of implementation</i>	European	2
	National	6
	Local	5
<i>Actors involved</i>	Public	6
	Non-public	7
<i>Type of risk</i>	Mental	6
	Physical	12
<i>Focus</i>	Education	6
	Prevention	9
	Treatment	5

We described the good practices of the short list in more depth using a standardised template for each good practice, including the following characteristics: funding source, aim, target group, year of introduction, drawbacks/barriers, facilitators, innovativeness/ added value, effectiveness, scalability and transferability, references and contact information.

To complete the templates of the short list, we did an extra search for information about the good practices on websites and in grey literature (reports, presentations, non-scientific articles) and, where possible, we arranged an interview (via e-mail or online platform) with a relevant related stakeholder. We were able to arrange five interviews, which provided us with valuable extra information. We conducted an interview with:

- Vera Baadjou (rehabilitation physician/researcher, Adelante Zorggroep/ Maastricht University) relating to PRESTO-Play project (the Netherlands);
- Jan-Christian Hübsch (Deutsche Orchestervereinigung) and Sieglinde Fritzsche (professional violinist/projectlead, Mecklenburgische Staatskapelle) relating to the Schallschutz project (Germany);
- Lars Brandt (physician/professor, Odense University Hospital/University of Southern Denmark) relating to the Clinic of Performing Arts Medicine (Denmark);
- Kari Arnason (lecturer/researcher, University of Iceland) relating to the Education and Prevention course (Iceland) and;
- Liesbeth Lim (physician, SportMedischAdvies) relating to SportMedischAdvies practice (the Netherlands).

Using a standardised format to describe the good practices allowed us to have an overview, make comparisons and draw lessons from these practices. In Chapter 4 we discuss the results of our analysis in depth.

Validation workshop

In the final phase of the study a half-day interactive validation workshop with key stakeholders was organised (20 December 2021). The aim of this workshop was to validate the study's results, conclusions and recommendations.

Twenty-nine people were invited to the online validation workshop. In total, 14 external stakeholders took part, including representatives and managers from the music industry, academic experts, musicians, health professionals and prevention advisors. Their views and experiences were key to developing recommendations for policy and practice.

Appendix 2 Interview topic list: individual musicians and music creators

Intro

- Recall the aim of the study and the interview and clarify any issues or concepts that are unclear.
- If the interviewee agrees, the interview will be recorded. The recording will only be used by the research team for analysis, it will not be shared with anyone else. After the research, all interviews will be deleted. Quotes from the interviews may be used, but they will be made anonymous.
- Explain that all questions relate to the period before the COVID pandemic but that at the end of each set of questions we will refer to the situation during the pandemic and ask specifically about that period.

Background info

- **Personal background**
 - Can you introduce yourself in a few words?
 - Did you enjoy music education or are you an autodidact?
 - If so: which type of education? For how many years?
 - Since when are you a professional musician/music creator (composer, songwriter, DJ, etc.)?
- **As a musician/music creator, could you describe your field of expertise**
 - Instrument(s)
 - Genre(s)
 - Are you part of one or more musical groups/ensembles/or are you a solo-oriented musician/music creator?
 - COVID: If so, in pre-COVID-times: did you perform on a regular basis? What kind of performances?
- **Contract**
 - Are you an employee with an employment contract or are you self-employed?
 - If employee: do you have a fixed-term contract or a contract of indefinite duration?
 - COVID: has this situation changed since the start of the pandemic in March 2020?
- **Do you spend much time away from home?**
 - If so, is this due to travelling?
 - Is this traveling related to your profession as a musician/music creator (e.g. concerts)?

Personal view on mental and physical health

- Do you often think about your mental and physical health?
- If yes: do you often worry about your mental and physical health?
- COVID:
 - Do you notice any changes since the start of the COVID pandemic in March 2020?
 - Do you think or worry more about your health since the start of the COVID pandemic? How come?

Experience of physical pain

- Do you experience any physical pain related to playing or making music?

- If so, what type of pain?
 - What is, according to you, the cause of this?
 - Is this related to the technical aspects of playing?
 - To other aspects? Which ones?
 - What is the impact of this pain on your personal and professional life?
 - Do you worry about the impact of your pain on your professional life?
 - What aspects of being a musician/music creator would you consider the most physical demanding?
- **Do you pay attention to specific physical/ergonomic aspects of your playing technique in order to avoid physical pain, or to cope with the pain?**
 - If so, were these elements taught to you by someone or are they based on personal experience and trial-and-error?
 - If not, would you be interested in learning how to avoid any physical pain?
- **Do you use any medication or drugs to reduce physical pain?**
- **Do you have physical therapy or psychological support in order to reduce/cope with your physical pain?**
- **COVID:**
 - Has the experience of physical pain been changing since the start of the COVID pandemic in March 2020? Is it increasing, decreasing or stable? Has your reaction to it changed? How come?

Experience of stress and mental/emotional burdens

- **Do you experience any stress or negative emotions related to your life as a professional music creator?**
 - What type of stress or negative emotions?
 - What is, according to you, the cause of this?
 - What is the impact of this on your personal and professional life?
 - What aspects of being a musician/music creator would you consider the most mental and emotional demanding?
- **Have you changed specific habits in order to avoid stress or negative emotions? Or to cope with them?**
 - If so, were these elements taught to you by someone or are they based on personal experience and trial-and-error?
 - If not, would you be interested in learning how to avoid stress and negative emotions?
- **Do you use any medication or drugs to reduce mental/emotional burdens?**
- **Do you have therapy or psychological support in order to reduce/ cope with your stress or mental/emotional burdens?**
- **When playing music, do you experience joy and playfulness? Does it contribute to coping with stress and negative emotions?**
- **COVID:**
 - Has the experience of stress/negative emotions been changing since the start of the COVID pandemic in March 2020? Is it increasing or decreasing or stable? Has your reaction to it changed? How come?

Treatment, support, education

- **Do you undergo some type of treatment for a better health?**
 - At this moment?
 - In the past? Are you being followed up?
- **In your country: are you aware of some specific existing treatment schemes or practices, to enhance the health and wellbeing of musicians/music creators? Do you have specific information?**
- **Do you experience specific support or appreciation by**
 - Professionals (other musicians/music creators, management, etc.).
 - Family and friends or other people in your social network?
- **In your country: are you aware of some specific educational programs or awareness raising programs to enhance the health and wellbeing of musicians/music creators?**
 - Training programs?
 - Preventive actions?

Risk factors related to ALL musicians/music creators

- **This is a question that not only relates to your experience but to all of the musicians/music creators you know! The question is: looking at your colleague musicians/music creators: which of the factors I am going to mention would you consider important factors in terms of threatening the health and wellbeing of musicians/music creators?**
 - *I will first read the 7 risk factors out loud and then go through them again one by one.*
 - *Please give each factor a score between zero (not important) and ten (very important)*
 - *If have any clear examples, please add them to your score.*

List of risks

- **(1) Playing music (0 – 10)**
 - Playing technique
 - Playing position
 - Repetition of movement
 - Exposure to volume (loudness)
 - Exposure to volume (duration)
 - ...
- **(2) Physical health and wellbeing and hygiene (0 – 10)**
 - Physical limitations (memory loss, black outs, etc.)
 - Lack of physical preparation before playing/making music
 - Lack of or bad stretching techniques
 - Lack of care and attention for injuries
 - ...
- **(3) Mental health and wellbeing (0-10)**
 - Lack of mental resilience and self-confidence
 - Performance anxiety/stage fright
 - Fear or failure/worries about career or future
 - Fear of losing creativity/authenticity/identity
 - Fear of missing out
 - Peer pressure
 - Techno stress (stress because of new technical media)
 - Rumination
 - ...
- **(4) Life style (0-10)**
 - Substance use/abuse (soft drugs, hard drugs)/addiction
 - Use/abuse of medication (e.g. painkillers, beta blockers)
 - Unhealthy eating habits
 - Lack of sleep and resting

- Lack of recuperation time
 - Lack of time dedicated to sports of movement
 - ...
 - **(5) Physical environment (0-10)**
 - Transport of heavy material
 - Venue (e.g. being outdoors, unhealthy clubs, etc.)
 - ...
 - **(6) Social environment (0-10)**
 - Lack of autonomy
 - Lack of social support in the job
 - Lack of social support from family and friends
 - Loneliness
 - ...
 - **(7) Job demands and resources (0-10)**
 - Time pressure/amount of working hours
 - Power relation (e.g. demanding management)
 - Work load/work pressure
 - Combination of jobs
 - Unstable income
 - ...
-

Final questions related to the COVID pandemic

- **Did the COVID pandemic have any impact on your financial situation as a musician/music creator?**
 - Did you lose your contract?
 - Was there any specific loss of income?
- **Did the fact that you could not perform live during the pandemic have any mental impact on you? How?**
 - **Did you take any specific actions in order to make sure you could continue your career as a musician/music creator?**
 - Looking for other types of incomes?
 - Performing or selling music-related things online?

Outro

Thank you for your time. As a sign of appreciation, the full text of our research report will be distributed to all who contributed to this study. So if you want the report, please give me your e-mail address (which will not be mentioned in the report).

Appendix 3 Interview topic list: experts, organisations, stakeholders

Intro

- Recall the aim of the study and the interview and clarify any issues or concepts that are unclear.
- Explain the use of the concepts ‘music creator’ and ‘musician’. In this study a ‘music creator’ is understood as an individual who creates, performs, records and/or publishes their own musical creations, and a ‘musician’ is an individual who performs, records and/or publishes their own musical creations or creations made by others. In this interview we will talk about both, with a focus on professional music creators and musicians. If in your opinion the answer is different for these groups, please do specify.
- If the interviewee agrees, the interview will be recorded. The recording will only be used by the research team for analysis, it will not be shared with anyone else. After the research, all interviews will be deleted. Quotes from the interviews may be used, but they will be made anonymous.
- Explain that all questions relate to the period before the COVID pandemic here and there we will refer to the situation during the pandemic and ask specifically about that period.

Background info (about the organisation)

- **Organisation**
 - Could you provide some information about your organisation?
 - The mission of the organisation?
 - Typical work of the organisation?
 - Location of its headquarters?
 - In which country (or countries) or region(s) is the organisation active?
 - Number of employees?
- **Relation to the music sector**
 - What is the organisation’s relation to the music sector and individual music creators/musicians?
 - Does your organisation come into direct contact with music creators and/or musicians?
 - If yes, which music creators/musicians (genre, instrument, employee/self-employed)?

