JÖNKÖPING UNIVERSITY
School of Health and Welfare

Doctoral Thesis

Health promoting potential of Arts on prescription

– Studies of people on sick leave for common mental disorders and/or non-specific musculoskeletal pain

Paula Bergman

Jönköping University
School of Health and Welfare
Dissertation Series No. 140 • 2024

JÖNKÖPING UNIVERSITY
School of Health and Welfare

Doctoral Thesis

Health promoting potential of Arts on prescription

– Studies of people on sick leave for common mental disorders and/or non-specific musculoskeletal pain

Paula Bergman

Jönköping University
School of Health and Welfare
Dissertation Series No. 140 • 2024

Doctoral Thesis in Welfare and Social Sciences

Health promoting potential of Arts on prescription
– Studies of people on sick leave for common mental disorders and/or non-specific musculoskeletal pain

Dissertation Series No. 140

© 2024 Paula Bergman

Published by
School of Health and Welfare, Jönköping University
P.O. Box 1026
SE-551 11 Jönköping
Tel. +46 36 10 10 00
www.ju.se

Printed by Stema Specialtryck AB, year 2024

Trycksak
3041 0234

ISSN 1654-3602
ISBN 978-91-88669-55-1 (printed version)
ISBN 978-91-88669-56-8 (online version)

Preface

Ever since I came across Antonovsky, his salutogenic perspective has inspired me. In my work to contribute to a better and more equitable public health, my focus has been to look for and promote what contributes to and strengthens health, instead of focusing on health problems or illness.

In 2002, Arts for Health was introduced as part of the public health work in Region Jönköping County, aiming to promote mental health and well-being and contribute to reducing health inequalities. Over nearly two decades since its introduction, I have had the privilege of developing and implementing various Arts for Health initiatives in the region, alongside colleagues and community partners. The goal has been to enhance the health and mental well-being of groups with limited access to the arts by offering tailored Arts for Health group activities.

During these years, I have experienced how arts activities have been able to reach people deeply and promote well-being in challenging situations in life, such as when experiencing mental health problems, pain, or illness, which create physical, psychological, or social limitations.

One of the region's Arts for Health initiatives is Arts on Prescription (AoP), a programme for people on sick leave due to common mental disorders (CMD) including stress, anxiety, and depression, as well as people with non-specific musculoskeletal pain. This PhD project has been an opportunity to explore and scientifically evaluate AoP.

Abstract

Common mental disorders (CMD) and non-specific musculoskeletal pain have a major impact both on individual well-being and societal burden. Anxiety and depressive disorders are widespread, leading to high levels of sick leave, especially among women. Arts activities are increasingly recognised as a means of promoting health for individuals with CMD and of helping to manage long-term pain.

This thesis examines whether, and if so, how and to what extent Arts on Prescription (AoP) can serve as a health-promoting programme for individuals on sick leave due to common mental disorders (CMD) and/or non-specific musculoskeletal pain. It comprises three quantitative studies employing a quasi-experimental prospective design, with baseline assessments and follow-ups at 6 and 12 months, alongside one qualitative study based on focus groups.

Results in Study I showed significantly greater reductions in depression over time in the intervention group compared to the control group. However, this difference was not maintained after adjusting for sick leave. The within-group change over time for stress, anxiety, and depression was significant for both groups, with a larger effect observed in the intervention group compared to the control group, regardless of the adjustment for sick leave. The results of Study II indicated no statistically significant difference between the groups in the change in sense of coherence (SOC) strength over time. Both groups demonstrated statistically significant within-group increases in SOC, with the intervention group exhibiting an effect size that was double that of the control group. This reflected a medium effect size for the intervention group compared to a small effect size for the control group, regardless of whether sick leave adjustments were made. No statistically significant results were found in Study III regarding changes in general self-efficacy (GSE), either for between-group or within-group differences over time. The estimated effect size for within-group changes in GSE over time was small in both the intervention and control groups. Descriptive statistics on the effect of sick leave status revealed a significant difference in general GSE across various levels of sick leave. Participants on 25% sick leave had the highest GSE values, while those on full-time sick leave reported the lowest GSE values.