Overall health and well-being of music creators/musicians

- What is your organisation’s perspective/ideas on the topic of the health and wellbeing of music creators/musicians?
 - Where does this perspective come from?
 - Has it changed recently?
- Does your organisation have specific (policy) strategies on the health and wellbeing of music creators/musicians?
 - If so, please explain.
- Does your organisation take action with regards to the topic of health and wellbeing of music creators/musicians?
 - If so, how? Which actions?
 - Could you give an example?
- Is there, according to your organisation, enough attention for these topics:
 - Physical health and wellbeing of music creators/musicians?
 - Mental health and wellbeing of music creators/musicians?

- Social context related to the health and wellbeing of music creators/ musicians?

Risk factors

- **From your organisation's point of view and experience: which of these risk factors would you consider the most important factors in terms of threatening the health and wellbeing of music creators/ musicians?**
 - *I will first read the 7 risk factors out loud and then go through them again one by one.*
 - *Please give each factor a score between zero (not important) and ten (very important)*
 - *If have any clear examples, please add them to your score.*

List of risks

- **(1) Playing music (0 – 10)**
 - Playing technique
 - Playing position
 - Repetition of movement
 - Exposure to volume (loudness)
 - Exposure to volume (duration)
 - ...
 - **(2) Physical health and wellbeing and hygiene (0 – 10)**
 - Physical limitations (memory loss, black outs, etc.)
 - Lack of physical preparation before playing/making music
 - Lack of or bad stretching techniques
 - Lack of care and attention for injuries
 - ...
 - **(3) Mental health and wellbeing (0-10)**
 - Lack of mental resilience and self-confidence
 - Performance anxiety/stage fright
 - Fear or failure/worries about career or future
 - Fear of losing creativity/authenticity/identity
 - Fear of missing out
 - Peer pressure
 - Techno stress (stress because of new technical media)
 - Rumination
 - ...
 - **(4) Life style (0-10)**
 - Substance use/abuse (soft drugs, hard drugs)/addiction
 - Use/abuse of medication (e.g. painkillers, beta blockers)
 - Unhealthy eating habits
 - Lack of sleep and resting
 - Lack of recuperation time
 - Lack of time dedicated to sports of movement
 - ...
 - **(5) Physical environment (0-10)**
 - Transport of heavy material
 - Venue (e.g. being outdoors, unhealthy clubs, etc.)
 - ...
 - **(6) Social environment (0-10)**
 - Lack of autonomy
 - Lack of social support in the job
 - Lack of social support from family and friends
 - Loneliness
 - ...
 - **(7) Job demands and resources (0-10)**
 - Time pressure/amount of working hours
 - Power relation (e.g. demanding management)
 - Work load/work pressure
 - Combination of jobs
 - Unstable income
 - ...
-

Physical risks and complaints: evolution

- **General evolution**
 - Does your organisation notice any evolution in the number of physical injuries and physical complaints (e.g. pain) among music creators/musicians?
 - Which evolution? Increase/decrease? New types of injuries?
 - COVID: Did the COVID-19 pandemic had a specific impact on the physical health and wellbeing of music creators/musicians in your country?
- **Evolution: attention and awareness/prevention**
 - Does your organisation notice any evolution in attention among music creators/musicians for physical risks and their impact?
 - Does your organisation notice any evolution in awareness raising and importance of prevention related to physical injuries and physical complaints (e.g. pain) among music creators/musicians?

Physical risks and complaints: evolution

- **General evolution**
 - Does your organisation notice any evolution in the amount of mental health risks and mental health problems among music creators/ musicians?
 - Which evolution? Increase/decrease? New types of problems?
 - COVID: Did the COVID-19 pandemic had a specific impact on the physical health and wellbeing of music creators/musicians in your country?
- **Evolution: attention and awareness/prevention**
 - Does your organisation notice any evolution in attention among music creators/musicians for mental health risks and mental health problems?
 - Does your organisation notice any evolution in awareness raising and importance of prevention related to mental health risks and mental health problems among music creators/musicians?

Risks related to work environment: evolution

- **General evolution**
 - Does your organisation notice any evolution in the number of issues or problems related to the work environment where music creators/ musicians are working in? (work arrangements and working conditions: e.g. noise, clean air, etc.).
 - Which evolution? Increase/decrease? New types of injuries?
 - COVID: Did the COVID-19 pandemic have a specific impact on the working arrangements and conditions of music creators/ musicians in your country?
- **Evolution: attention and awareness/prevention**
 - Does your organisation notice any evolution in attention among music creators/musicians for risks related to the work environment and their impact?
 - Does your organisation notice any evolution in awareness raising and importance of prevention related to mental health risks and mental health problems related to the work environment where music creators/musicians are working in?

Involvement of your organisation in education, awareness raising, prevention and treatment

- **Education/awareness raising/prevention**
 - Is your organisation involved (as (co)organiser or initiator) in specific educational programs or awareness raising programs to enhance the health and wellbeing of music creators/musicians?
 - Training programs?
 - Awareness raising actions, such as campaigns?
 - Preventive actions/measures?

- Are you aware of other initiatives concerning educational programs or awareness raising programs to enhance the health and wellbeing of musicians/music creators in your country?
 - Which programs?
- **Treatment**
 - Is your organisation involved (as (co)organiser or initiator) in some specific treatment schemes or practices, to enhance the health and wellbeing of music creators/musicians?
 - Which treatment schemes or practices?
 - Are you aware of (other) initiatives in your country?
 - Which treatment schemes or practices?
- **Evaluation**
 - What is your experience with the supply of educational programs, awareness raising programs and practices to enhance the health and wellbeing of musicians/music creators in your country?
 - Is there sufficient attention and supply?
 - What about the quality of these programs, actions, measures, schemes and practices?
 - Do you have any recommendations?
- **Good examples**
 - Do you have examples of good practices focusing on education and awareness-raising (e.g. knowledge-sharing on the nature of risks, etc.), prevention (campaigns, etc.), or treatment (assistance schemes or agencies, etc.)?
 - Which ones?
 - Which ones would you recommend?
 - Could you refer us to other initiators (organisation, ...)?

COVID

- Did your organisation experience a change in the health and wellbeing of music creators/musicians since the start of the COVID-19 pandemic in March 2020?
- Has your organisation set up or has it been involved in initiatives to reduce or improve the negative impact of COVID on the physical and mental health of musicians?

Contacting music creators/musicians

- Do you know any music creators or musicians in your country who would be interested in participating in this study by means of an online interview in one of the upcoming weeks or months?

Thank you for your time. As a sign of appreciation, the full text of our research report will be distributed to all who contributed to this study. So if you want the report, please give me your e-mail address (which will not be mentioned in the report).

Appendix 4. List of good practices

Template 1: A young freelancer's guide to mental health and the music industry

Source	Desk research.
Member state/region	United Kingdom/West-Europe.
Type of practice (education, prevention, treatment)	Prevention. Education. Treatment.
Funding source	The guide was created by and in consultation with MU's Young Members' Network.
Focus, vision and aims	<p>Focus: mental health risks.</p> <p>Aim:</p> <ul style="list-style-type: none"> - to provide helpful insight and advice as young freelance musicians navigate the industry; - to identify common challenges facing freelance musicians. It signposts sources of support that freelance musicians can access; - tips on identifying and managing anxiety and other issues, and when to seek help or access specialist support. <p>Vision: being a musician can be exciting, satisfying and deeply rewarding. But it can also be demanding, unpredictable and stressful. The flexibility provided by freelance work can offer a sense of agency and freedom, but at times it can also feel overwhelming, isolating and intimidating.</p>
Target group	Young freelance musicians.
Actors involved and their roles and responsibilities	<p><u>Public</u></p> <p>Musicians Union. MU's Young Members Network. Helplines. Mind (mind.org.uk). The Music Industry Therapist Collective (musicindustrytherapists.com). Music Support (musicsupport.org/what-we-do). The Samaritans (samaritans.org). Narcotics Anonymous (ukna.org). The National Domestic Violence Helpline.</p>
.Key features	<ol style="list-style-type: none"> 1. <i>Detailed description of approach, means, ...</i> This guide explores: self-care, burnout, boundaries, support networks, resilience, identity, anxiety and panic attacks, and depression. 2. <i>Scalability and transferability</i> Interesting guide with an approach to increase resilience in 4 steps, and many tips. Easy to transfer to other countries. 3. <i>Innovative features/added value</i> Focus on mental health with very concrete tips on specific topics. 4. <i>Barriers/drawbacks</i> / 5. <i>Facilitators</i> <ul style="list-style-type: none"> - The guide is available for free. - The information is easily worded. - The guide was created based on personal experiences of freelancers and therefore tailored to the needs of the target group.
Evidence, achievements & learnings	It is a guide for young freelance musicians. No intervention was made.
Launch date [& duration]	2019.
Further information/references	The Young Freelancer's Guide to mental health and the music industry. Written by Tamsin Embleton and Ben Jones and produced by the Musicians' Union for the MU Young Members Network.
Contact	theMU.org.

Template 2: PRESTO (PREvention STudy On preventing or reducing disability from musculoskeletal complaints in music school students)

Source	Desk research.
Member state/region	The Netherlands/West-Europe.
Type of practice (education, prevention, treatment)	Prevention.
Focus, vision and aims	Focus: physical and mental health risks. Aim: to study whether a biopsychosocial prevention course is better at reducing disability due to musculoskeletal complaints compared with physical activity promotion.
Funding source	/
Target group	Music students.
Actors involved and their roles and responsibilities	Therapists who are experienced in the treatment of musicians.

Key features	<ol style="list-style-type: none"> 1. <i>Detailed description of approach, means, ...</i> PRESTO-Play (intervention group) is a biopsychosocial course creating awareness about musician's health; educates on human anatomy and physiology in relation to playing the instrument; provide strategies for coping with anxiety, stress and overcommitment; how to handle pain and discuss general health issues such as physical activity and nutrition. The course consisted of 11 classes during one academic year. The focus of the first six classes was on body posture while playing. Principles from the postural exercise therapy methods of Mensendieck or Cesar were incorporated. Central themes are body awareness, balanced posture and controlled movements; awareness of tension and relaxation; and functional respiration. Instrument-specific instructions were provided on playing in a biomechanically correct position according to the method of Samama. The aim of this method was to assume a posture that provides stable balance and prevents overload on the muscles used to play the instrument. From class seven onwards, discussion about psychosocial themes was added. The maximum group size was eight participants. The total time investment was 18 hours. PRESTO-Fit course (control group) provided education about physical activity recommendations for the general population. Students received a pedometer, were instructed to monitor daily physical activity and walk 10 000 steps a day, complying with the international physical activity recommendations for the general population. Intervention development and implementation were inspired by studies by Jackson and Howton, Tully and Cupples and De Cocker <i>et al.</i>, During in total five classes, students were encouraged to set physical activity goals, while discussing the importance of being physically fit as a musician. No efforts were made to induce long-term behavioural changes. Although short-term positive health effects of physical activity promotion in young adults have been shown, it was not expected that this program would affect long-term playing-related disability and, therefore, served as a control group. The maximum group size was 16 participants. Total time investment was equal to the 18 hours of PRESTO-Play, because students in PRESTO-Fit needed to practise in their leisure time to increase their daily activity up to the levels required. 2. <i>Scalability and transferability</i> Yes, great opportunity if the mentioned barriers can be solved. 3. <i>Innovative features/added value</i> Musicians' awareness that in addition to playing their musical instrument, it is also important to keep body and mind balanced and healthy. As top sports players (to which playing music at a high and professional level also to belong) have access to as well as technical, physical, mental training and coaching, musicians should be aware that commitment in all these areas is essential to stay mentally and physically healthy and to perform optimally as a musician. 4. <i>Barriers/drawbacks</i> <ul style="list-style-type: none"> - If managers of music academies, orchestras and the music sector in general (as role models) are not convinced of the importance of preventing physical and mental risks among musicians, it is difficult to reach and convince students and musicians themselves. - Taboo about discussing physical and mental complaints in musicians. Fear of not being selected due to complaints or losing one's place/job. 'It's part of the job' is something you often hear from managers, teachers and musicians themselves. - Cost of such preventive programs for musician academies as well as for students and musicians. - Better preventive effects might be achieved by provision of more personalised programs, tailored to individual needs. 5. <i>Facilitators</i> It is likely that participation in this study increased awareness of the importance of healthy music making for participants in both groups because the trial was the only structural health course at the participating conservatories. Awareness is an important factor in health behaviour change and it might have been that all students were stimulated to take action to improve their health, just by raising awareness on the issue.
Evidence, achievements & learnings	<p>No significant differences between groups for any outcome adjusted for baseline characteristics: percentage disability, odds ratio was 1.31, 95% confidence interval (CI) 0.69–2.51; general DASH, β=-0.57, 95% CI -3.23 to 2.09; and performing arts module, β=-0.40, 95% CI 5.12–4.32.</p> <p>A biopsychosocial prevention course tailored to musicians was not superior to physical activity promotion in reducing disability. Disability declined in both groups throughout the intervention and up to 2 years of follow-up. Large numbers lost to follow-up warrant cautious interpretation.</p> <p>This could be due to four reasons: (1) results are hampered by the large number lost to follow-up, (2) the control group intervention was also effective, (3) crosstalk between the two interventions could have occurred and (4) the outcome measures used were not sensitive enough to detect change.</p>
Launch date [& duration]	<p>2014. Article published in 2018.</p>
Legal and policy context	<p>/</p>

Further information	Baadjou, V. A. E., Verbunt, J. A. M. C. F., van Eijsden-Besseling, M. D. F., de Bie, R. A., Girard, O., Twisk, J. W. R., & Smeets, R. J. E. M. (2018). Preventing musculoskeletal complaints in music students: A randomized controlled trial., <i>Occupational Medicine</i> , 68, 469-477. DOI:10.1093/occmed/kqy105.
Contact	V. A. E. Baadjou, Department of Rehabilitation Medicine, School for Public Health and Primary Care, Maastricht University, PO Box 616, 6200 MD Maastricht, The Netherlands. Tel: +31 433882160n, e-mail: verab.baadjou@maastrichtuniversity.nl.

Template 3: Education and prevention course on body awareness and attitude toward health and prevention

Source	Desk research.
Member state/region	Sweden/Iceland/North-Europe.
Type of practice (education, prevention, treatment)	Prevention. Education.
Funding source	/
Focus, vision and aims	Focus: physical health risks. Aim: to investigate the effects of an education and prevention course on music students. More precisely on body awareness and the students' attitude towards health and prevention. Vision: how musicians are just like elite athletes in their own unique sport and how the goal of the course was to teach them how to use various sports medicine related principles to increase and maintain their health and wellbeing by adjusting them to the music world.
Target group	Music students (first year).
Actors involved and their roles and responsibilities	The course was taught by Kari Arnason, who is both a musician and physical therapist with experience in treating musicians.
Key features	<ol style="list-style-type: none"> <i>Detailed description of approach, means, ...</i> Thirteen first-year music students at the Iceland Academy of Arts took a course 'musicians' health'. They followed 10 sessions each semester (4 lectures and 16 practical sessions). The lectures covered a basic introduction to the musculoskeletal system and its function, the most common risk factors for PRMDs and the most common injuries affecting musicians. In the practical sessions the students were given physical exercises to learn about physical activity and optimal body alignment. There were also mobility exercises and warm-up routines. The course started with 3 lectures about the philosophy behind the course (see 'vision'). Other lectures covered anatomy and common types of injuries that musicians often deal with. The main theme of the course was strength training. The strength-training sessions took place at a private physio clinic. Aside from participating students, there was a comparison group of 10 students who were not part of the course. <i>Scalability and transferability</i> 'Yes, I believe it is realistic for different art academies and universities to appoint such a teacher. They know that this subject is important for the wellbeing of their students and that it lays an important foundation for their future. Many of the 'older' musicians that I've treated have said that they had really wanted to have such a course when they were studying, because if you get used to thinking about these things early on in your career it makes it easier to maintain it throughout the career.' <i>Innovative features/added value</i> 'Yes, this was for the first time that such a course was taught at the Iceland University of the Arts and for many students this was their first experience with strength training. Applying these sports medicine principles regarding injury prevention, work capacity, load management and overall health and wellbeing (to name a few) is also something that I believe to be quite new to the musical world. It is something that I'm very passionate about and hopefully I'll have the chance to continue to develop ways to use the knowledge from the field of sports medicine to increase the health and wellbeing of musicians.'

	<p>4. <i>Barriers/drawbacks</i> 'The main barriers that I came across when I was teaching the course at the Iceland University of the Arts was the lack of adequate teaching facilities. There was no space to do the things that I wanted to do so I had to do most of the teaching at the private clinic where I was working at the time. I guess one could say that it is a barrier that very few physiotherapists or other health practitioners (at least here in Iceland) have any experience in working with musicians and are therefore qualified in teaching such a course. The salary is very low, but I guess no one goes into teaching to become rich.'</p> <p>5. <i>Facilitators</i> 'It is important to start the course in the first year because this is essential for the future of musicians.'</p> <p>6. <i>Potential improvements</i> 'Afterwards I think that we could split the group into two smaller groups because during the last year the course was running the group was a bit large. The way I wanted to teach was to have the program in the gym as individually based as possible and with a group of more than 16 students it was becoming a bit difficult. And the gym at the clinic was not that big so if we had had more students, the available space would have become a problem. In a perfect world the university itself would have adequate teaching facilities for such a course but over the years the university has been dealing with problems on a larger scale. Because of facility problems it was also a bit of a struggle to find appropriate time during the day to teach the course. And again, in a perfect world I would have liked to develop the course even further and have it running for both the 2nd and the 3rd year students, but budgeting is always a challenge. It was also difficult for me to take more time from the clinical work to do more teaching as the salary for the teaching does not even come close to what one gets for the clinical work.'</p>
Evidence, achievements & learnings	<p>'Over the 9-month study period, the students taking the prevention/education course increased the amount of warm-up prior to music performance, showing a significant group difference after the course (in contradiction to the students who did not follow the course). Thanks to the prevention/education course, students also became more aware of their body during practice and activities of daily living. During live performance, there was no difference in groups concerning body awareness.</p> <p>The course was rated by the students at the end of each semester. The students rated the content 4.5/5 and the teacher 4.8/5. Ever since the launch of this study, the course has been made mandatory for first-year music students. It ran from 2014-20 but because of COVID we had to cancel the whole spring semester in 2020. But when the course was running it was very popular among the students and they frequently said that they would very much like it to be every year, but it was only mandatory for the 1st year music students. We started with 10 sessions per semester but in 2018 it was increased to 12 sessions per semester due to its popularity.</p> <p>The way the course evolved over time was that for the last 2-3 years we started to focus more on upper body and core strengthening exercises, trying to build adequate work capacity and increase the student's ability to tolerate the load that often accompanies long playing sessions. Overall, I feel that the students were happy with the course and were able to apply those principles that we covered to their own lives.'</p>
Launch date [& duration]	<p>The course was launched in the year 2014-15. It continued the following years but was temporarily cancelled in 2020 due to the COVID-19 pandemic.</p>
Further Information/references	<p>Arnason, K., Briem, K., & Arnason, A. (2018). Effects of an education and prevention course for university music students on their body awareness and attitude toward health and prevention. <i>Med. Prob Perform Art</i>, 33(2), 131-136.</p>
Contact	<p>Kari Arnason, Holtsvegur 33, 210 Gardabaer, Iceland. Tel 00354-6978114, e-mail: kariarna@gmail.com.</p>

Template 4: Prevention course: 'Ergonomics and the Prevention of Musculoskeletal Injuries'