Financial concern and educational level served as indicators of social determinants of health and health inequalities in the analyses. Descriptive statistics in Studies I-III revealed that participants frequently concerned about finances reported higher stress, anxiety, and depression levels (Study I), alongside the weakest SOC (Study II) and the lowest GSE (Study III). In contrast, those never concerned about their finances exhibited lower stress, anxiety, and depression, the strongest SOC, and the highest GSE. This difference encompassed all SOC sub-dimensions, Comprehensibility, Manageability, and Meaningfulness, while Meaningfulness remained stable in other analyses across Studies I-III. Conversely, educational level showed no significant effect. These findings suggest that financial concern can be a critical factor influencing mental health and well-being. In Study IV, the findings indicate that the participants' involvement in AoP fostered a sense of belonging, relief from daily demands, and a feeling of being moderately challenged through the arts activities. These challenges, when embraced, led to a sense of reward manifested as increased confidence and self-efficacy as the participants perceived they had successfully performed the arts activities. Together, these experiences contributed to health-promoting changes within the individual, such as transformed perceptions of their abilities, increased self-respect, and regained motivation and hope for the future

.

Original papers

The following papers are enclosed as appendices.

Paper 1

Bergman, P., Rusaw, D., Bülow, P. H., Skillmark, M., & Jansson, I. (2023). Effects of arts on prescription for people with common mental disorders and/or musculoskeletal pain: A controlled study with 12 months follow-up. *Cogent Public Health*, *10*(1), 1-10. https://doi.org/10.1080/27707571.2023.2234631

Paper 2

Bergman, P., Jansson, I., Bülow, P. H., Skillmark, M., Rusaw, D., Eriksson, O. (2024). Arts on Prescription's influence on Sense of Coherence: a controlled follow-up study with people having mental health problems. *Nordic Journal of Arts, Culture and Health, 6*(2), 1–19. https://doi.org/10.18261/njach.6.2.1

Paper 3

Bergman, P., Eriksson, O. Effect of Arts on Prescription on General Self-Efficacy for people on sick leave: A controlled longitudinal study in Sweden. *(in manuscript)*

Paper 4

Bergman, P., Jansson, I., & Bülow, P.H. (2021). “No one forced anybody to do anything - and yet everybody painted” Participants experiences of Arts on Referral. *Nordic Journal of Arts, Culture and Health, 3*(1-2), 9–20. https://doi.org/10.18261/issn.2535-7913-2021-01-02-02

Table of Contents

Abbreviations

AoP Arts on prescription

CMD Common mental disorders

GSE General self-efficacy

GSES General self-efficacy scale

HADS Hospital Anxiety and Depression Scale

SCI-93 Stress and crises inventory -93

SOC Sense of coherence

SOCS-13 Sense of coherence Scale

WHO World Health Organization

1. Introduction

Common mental disorders (CMD) and non-specific musculoskeletal pain, significantly impact individual well-being, often leading to chronic health issues that impose a considerable burden on society. These conditions are among the most pressing global health challenges in terms of prevalence, disease burden, and the resulting long-lasting conditions that contributing substantially to the overall disease burden (GBD Collaborators, 2020; Wainberg et al., 2017). Long-term pain syndromes significantly contribute to years lived with functional limitations for both genders. This is particularly notable in women, where conditions such as depression are often associated with chronic pain, exacerbating their challenges (GBD Collaborators, 2018; Prego-Domínguez et al., 2021).

Anxiety and depressive disorders are the most common mental health issues worldwide, affecting millions of people (AFA, 2023; Försäkringskassan, 2023a; Steel et al., 2014; Tichenor & Sridhar, 2020). According to reports from the Swedish Social Insurance Agency (Försäkringskassan, 2023a) and Labour Market Insurance (AFA, 2023) these CMD contribute to significant levels of sick leave, particularly among women. Approximately 30 per cent of adults globally suffer from chronic pain (Cohen et al., 2021), i.e. pain conditions that profoundly impact quality of life, negatively affecting relationships and social interactions, and that are strongly associated with mental disorders (IsHak et al., 2018).