Source	Desk research.
Member state/region	Spain/South Europe.
Type of practice (education, prevention, treatment)	Prevention. Education.
Funding source	/
Focus, vision and aims	Focus: physical health risks. Aim: incorporating correct postural habits and doing warm-up exercises (mobilisation, friction, self-massage, traction, and stretches) as a means of preventing or recuperating from musculoskeletal injuries that superior-grade music students suffer or could suffer.
Target group	Music students.
Actors involved and their roles and responsibilities	Dr. Martin, a professor of percussion at the Salamanca Conservatory, professional musician, and osteopath. He designed the course. Dr. Martin is both well-acquainted with the needs of superior-grade students and experienced in the treatment of the most common injuries of professional musicians due to his work as a therapist.
Key features	<ol style="list-style-type: none"> <p><i>Detailed description of approach, means ...</i></p> <p>The intervention: a program of warm-up exercises and postural hygiene for 1 year. <u>3-credit course:</u></p> <ul style="list-style-type: none"> - <i>theoretical section:</i> students learned about the lines of gravity of the human body, the most common ailments among musicians, and the correct postures in standing and sitting. This part of the course was 1 credit. - <i>practical section:</i> students were taught warm-up exercises, which included mobilisation, traction, self-massage, friction, trigger points, ice massage, and stretching. This section of the course was 1.5 credits. - <i>private lessons:</i> students were given personalised instruction for 0.5 credit. <p>Methodology: students were taught how to evaluate the possible risks associated with the practice of their instruments. They were provided with information about the most frequent medical problems of musicians, warm-up habits, postural hygiene, effective prevention strategies, and different treatment options for these pathologies. The students were randomly divided into two groups: a control group (n=56) who did not take the course and was evaluated with a questionnaire at the beginning of the academic year and 1 year later, and an experimental group (n=90) who did take the course and was evaluated with three questionnaires (at the beginning of the course, 6 months later, and 12 months after the start of the course).</p> <p><i>Practical recommendations from the study:</i></p> <ul style="list-style-type: none"> - Consistently doing warm-up exercises is of vital importance in the prevention of musculoskeletal injuries in instrumental musicians. - These warm-up exercises should consist of friction, mobilisations, traction, and self-massage. They should be done after warming up with the instrument, during breaks, and always at the end of each day of practicing. - The maximum practice time should be 50 to 60 minutes per session, interspersed with rest periods of 5–15 minutes, to aid in the elimination of waste products and allow the muscles to work in a healthy way. <p><i>Scalability and transferability.</i></p> <p>Yes.</p> <p><i>Innovative features/added value</i></p> <p>There is a significant lack of theoretical practical information related to ergonomics, postural habits, and the prevention of physical injuries in the curriculum of the high conservatories of music. So the intervention is an opportunity to close the gap.</p> <p><i>Barriers/drawbacks</i></p> <p>/</p> <p><i>Facilitators</i></p> <p>We recommend that administrators and program directors of high music conservatories include a course that teaches students (as well as professors) how to promote health and prevent injuries during the phase of student-musicians' studies (thus imparting habits that will accompany them throughout their lives as professional musicians) as required part of their curriculum.</p>

Evidence, achievements & learnings	Improvement of body awareness by 91% and frequency of injuries decreased by 78%. Almost 90% of the students who were part of our study felt that a course in prevention should be a required part of the curriculum. The incorporation of a program of prevention in a professional musicians group produces a marked decrease in the physical problems due to playing and at the same time improves the quality of playing because of increased body awareness.
Launch date [& duration]	Study conducted in 2007-2008, published in 2013.
Legal and policy context	/
Further Information	Lopez, T. M., & Martinez, J. F. (2013). Strategies to promote health and prevent musculoskeletal injuries in students from the high conservatory of music of Salamanca, Spain. <i>Medical problems of performing artists</i> , 28(2)n 100-106.
Contact	Dr. Tomás Martín López, Conservatorio Superior de Música en Salamanca, Lazarillo de Tormes Nº 54, 37005 Salamanca, Spain Tel +34 923 282 115, fax + 34 923 282 878, e-mail:musicosyle-siones@gmail.com.

Template 5: Health Education for Musicians

Source	Desk research.
Member state/region	United Kingdom/West-Europe.
Type of practice (education, prevention, treatment)	Education.
Funding source	This research was supported by Musical Impact, a Conservatoires UK project funded by the UK's Arts and Humanities Research Council (grant ref. AH/K002287/1).
Focus, vision and aims	Focus: physical and mental health risks. Aim: to investigate the effectiveness of a compulsory health education course, Health and Wellbeing for Musicians, for undergraduate music students: <ul style="list-style-type: none"> - to explore students' hearing and use of hearing protection; - to design an evidence-based health education course; - to assess the effects of the course on primary outcomes (perceived knowledge of course content and knowledge and awareness of potential risks to health) and secondary outcomes (including general health, health-related quality of life [HRQoL], health-promoting behaviours, self-efficacy, emotional state, perceived stress, frequency, and severity of PRMDs, and perceived exertion); and - to identify the topics most salient to students based on the issues they chose to engage with in their course assessment.
Target group	First year undergraduate music students at the Royal Northern College of Music.
Actors involved and their roles and responsibilities	<u>Non-public</u> Tutors (all performing musicians). Three tutors specialised also in health psychology, performing arts medicine, and psychology respectively.
Key features	1. <i>Detailed description of approach, means, ...</i> The course was designed as the major component of a module entitled 'Artist Development 1', compulsory for all first-year students at a tertiary-level music conservatoire in the UK. The other components were recording and self-promotion. The module took place over the first and second terms of the academic year (September-March) and consisted of ten weekly 1-hour lectures delivered to the whole cohort (104 students) and eight weekly 1-hour seminars delivered to ten small groups of 10–15 students. Seven of the lectures and five of the seminars related, broadly, to health and wellbeing. <ul style="list-style-type: none"> - <u>Lecture 1:</u> 'How to practice more effectively?' was delivered by the Head of the School of Strings. Topics included deliberate practice; listening back to self-

recordings; appraising ideal performances and designing exercises for overcoming identified weaknesses.

- **Lecture 2:** 'How to rehearse more effectively?', was delivered by the Head of Chamber Music with live illustrations from a first-year piano trio. Topics included warming up and rehearsing as a group; overcoming technical difficulties and problems with rhythm, articulation, bowing and breathing; intonation in groups with and without piano; learning how to identify errors, and to give and receive constructive criticism; the use of recordings when developing interpretations; responding and listening to the music while playing; interacting with the audience.
- **Lecture 3:** 'Introduction to health and wellbeing', was delivered by the first author. Topics included the findings of recent research on the prevalence and symptoms of, and risk factors for MPA, PRMDs and hearing loss; healthy lifestyles (e.g., nutrition and sleep) and health-promoting behaviours (e.g., physical activity and reducing sedentary behaviour); behaviour-change strategies focusing on the concept of life skills
- **Lecture 4:** 'Life skills for musicians including behaviour change techniques'. Life skill topics included time management, exposure (e.g., to healthy options or public performance) and restriction (i.e., intentionally reducing exposure). Behaviour change techniques included goal setting and self-monitoring; planning; self-talk; grading tasks; cognitive reframing; disputation as a solution for reducing the impact of negative thoughts
- **Lecture 5:** 'Anatomy and physiology for musicians'. Topics included sensorimotor integration particularly in relation to MPA.
- **Lecture 6:** 'Managing music performance anxiety'. Topics included prevalence; symptoms; causes; and the relationship between arousal and performance quality. Potential solutions were suggested in the form of a toolbox of evidence-based strategies including peak performance approaches.
- **Lecture 7:** 'Presentation skills'. The session focused on public speaking and included information on physical (e.g., voice warm-ups) and mental preparation.

Ten groups of students (three groups of singers, three groups of string players, two groups of keyboard players and two groups of wind, brass, and percussion players) each took part in five seminars that were intended to reflect the content of the seven lectures.

Students were required to submit a portfolio of assessments including a 1,000-word essay in response to both the following questions: (1) Looking back on the Health and Wellbeing component of 'Artist Development 1', what new information, useful for your own music-making, have you learned from one lecture or one workshop/seminar?; (2) How have you been able to put this information into practice when making music (e.g., practicing, rehearsing, performing, or studying more generally)?

2. *Scalability and transferability*

Yes, the course is now part of the curriculum.

3. *Innovative features/added value*

Not only physical and mental health, but also effective strategies for practising, memorising, and rehearsing, and life skills and behaviour-change tools inspired by health psychology. It is the first time such course is designed and evaluated at a British conservatoire.

4. *Barriers/drawbacks*

- There is no national curriculum for health. Institutions must develop their own approach.
- There is a risk that conservatoires will maintain traditional practices rather than responding systematically to the best evidence available.

5. *Facilitators*

- The course was compulsory. There is evidence that compulsory courses were more effective.
- The lectures were delivered and seminars facilitated by tutors who were all performing musicians, which may have helped to promote more intimate and informed interaction with students; in addition, three of the tutors specialised also in health psychology, performing arts medicine, and psychology respectively.
- Seminars were conducted in an informal, relaxed manner, enabling students to ask questions freely and tutors to tailor content to the needs of groups of students.

	<ul style="list-style-type: none"> - Assignments were set in such a way as to bridge the gap between theory and practice: students were asked to reflect on what they had learned and how they implemented it in their music-making.
Evidence, achievements & learnings	<p>Primary outcomes: respondents reported increased knowledge of the topics covered in the course, including the sound intensity levels associated with hearing loss, and how to deal with the health and safety issues associated with learning and playing a musical instrument. They also reported increased awareness of performance factors related to potential musculoskeletal injuries. Students who had taken the course also rated their ability to deal with relevant health and safety issues significantly higher than controls, but these issues are likely to have been reinforced throughout the period of the intervention by instrumental and vocal tutors and through health and safety briefings provided by the observatory.</p> <p>The only desired secondary outcome to increase significantly from baseline to post-intervention was self-efficacy, which may or may not have been the result of the course. Other significant increases were in the wrong direction: sleep problems, distress, and lack of vitality all increased significantly from baseline to post-intervention, and controls experienced more severe depression, distress, and lack of vitality. Positive affect decreased significantly and there was a trend toward an increase in negative affect, while controls experienced lower positive and higher negative affect. Controls also reported higher levels of perceived stress.</p>
Launch date [& Duration]	September 2016-2018.
Further information/references	Matej, R., Broad, S., Goldbart, J., & Ginsborg, J. (2018). Health education for musicians. <i>Frontiers in Psychology</i> , 9: 1137. DOI: 10.3389/fpsyg.2018.01137.
Contact	Jane Ginsborg - jane.ginsborg@rncm.ac.uk Centre for Music Performance Research, Royal Northern College of Music, Manchester, United Kingdom

Template 6: Specific strength training and general fitness training

Source	Desk research.
Member state/region	Denmark/North-Europe.
Type of practice (education, prevention, treatment)	Prevention. Treatment.
Funding source	/
Focus, vision and aims	<p>Focus: physical health risks.</p> <p>Aim: To evaluate the feasibility and effect of two forms of physical exercises: 'specific strength training' (SST) versus 'general fitness training' (GFT).</p>
Target group	Symphony orchestra musicians.
Actors involved and their roles and responsibilities	The Odense Symphony Orchestra.
Key features	<ol style="list-style-type: none"> 1. <i>Detailed description of approach, means, ...</i> <ul style="list-style-type: none"> - Both interventions: <ul style="list-style-type: none"> o physical exercises 3 times/week for 20 minutes (i.e., one hour/week) over 9 weeks; o add-on workplace-based physical activity interventions (i.e., additional to any existing lifestyle activity). - Specific strength training: <ul style="list-style-type: none"> o focusing on the neck and shoulder; o five dumbbell exercises: one-arm row (45° bend with hand and knee on flat bench), shoulder abduction (standing), shoulder elevation (standing), reverse flies (45° prone on bench), and upright row (standing); o consecutive concentric and eccentric muscle contractions;

	<ul style="list-style-type: none"> ◦ 3 of 5 exercises per training session: 3 sets per exercise: <ul style="list-style-type: none"> • undulating schedule; • shoulder elevation = the only exercise that was performed during each session. ◦ first session: training load was individually assessed and adjusted so it corresponded to the maximum load that could be lifted 15 times (15 repetitions maximum at 70% of maximal intensity); ◦ training load: progressively increased from the 15 repetitions maximum at the beginning of the training to 8-12 repetitions maximum (75-85% of maximal intensity) during the later phase. <p>- General fitness training:</p> <ul style="list-style-type: none"> ◦ for the legs only; ◦ bicycle ergometer for 20 minutes, with relative workloads of 50-70% of maximal oxygen uptake; ◦ a relative workload of 50% of VO₂max was used during initial training sessions; ◦ progressively increased towards 70% during the following weeks; ◦ HR was rated during each training session to ensure optimal training intensity. <p>2. <i>Scalability and transferability</i> Yes.</p> <p>3. <i>Innovative features/added value</i> Combination of muscle-strengthening exercises and aerobic fitness exercises in an intelligently designed program, which may include other relevant educational activities.</p> <p>4. <i>Barriers/drawbacks</i> The success of the intervention depends on the orchestra's culture of well-being and communication culture.</p> <p>5. <i>Facilitators</i></p> <ul style="list-style-type: none"> - Adjustments were made to the individual needs of the musician and the type of instrument they played. This facilitated the effectiveness of the program and increased the motivation of participants. - The intervention was offered for free. - Holistic approach and a multifaceted intervention (stress, health condition, potential effects of physical exercises)
Evidence, achievements & learnings	<ul style="list-style-type: none"> - Approximately 50% of musicians were satisfied with the interventions and experienced a positive impact on playing. - 18% reported a slightly negative impact. - SST showed a significant reduction in pain (26.3±22.5 to 11.4±15.2 mm), no significant reduction for GFT (19.7±24.0 to 13.5±26.0 mm). - GFT significantly improved aerobic capacity (34.1±7.9 mL/min/kg to 40.0±13.6 mL/min/kg), no significant gain for SST. - For GFT, a significant improvement was seen in self-reported muscle strength (5.7±1.3 to 6.5±1.8) with a tendency toward significant improvement in self-reported aerobic fitness (5.6±2.3 to 6.2±2.5). <p>Exercise interventions have the potential to improve musicians' working situation.</p>
Launch date [& duration]	2016-2017.
Legal and policy context	/
Further information	Nygaard Andersen, L., Mann, S., Juul-Kristensen, B., & Sjøgaard, K. (2017). Comparing the Impact of Specific Strength Training vs General Fitness Training on Professional Symphony Orchestra Musicians: A Feasibility Study. <i>Medical Problems of Performing Artists</i> , 32(2), 94-100. https://doi.org/10.21091/mppa.2017.2016 .
Contact	Campusvej 55, Dep. of Sports Science and Clinical Biomechanics, University of Southern Denmark, 5230 Odense M, Denmark. Tel +45 65 50 75 91, e-mail: lonygaard@health.sdu.dk.

Template 7: Austrian Society for Musicians' Medicine (Medicine, Physiology & Psychology for musicians)

Source	Interview.
Member state/region	Austria/West-Europe.
Type of practice (education, prevention, treatment)	Education. Prevention. Treatment.
Funding source	Charity.
Focus, vision and aims	Focus: mental and physical health risks. Aim: 'Aims of our society are publication works of specialised knowledge for musicians on one hand, on the other hand special meetings of the different genres and finally research meetings. The OEGFMM aims common purposes and does not gain any benefit.'
Target group	Actors involved in the education and professional support of musicians.
Actors involved and their roles and responsibilities	The emphasis is put on cooperation of those who are responsible for education of musicians like teachers skilled in playing musical instruments, singing, scientists, producers of instruments, doctors, dentists, physiotherapists, sports- and music psychologists, 'Alexander teachers', 'Feldenkrais professors', music therapists, ergo therapists, etc.
Key features	<ol style="list-style-type: none"> 1. <i>Detailed description of approach, means ...</i> The association supports research, knowledge, theory, and techniques concerning music, medicine, physiology, and psychology. The association offers help concerning physical and psychological diseases of musicians. The association's goal is to improve prevention measures, diagnoses, and therapies. They work with different teams. The association could be compared with the Nederlandse Vereniging voor Dans- en Muziekgeneeskunde (NVDMG). Working Teams <ul style="list-style-type: none"> - <u>Musicians' Medicine</u>: coordination and taking initiatives of all activities which help the diagnosis, therapy, and rehabilitation of musicians (network of all genres). - <u>Music Psychology</u>: coordination and input at all aspects of musical feelings and behaviours plus musical development. - <u>Effect of Music</u>: transfer of knowledge and music effect in daily life and on society; finding connections to other professions, which deal with music and effects of music at various stages in life. - <u>Science and Research</u>: creation of a research platform for coordinating and planning research studies. Planning and commission of topics for thesis, bachelor, diploma etc. as well as money request for support. - <u>Education and Training</u>: improvement of education of young musicians; prevention of diseases concerning their work; influence on curricula of public and private colleges and institutions; guarantee optimal quality considering education. 2. <i>Scalability and transferability</i> The creation of working groups on specific themes is possible in every country so it is certainly possible to arrange this in other countries. 3. <i>Innovative features/added value</i> Combination of science and practice with a focus on interdisciplinary cooperation of those involved in the education and professional support of musicians. 4. <i>Barriers/drawbacks</i> / 5. <i>Facilitators</i> The interdisciplinary cooperation is certainly a facilitator.

Evidence, achievements & learnings	<p>The ÖGfMM is very proud that within the last 10 years they have ...</p> <ul style="list-style-type: none"> - grown from 30 to 110 very interdisciplinary members (https://oegfmm.at/gesellschaft/mitgliederverzeichnis); - supported the building of a Music physiology health department at the University of Music (musikphysiologie.at); - initiated the Development and realisation of a new academic course 'Certificate in Advanced Studies in Music Physiology' (CAS MP). Benefit of the new experts are young children and professional teacher (musikphysiologie.wien.at); - supported to establish a yearly 'health day' with courses at several Music Universities; - created best practice instruction videos for kids: YouTube Channel PrimaFit (https://www.youtube.com/c/PrimaFit-OeGfMM); - increased the awareness for hearing protections; - supported the cooperation between medical institution and professional orchestras; - supported scientist in supervising many bachelor, master theses and phds in the field of music physiology and music medicine (e.g. https://www.mdw.ac.at/mrm/iasbs/wiss-arbeiten-stud-bertsch/). <p>Next step, on the way, is the installation of certificates 'Health music schools' for music schools for young kids (10-18 years) offering a class and experts in music physiology.</p>
Launch date [& duration]	2009.
Further information/references	https://oegfmm.at/?lang=en https://oegfmm.at/
Contact	<p>ÖGfMM c/o Dr. Matthias Bertsch Universität für Musik u. darst. Kunst/Inst. 13/3, A.-v.-Webern-Platz 1, A-1030 Wien Tel/fax: +43 820 2202 690 44, e-mail: info@oegfmm.at.</p>

Template 8: Schallschutz Project

Source	Interviews.
Member state/region	West-Europe/ Germany.
Type of practice (education, prevention, treatment)	Prevention.
Funding source	<i>Deutscher Musiker-Verband, DeMuV (= Union for musicians in Germany).</i>
Focus, vision and aims	<p>Focus: physical health risks.</p> <p>Aims:</p> <ul style="list-style-type: none"> - that all orchestras have well equipped and well-constructed rehearsal rooms; - that health and safety play a significant role in the process of working in orchestras; - that the quality of communication improves within orchestras and with the leaders/managers of orchestras. <p>Vision: engage orchestras to make work of better hearing protection. Each orchestra must find its own resolution, and this depends on working together and the readiness to make compromises.</p>
Target group	German orchestras.
Actors involved and their roles and responsibilities	The project is funded by the DeMuV and carried out by three members of the working group 'health and prevention' within the DOV (Deutsche Orchestervereinigung). Two of the three members are experts in noise protection, the third member (Sieglinde, whom we interviewed) is the coordinator.
Key features	<p>1. <i>Detailed description of approach means,</i> Procedure of the project</p> <ul style="list-style-type: none"> - Orchestras who want to lend the noise barriers (see picture) contact the DeMuV and they bring the orchestras in touch with Sieglinde, the project coordinator. All orchestras can lend the barriers one time for free as a try-out. Afterwards, they can decide to buy them.

- Sieglinde then contacts the orchestra to see what the situation is, what the culture/atmosphere is, how the communication is. The aim is to learn how the orchestra works, because the approach of the Schallschutz project is customized.
- After the exchange of information, the two experts of the project visit during a rehearsal of the orchestra. They install the barriers. During the first 10 minutes of the rehearsal, they give a lecture on the importance of prevention of hearing damage and the related health risks.
- The barriers are used during rehearsals, not during performances.
- After the try-out phase, the orchestras can decide whether they buy the barriers or not. In any case, they must pass on the barriers themselves they lend on to the next orchestra on the waiting list.
- After the try-out phase or after purchasing the barriers, orchestras can always call on the project members for additional help or information.



Diesen Typ Schallschutzwand verwendet die DOV. Die Maße sind: Unterteil 100 x 100 cm, Oberteil 100 x 50 cm © privat

2. Scalability and transferability.

Yes, this project should be operational in all countries. See recommendation.

3. Innovative features/added value

- It is not just about loaning noise barriers. It also looks at the bigger picture: raising the musicians and the managers/leader's awareness of health! The approach is very humane and customised instead of a one-size-fits-all solution. The intake by the project manager during the contacting phase makes this clear. They want to learn the culture of the orchestras and adapt their services to that. During the implementation of the noise barriers, they also provide additional support such as communicating the importance of the barriers (for example by the 10-minute lecture), but also by starting conversations with musicians about the importance and by listening to those who provide resistance or react aggressively.
- During the project, a network is created. They bring orchestras with similar problems in touch. Or they connect orchestras who are struggling with something with orchestras who are good at that. (For example: the survey on rehearsal rooms.) After borrowing the barriers, orchestras must pass on the barriers to the next orchestra on the waiting list themselves. This is a win-win: the project does not have to drive around from orchestra to orchestra to transport the barriers. At the same time they create a connection between the orchestras: as they pass on the barriers in person, they also get in contact with other orchestras and pass on knowledge/learnings with it!

4. Barriers/drawbacks

A main barrier is when communication within orchestras and with their leader/manager is bad. When there is no understanding on the side of the manager of the problems of the musicians, there is no hope of getting a good result and it only leads to frustration.

5. Facilitators

- Testing phase. They had conversations in orchestras about knowledge of hearing protection.
- Situation of the rehearsal room, construction, so the barriers can be installed in an effective way.
- Working together with the leaders of the orchestra.

	<p>6. <i>Potential improvement/recommendation</i></p> <p>The Schallschutz project was initiated by employees. This is not ideal as it is (at least partly) the employer who is responsible for the health of its employees. If similar projects are initiated in the future, it is important to involve employer associations, because they must be on board to make these projects a success in means of communication and financially. A cooperation between the employer side and the employee side would be ideal.</p>
Evidence, achievements & learnings	<ul style="list-style-type: none"> - In the end, 54 orchestras took part in the project. That is about 42% of all orchestras in Germany. A lot of them bought the barriers after loaning them for free. - Apart from that, they got positive reactions from the orchestras. They were happy that the team was present at rehearsals to teach about hearing protection and to help install the barriers. They often felt as it was the first time that someone acknowledged their problems.
Launch date [& duration]	It started 10 years ago, in 2011, and ended before the COVID-19 pandemic because most rehearsals and performances by orchestras were cancelled.
Further Information/references	<p>https://www.dov.org/schallschutz</p> <p>Interesting book: The (fr)agile orchestra</p>
Contact	<p>Huebsch@dov.org Jan-Christian Hübsch (member of the DOV)</p> <p>Sifri@t-online.de Sieglinde Fritzsche (coordinator of the project)</p>

Template 9: SportMedisch Advies (SMA) Aalsmeer

Source	Interview.
Member state/region	The Netherlands/West-Europe.
Type of practice (education, prevention, treatment)	Treatment.
Funding source	/
Focus, vision and aims	<p>Focus: physical health risks.</p> <p>Aim: The aim of SMA Aalsmeer, and more specifically of dr. Liesbeth Lim (sports doctor and specialist), is to identify the source of complaints that musicians have and start the right treatment. She focuses on physical complaints such as pain, tension, and posture.</p> <p>Vision: Lim's vision is that professional musicians are top athletes and so they need specialised treatment. Medical specialisation in musicians is an added value to the medical world.</p>
Target group	Any instrumentalist is welcome. Vocalists are also welcome for an intake after which she refers them to an Ear, Nose, Throat specialist.
Actors involved and their roles and responsibilities	<ul style="list-style-type: none"> - Within SMA Aalsmeer, Liesbeth Lim is the only doctor specialised in treating musicians. - Lim is member of the NVDMG (Nederlandse vereniging voor dans- en muziekgeneeskunde), an association for Dutch doctors specialised in treating musicians and dancers. Her colleagues from the association refer musicians to her. - Lim maintains good contacts with conservatories through their physiotherapists or departments of health (if there is one). They refer students to her. - Lim makes herself known with general practitioners so they can refer musicians to her if needed.
Key features	<p>1. <i>Detailed description of approach, means ...</i></p> <p>Liesbeth Lim arranges a face-to-face intake and invites the musician to bring their instrument. A piano is available in her work office. She interviews the musicians on their complaints. Her first goal is to exclude a medical cause for the musicians' complaints. After, she observes the musician while playing his/her instrument and asks about their exercise schedules including time for breaks and recuperation. Lim then provides the musician with advice on their posture and exercise schedule. If necessary, she can initiate a specific treatment. Though she notices that many musicians are already helped by getting some attention and the right advice.</p>

	<p>2. <i>Scalability and transferability.</i> There should be more regional centres specialised in the treatment of musicians in the Netherlands. These could be integrated in existing hospitals or specialised medical centra for e.g., top athletes. These regional centres should be cooperating as part of a bigger national and/or international network so new insights can be shared at all times, e.g., the Dutch association sometimes invites Belgian specialists to their events.</p> <p>3. <i>Innovative features/added value</i> The added value of SMA Aalsmeer is that there are instruments available during the consultation. In this way, Liesbeth Lim can immediately see the cause of a particular complaint and give more targeted advice on postures or techniques. In this way, musicians can often continue to play music or resume playing music sooner, which is essential for them. With a doctor who does not have that knowledge of instruments, musicians would be more likely to be prescribed a rest period, while a long rest period is often not feasible for a professional musician.</p> <p>4. <i>Barriers/drawbacks</i> Music medicine needs more publicity! Many musicians do not know of its existence. This is one of the aims of the association. There is a lack of doctors and hospitals/centra specialised in music medicine across the country. Musicians often must travel far to see a specialist.</p> <p>5. <i>Facilitators</i></p> <ul style="list-style-type: none"> - Profound knowledge on different instruments and related complaints thanks to many years of experience and subscriptions to scientific journals. - The availability of an experienced mentor (Boni Rietveld) to learn from and discuss with. - Member of the association for music medicine in the Netherlands to share insights with and discuss with. - Good contact with different stakeholders (general practitioners, colleagues of the association and conservatories) and a website so that musicians can find the practice easily via different channels.
Evidence, achievements & learnings	<ul style="list-style-type: none"> - Liesbeth Lim has no overview of how many patients she sees each year. But she does get a lot of positive feedback from musicians who are satisfied to have somewhere for them to visit. - She also established a joint consultation with a hand physiotherapist. Thanks to her close contacts with other specialists, she has ensured that musicians can play without pain again. - More and more medical students find their way to SMA Aalsmeer for internships. This is a sustainable and important way of putting music medicine on the map and to share her knowledge with potential successors.
Launch date [& duration]	In 1993, the centre for musicians and dancers in Den Haag closed was launched by Boni Rietveld. In 2018 it closed and since then, Liesbeth Lim sees her patients in SMA Aalsmeer.
Legal and policy context	/
Further information	<p>https://www.sma-aalsmeer.nl/ https://www.nvdmg.org/home</p> <p>Boni Rietveld published a paper with tips and tricks based on his 30 years of experience. This paper might be consulted in the light of this good practice for concrete tips for treating musicians. The methodologies this paper puts forward or in line with the approach of SMA Aalsmeer.</p> <p>Rietveld, A. B. M. (2013). Dancers' and musicians' injuries. <i>Clinical Rheumatology</i>, 32, 425-434. DOI 10.1007/s10067-013-2184-8</p>
Contact	<ul style="list-style-type: none"> - Contact Liesbeth Lim liesbethlim@paca.nu - Contact SMA Aalsmeer 0297-230960 info@sma-aalsmeer.nl

Template 10: The MMF guide to mental health

Source	Interview.
Member state/region	United Kingdom/West-Europe.
Type of practice (education, prevention, treatment)	Prevention. Education.
Funding source	MMF and Music Support. Help Musicians UK.
Focus, vision and aims	<p>Focus: mental and physical health risks</p> <p>Aim: ‘to offer that first step of support for you, as a manager. Firstly, to help you do your job without sacrificing your health and secondly, to give you information on what to do if you or your artists are having difficulties and, finally, to signpost the brilliant organisations and services that exist out there to help and support you, both with emergencies and in the longer term.’</p> <p>Vision: ‘Artist managers have always been at the epicentre of the business of artists. As the administrator, communicator, and negotiator of all the facets that make up an artist business, you have a vast workload and numerous relationships to manage. Today, the role of the artist manager covers much more than that due to the decrease in artist investment available as well as the growing complexities of the digital business. As the only people with a 360-degree, 365-day view of what is going on in the artist’s life, you are at the forefront of any issues arising, including those around the health and wellbeing of the artist.’</p>
Target group	Music managers.
Actors involved and their roles and responsibilities	Help Musicians UK.
Key features	<ol style="list-style-type: none"> 1. <i>Detailed description of approach, means, ...</i> A guide describing and explaining the signs and symptoms of stress, work balance and boundaries (co-dependency, imposter syndrome, stress management), anxiety and depression, alcoholism and drug, with additional tips and tricks to help music managers themselves and to help someone else. 2. <i>Scalability and transferability</i> The guide is professionally written and easily accessible. The tips and advice are easy to transfer to other countries. 3. <i>Innovative features/added value</i> <ul style="list-style-type: none"> - Creating a culture where staff feel able to talk openly about mental health at work. - That although the music industry is an enabling and triggering industry for anyone with a predisposition or vulnerability to these life-threatening issues, nobody else needed to die, as they had all seen friends and colleagues die. Anybody in the music industry who reached out for help should get it - quickly, from appropriately trained people with experience of the music industry, who understood what it was like, because they had once come up against a lack of understanding themselves. 4. <i>Barriers/drawbacks</i> / 5. <i>Facilitators</i> <ul style="list-style-type: none"> - The recommendations are small and inexpensive. - MIND has produced a number of resources on mental health in the workplace, which are freely available at www.mind.org.uk: - The authors believe the solution is in the hands of the music industry itself. ‘Not only is HMUK committed to building a Music Industry Mental Health Taskforce – with key partners like the Music Managers Forum – we are also determined to give musicians and those around them a route to find clinical or therapeutic support.’ - The guide was created based on personal experiences of music managers and therefore tailored to the needs of the target group.
Evidence, achievements & learnings	/
Launch date [& duration]	2017
Further information/references	https://themmf.net/site/wp-content/uploads/2017/05/Mental-Health-Guide-Online.pdf .

Contact	Help Musicians UK.
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Template 11: Motor Activity as a Way of Preventing Musculoskeletal Problems in String Musicians

Source	Desk research.																										
Member state/region	Germany/West-Europe.																										
Type of practice (education, prevention, treatment)	Prevention.																										
Funding source	/																										
Focus, vision and aims	<p>Focus: physical health risks.</p> <p>Aim: A holistic approach, in which the interactivity of all parameters is trained.</p> <p>Vision: The human body is controlled by a system of motor components. The training program should concentrate on strength, endurance, and flexibility.</p>																										
Target group	String musicians.																										
Actors involved and their roles and responsibilities	The physiotherapist is asked to monitor.																										
Key features	<p>1. <i>Detailed description of approach, means, ...</i></p> <p>Endurance training program (walking, running, cycling, swimming) to activate the cardiovascular system and improve basic endurance: for at least 20min/day or 40-60min/3xWeek.</p> <p style="text-align: center;">TABLE 3. Sample Endurance Training for Strings Players</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Training Method</th> <th>Load Control</th> <th>Intensity</th> <th>Training Sessions and Duration</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Walking, running</td> <td>Karvonen formula</td> <td>THR = RHR + [(220 - 0.75 age) - RHR] × Intensity*</td> <td rowspan="2">2-3×/wk, 20-60 min</td> <td rowspan="2">Long slow distance or interval methods Beginners should alternate between walking and running</td> </tr> <tr> <td>RPE scale</td> <td>at level 13 ("somewhat hard")</td> </tr> <tr> <td rowspan="2">Cycling, ergometer</td> <td>Karvonen formula</td> <td>THR = RHR + [(220 - 0.75 age) - RHR] × Intensity*</td> <td rowspan="2">2-3×/wk, 20-60 min</td> <td rowspan="2"></td> </tr> <tr> <td>RPE scale</td> <td>at level 13 ("somewhat hard")</td> </tr> <tr> <td rowspan="2">Swimming</td> <td>RPE scale</td> <td>at level 13 ("somewhat hard")</td> <td rowspan="2">2-3×/wk, 20-60 min</td> <td rowspan="2">Interval training (adapt intervals to individual physical condition)</td> </tr> <tr> <td>Heart rate</td> <td>10-20 beats less compared to running or swimming</td> </tr> </tbody> </table> <p>*Intensity should be adapted to the individual physical condition (60-80%). THR, target heart rate; RHR, resting heart rate; RPE, rating of perceived exertion.⁸</p> <p>Strength: focusing on strength training for the shoulder, upper limbs, and core. Muscle endurance training to improve stress resistance. For instance, training with dump bells, barbells, TheraBand, Swiss ball. Sitting and performing exercises to improve flexibility and coordination skills.</p>	Training Method	Load Control	Intensity	Training Sessions and Duration	Notes	Walking, running	Karvonen formula	THR = RHR + [(220 - 0.75 age) - RHR] × Intensity*	2-3×/wk, 20-60 min	Long slow distance or interval methods Beginners should alternate between walking and running	RPE scale	at level 13 ("somewhat hard")	Cycling, ergometer	Karvonen formula	THR = RHR + [(220 - 0.75 age) - RHR] × Intensity*	2-3×/wk, 20-60 min		RPE scale	at level 13 ("somewhat hard")	Swimming	RPE scale	at level 13 ("somewhat hard")	2-3×/wk, 20-60 min	Interval training (adapt intervals to individual physical condition)	Heart rate	10-20 beats less compared to running or swimming
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		TABLE 4. Sample Strength Training		
Training Method	Training Session	Advantage	Disadvantage	Note
Training on weight machines	2-3 sets, 15-20 repetitions (muscle endurance) 3 sets, 8-12 repetitions (hypertrophy)	Beginners keep form of specific exercise (fixed range of motion), prevention of injury	Difficulty in strengthening the stabilized muscles Machines are often geared to the average-sized person.	The sports therapist should give a machine-specific introduction in order to prevent the patient from overload or injuries.
Functional training (e.g., Thera-Band)	1-3 sets, 15-20 repetitions (muscle endurance) 3-5 sets, 8-15 repetitions (hypertrophy)	Little effort, patient's physical performance is secondary Integration in everyday life	The Thera-Band provides an unsteady resistance (i.e., a linear resistance).	Training intensity may be adjusted by altering the level of resistance.
Functional training (e.g., Swiss ball)	2-4 sets, 12-15 repetitions (muscle endurance)	Dynamic sitting trains the stabilizing muscles, coordination and mobility. Intervertebral discs are supplied more sufficiently. Swiss ball may be used in addition to regular machine training.	Long sitting may lead to muscle fatigue.	To increase intensity, the patient may perform more sets or more exercises with out long pauses.

		TABLE 5. Sample Flexibility Program		
Physiological Background	Dose	Advantage	Disadvantage	Area of Prevention
Static active stretching				
Inhibition of antagonist	Muscle is gently stretched; antagonist is stressed additionally	Easy to learn Many variations Low risk of injury	Low increase in mobility	Starters, children, adults
Repetitive stretching				
Avoidance of neuromuscular spindle, frequent stretching at the limits	10-30 repetitions	Improvement of interaction between agonist and antagonist	Stimulation of stretch reflex, light stimulation	Prior to all kinds of physical activities
Static passive stretching				
Avoidance of neuromuscular spindle by stretching slowly	No pain, 10-30 sec stretching, 10-30 sec rest	Low risk of injury	No training of intermuscular coordination	Do not use prior to training (load) for reasons of muscle tone
Post-isometric relaxation				
Activation of neurotendinous spindle leads to "postcontractile inhibition"	8-10 sec moderate exertion, 1-2 sec rest, 7-10 sec stretching	Good effectiveness	Time-wasting/arduous, wilfull execution necessary	Good body perception necessary

Mobility exercises to counter lack of flexibility in the shoulder, improve coordination skills and prevents muscle shortening. Muscle stretching, mobilisation of passive structures, aquatic jogging.

2. *Scalability and transferability*
Scalable and transferable to other countries/regions as the target group and good practice are well defined and examples of training programs for the different aims (endurance, strength, and mobility) are added innovative features.
3. *Innovative features/added value*
Intervention (mobility program) as a form of prevention instead of medical rehabilitation, and a holistic approach.
4. *Barriers/drawbacks*
/
5. *Facilitators*
Sporting experience and individual prerequisites, and individual wishes and interests influence the choice of sport. If wishes are met, this will have a positive effect on musician's motivation and encourage his/he compliance.

Evidence, achievements & learnings	The sport-specific program is tailored to the scientific evidence of strength training, mobility, and endurance in musicians.
Launch date [& duration]	The paper was published in 2011.
Further information/references	Wilke, C., Priebus, J., Biallas, B., & Froböse, I. (2011). Motor activity as a way of preventing musculoskeletal problems in string musicians. <i>Medical Problems of Performing Artists</i> , 26(1), 24-29. DOI: 10.21091/mppa.2011.1003.
Contact	Dr. Christiane Wilke, Institute of Health Promotion and Clinical Movement Science, German Sports University Cologne, Am Sportpark Müngersdorf 6, Cologne D-50933, Germany.

Tel 0049 221 4982-7610; fax 0049 221 4982 8390.
E-mail: wilke@dshs-koeln.de

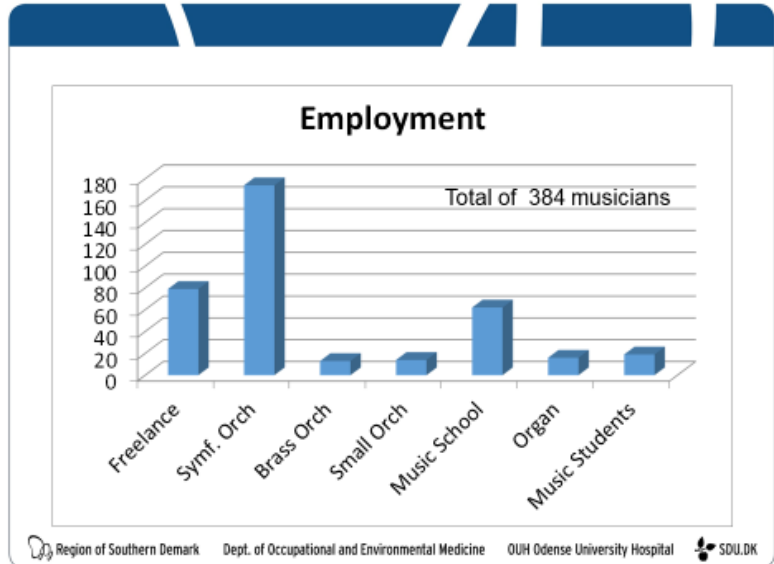
Template 12: Clinic of Performing Art Medicine, Department of Occupational and Environmental Medicine, Odense University Hospital

Source	Interview.
Member state/region	Denmark/North-Europe.
Type of practice (education, prevention, treatment)	Treatment.
Funding source	All services at public hospitals in Denmark are free and no costs are charged.
Focus, vision and aims	Focus: physical health risks. Aim/Vision: to provide the music industry with occupational health expertise with respect to treatment and health and safety prevention.
Target group	All musicians, primarily professional musicians, and music students.
Actors involved and their roles and responsibilities	Public.
Key features	<ol style="list-style-type: none"> 1. <i>Detailed description of approach, means, ...</i> 'At the start (2013) it was primarily the symphony orchestras and the Danish Musicians Union who were aware of our existence. During the years, more and more musicians (other musicians than from symphony orchestras) have the knowledge, and through them GP's as well. The Musicians' Union has done a great work by informing about us. The musicians are referred by their GP, and even the workplace and the Musicians Union. The service we provide is health examination, exposure assessment, treatment and advise concerning preventive measures.' 2. <i>Scalability and transferability</i> 'It is vital that the health service for musicians is placed at the hospital sector within the speciality of occupational medicine, with the opportunity to include other specialities. The reason for occupation medicine is the focus and knowledge about work conditions and exposure beside treatment.' 3. <i>Innovative features/added value</i> 'We are building up expertise in knowledge concerning musician health and work condition as well as treatment and preventive measures.' 4. <i>Barriers/drawbacks</i> 'Our budget is low, and now we have no budget for a physiotherapist. We could use more budget for our work with prevention in general.' 5. <i>Facilitators</i> 'Good support and cooperation from and with the music industry, as well as the hospital management.'

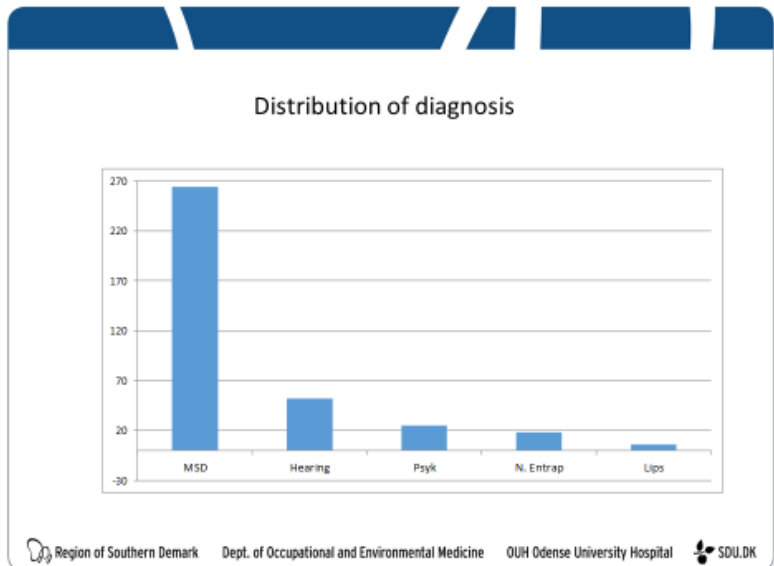
Evidence, achievements & learnings

Number and diversity of patients

- 'At the beginning, the referred musicians were mainly from symphony orchestras, of which there are 6 in Denmark. As knowledge about the existence of the clinic became more and more widespread in the profession more and more freelance musicians engaged in rock/pop bands or classical orchestras, music school and conservatory students and teachers, church organists and singers are referred, as seen in the following table:'



- 'Since the start in 2013 approximately 400 musicians have so far been referred. The majority have been referred due to musculoskeletal problems (neck, shoulder, elbow and hand) and second hearing problems, as seen in the following table:'



	<p><i>Newly discovered methods/prevention measures</i></p> <ul style="list-style-type: none"> - 'We have gained knowledge about working conditions and workload, where we for instance have observed a connection between periodical increased workload (extensive playing) like preparing for audition or due to extensive repertoire and occurrence of musculoskeletal pain. This should be taken into account when planning repertoire and auditions.' - 'We are gathering information on the possibility of ergonomic modification(s) of the music instruments, use of hearing protective devices so we can advise the musicians about those measures.' <p><i>Important networking events</i></p> <ul style="list-style-type: none"> - 'We have been part of planning Nordic conference on Musician Health in Sweden 2013, and as host in Denmark 2015. The Next Nordic conference is in Norway august 2022. We have presented our own experience and scientific work at the Nordic conferences as well as at other international scientific conferences.' - 'We give lectures in musician health at music schools, conservatories, and labour unions. During the COVID-19 pandemic we participated in web seminars held by music schools and choirs.' <p><i>The number of publications.</i></p> <ul style="list-style-type: none"> - 10 publications in international peer reviewed scientific journals.
Launch date [& duration]	2013.
Legal and policy context	/
Further information	https://www.sdu.dk/
Contact	Lars Brandt, Head of Clinic PhD Ass. Professor, Dept Occupational and Environmental Health, Odense University Hospital, https://en.ouh.dk/

Template 13: Scheme for intermittent workers in the performing arts (régime des salariés intermittents du spectacle)

Source	Interview.
Member state/region	France/West-Europe.
Type of practice (education, prevention, treatment)	Prevention.
Funding source	The Performing Arts Unemployment Insurance Scheme is financed through payroll taxes from employees as well as from employers.
Focus, vision and aims	Focus: physical and mental health risks. Aim: The scheme was set up to offset the inherent discontinuity of periods of employment in these professions.
Target group	Artists working in the live performance (dance, theatre, music), film and audio-visual sectors. However, this scheme is restricted to professionals whose work is primarily associated with artistic creation projects, meaning that it excludes teachers of artistic disciplines (such as dance and music teachers).
Actors involved and their roles and responsibilities	The parliament – prime minister. Trade unions. Employers' organisations.
Key features	<ol style="list-style-type: none"> 1. <i>Detailed description of approach, means</i> On the one hand, it allows organisations and firms in these sectors to recruit employees on very short fixed-term contracts, with no limitation on the number of consecutive contracts (in 2017, the figure went up to more than 50 contracts in a year for some), and on the other, it entitles workers who have accumulated 507 working hours over a period of 10 months to unemployment benefit during non-working periods. However, this scheme is restricted to professionals whose work is primarily

associated with artistic creation projects, meaning that it excludes teachers of artistic disciplines (such as dance and music teachers).

2. *Scalability and transferability.*

There are already many similar systems operational in the European Union. There is actually a need for a system on European level (see final report Section 4.4).

3. *Innovative features/added value*

- This scheme is financially advantageous, and the arrangements are protective. The 'smoothing' of income is a security factor: systematic compensation for days not worked means that remuneration can be levelled out over the year, and changes of activity, which are frequent and almost inevitable in these professions, can be offset.
- As participation in creative artistic projects is the number one condition for access to the intermittent workers' scheme, it is in the interest of all artists to prioritise their creative projects to the detriment of their other activities, including audience engagement.
- The scheme requires people to develop their own creative projects.
- The terms of the intermittent workers' scheme therefore make it a powerful driver for creative work. But it is also a scheme that supports creative activities by providing artists with a certain level of economic well-being. As Isabelle Uski says, 'it gives you space', and that helps to generate new ideas.
- The scheme thus allows artists to take time to explore new avenues.
- The time that is 'unwaged' but compensated is also used for other dimensions of work that are necessary for creation, such as documentation, reading, and also meeting people to expand an artist's knowledge of a subject. Research is an integral part of the creative process, and 'this is necessary to produce high-quality performances', the artist explains.

4. *Barriers/drawbacks*

This system only operates, of course, on the condition that one has 'put in one's hours', as the intermittent workers we met described it – that is to say, clocked up 507 working hours over a period of 10 months. These much-talked-about hours were fiercely defended and ultimately maintained during the protests triggered off in 2003 when the French government sought to review these exceptional French arrangements with a plan to reform the intermittent workers' scheme.

The paradox is that this work is not fully recognised by the intermittent workers' scheme: the number of hours declared must be limited if professional artists want to maintain their entitlement to the benefit scheme. Teaching does not count, however this is sometimes required by cultural institutions or necessary for artists to gain money.

Its operating principle, which dictates a number of hours that have to be worked during a set period, sometimes leads the artists to chase after contracts to 'get their status in order'.

To be entitled to compensation in the event of illness or pregnancy, for example, the quota of hours to be worked is different from the 507 hours of work in 10 months required for unemployment benefits. In this case, a worker has to provide evidence of 600 hours of work over 12 months or there is no sick pay.

And when an intermittent worker is ill for short periods, in order to be eligible for benefits, he or she has the same quota of working hours to achieve over the period of 10 months as people who have not been ill. In any case, it is not easy for artists to back out of a date for a show or a performance, even when they are ill. In other words, intermittent workers need to be in good health, as otherwise they run the risk of being automatically excluded from the scheme.

The unions are demanding a reform of the social protection system so that all workers in the sector have access to unemployment benefits, paid sick leave and paid maternity leave.

'We are calling for the extension of the 'white year', which provides unemployment assistance to workers in the sector in this situation where they have not been able to work for an unprecedented period of time,' said Denis Gravouil, General Secretary of CGT Spectacle. 'The current scheme expires at the end of August,' he notes.

<https://www.uni-europa.org/news/getting-behind-the-wave-of-theatre-occupations-across-france/>

In France, the 'Intermittents du Spectacle' scheme has been in place since 1936. This scheme acknowledges that working in the arts (both as artists and technicians) can be highly precarious and subject to long fallow periods. Therefore, if artists are able to find a certain amount of paid work a year (equating to 507 hours over 10 months),

	<p>the French state will match what they earn and pay them during periods of unemployment.</p> <p>In response to the COVID-19 pandemic, and the impact on those working in the cultural and creative sectors, the French government granted those under the scheme a blank year on Wednesday May 6. Therefore, even if an artist or technician does not work 507 compulsory hours, they will still have the right to unemployment insurance until August 2021. This is an important development in France, given that the culture sector supports 1.3 million people and represents 2.2% of GDP.139.</p> <p>5. <i>Facilitators</i></p> <p>‘What I like is that I operate as self-employed, but with the status of an employed person.’ This is precisely what makes this scheme so attractive to many workers in the artistic sphere: the ability to enjoy independence within your organisation and to choose your own projects, while still being employed by each organisation you work for. And all this while still drawing unemployment benefit in periods between contracts.</p>
Evidence, achievements & learnings	<p>According to the latest available figures (from 2017), 143 321 workers are registered with the French unemployment scheme for intermittent workers in the performing arts, which is 66% of the 217 153 workers in the live performance (dance, theatre, music), film and audio-visual sectors, be they artists, workers or technicians.</p>
Launch date [& duration]	<p>In this Performing Arts Unemployment Insurance Scheme (PAUIS), two regimes of compensation exist, with differences in compensation rules linked to the characteristics of the labour market segments concerned. The regime ‘Annexe 8’ was created in 1964 to cover the technical and managerial personnel of the cinema and audio-visual industry. The ‘Annexe 10’ regime was created in 1969 to protect artists working in all sectors as well as technical workers in the live performing arts. The 2004 reform of PAUIS altered the perimeter of the two regimes. Since then, the ‘Annexe 8’ regime covers all of the technical and managerial workforce regardless of the sector of employment, and Regime ‘Annexe 10’ concerns only the artistic personnel, (paper by Pierre-Michel Menger).</p> <p><u>23 July 2015</u>: The draft law on social dialogue was definitively adopted in the National Assembly. One of its measures - Article 20 - includes the continuation of the unemployment insurance scheme for the intermittent performers.</p> <p>https://www.culture.gouv.fr/en/Actualites/Intermittents-le-plan-d-action-du-gouvernement</p>
Further information/references	<p>ETUI contributors, (2020, November 05). The art of managing the intermittent artist status in France. In ETUI, The European Trade Union Institute. Retrieved 07:52, January 20, 2022, from https://www.etui.org/publications/art-managing-intermittent-artist-status-france</p>
Contact	<p>https://mailchi.mp/15bb8995aaeb/life-off-stage-survival-guide-for-creative-arts-professionals-1236558?e=88bdbad6ff</p> <p>https://www.francetvinfo.fr/sante/maladie/coronavirus/coronavirus-une-annee-blanche-pour-les-intermittents-du-spectacle_3952851.html</p> <p>https://www.etui.org/publications/art-managing-intermittent-artist-status-france</p> <p>https://www.culture.gouv.fr/en/Actualites/Intermittents-le-plan-d-action-du-gouvernement</p>

Appendix 5. List of participants in the validation workshop

	Name	Organisation, country
1	Anon.	Austrian Society for Musicians' Medicine, Austria
2	Anon.	PEARLE, European organisation
3	Anon.	Dutch Association for Dance and Music Medicine (NVDMG), Medical Centre for Dancers and Musicians (MCDM), the Netherlands
4	Anon.	Dutch Association for Dance and Music Medicine (NVDMG), IFLA, KNVI, University of Amsterdam, The Netherlands
5	Anon.	GentleManagement, Belgium
6	Anon.	University of Iceland, Iceland
7	Anon.	Odense University Hospital/University of Southern Denmark, Denmark
8	Anon.	Violinist and author, Antwerp Symphony Orchestra, Belgium
9	Anon.	Stotijn Consultancy (Wellbeing of musicians), the Netherlands
10	Anon.	Music centre Het Depot, Belgium
11	Anon.	VI.BE, Belgium
12	Anon.	Austrian Society for Musicians' Medicine, Austria
13	Anon.	Adelante Zorggroep/Maastricht University, the Netherlands
14	Anon.	SingSing, Belgium

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