From a salutogenic perspective, which focuses on what contributes to and sustains health (Antonovsky, 1987), research suggests that mental well-being, characterised by feeling good and functioning well, acts as a protective factor against both physical and mental health challenges (Regan et al., 2016). Mental well-being has been shown to reduce the risk of physical pain and may correlate with lower pain intensity (Furrer et al., 2019; Santini et al., 2022). This protective effect is probably due to the role of well-being in enhancing resilience and problem-solving abilities, which in turn can lower negative stress and cortisol levels (Santini et al., 2022). In healthcare practices, the incorporation of arts activities, such as music, drama, dance, literature, and crafts, is increasingly recognised as a vital component in promoting health for

individuals with stress-related disorders, depression, and anxiety (Fancourt & Finn, 2019). Moreover, studies suggest that participation in arts activities can assist in managing non-specific musculoskeletal pain (Murillo-Garcia et al., 2018; Raudenská et al., 2023). These arts-based programmes are often delivered in group settings, fostering support and sense of community among participants (Jensen et al., 2024).

This thesis aims to explore and evaluate the effects of the health-promoting intervention Arts on prescription (AoP), through four empirical studies that investigate its influence on mental health and well-being among individuals on sick leave due to CMD and/or non-specific musculoskeletal pain, conditions that often co-occur.

1.1. My pre-understanding

A prior understanding of the phenomenon under investigation is a critical prerequisite for the advancement of knowledge (Alvesson & Sandberg, 2022). While this pre-understanding serves as a constructive enabling condition for deeper understanding, it is crucial to recognise that the assumptions inherent in our pre-understanding can create an illusion through unmediated knowledge. Such an illusion can lead to the introduction of prejudices that compromise the validity of knowledge and serve as sources of bias (Alvesson & Sandberg, 2022). My involvement in both the design and implementation of the AoP model in the Region Jönköping County, as well as my examination of its effects in this thesis, has given me both advantages and challenges throughout the dissertation process.

Due to my strategic role in the implementation of the AoP in the region I will outline my contributions to the development of the model, which is crucial for an accurate interpretation of the work presented in this thesis. When AoP was tested as a project within the Region Jönköping County, I was involved in designing the collaborative model for AoP. At the start of the project, I also played a role in organising a lecture (by external speakers) for relevant stakeholders in the county. The invited participants included staff from healthcare, municipalities, and arts professionals.

Prior to commencement of the project, I participated in discussions with municipalities interested in participating in the collaboration. I was also in contact with the region's strategic rehabilitation work for recommendations on which diagnoses would be appropriate to include in the AoP. Together with internal and external researchers, I participated in developing the questionnaire used to follow the AoP project. This survey has subsequently been the basis for data collection in Studies I–III. Finally, I was part of the regional steering group that operated during the first two years of the AoP project.

Throughout my dissertation work, I have remained aware of my close connection to the phenomenon being studied (AoP). To address this, I have employed reflexivity (Alvesson & Sköldberg, 2018) as strategy to mitigate its influence.

1.2. Disposition of the thesis

Following my introduction, which outlines the problem at the focus of the thesis and my prior understanding of the AoP, Chapter 2 provides a background description of the study, while Chapter 3 presents its theoretical foundation. Chapter 4 outlines the aims and research questions of this thesis, and Chapter 5 describes the context and the AoP model investigated. In Chapter 6, the materials and methods for the four studies are detailed, followed by Chapter 7, which discusses the ethical considerations involved. Chapter 8 offers an overall summary of the study results, and in Chapter 9, the findings are interpreted and discussed in relation to the theoretical framework and existing research, concluding with methodological reflections. Finally, Chapters 10 and 11 provide a conclusion regarding the contributions of the thesis, along with reflections on practical implications and suggestions for future research. The original papers are found at the end of the thesis, with three published and one in manuscript form.

2. Background

This Chapter is divided into three sections. The first section provides theoretical and philosophical reflections on health and public health, with an emphasis on a health-promoting perspective. The second section presents examples of health-promoting programmes within the framework of social prescribing. The Chapter concludes by examining the field of 'Arts for Health', outlining its scope and offering examples from recent research.

2.1. Perspectives on health and public health

This section explores various perspectives, along with theoretical and philosophical reflections on health and public health, including health inequalities and their causes. Both Venkatapuram (2013) and Nordenfelt (2004) adopt holistic views of health but from different angles. Venkatapuram, a British scholar in global health ethics, underlines that health is influenced not only by individual factors but also by broader social determinants, which lie beyond the individual's control (Venkatapuram, 2023). In contrast Nordenfelt, a Swedish philosopher, offers a more individual-centred perspective, defining health as the ability to achieve vital personal goals, central to a person's well-being (Nordenfelt, 2004). Together, their reflections provide a comprehensive understanding of health, combining both personal capabilities and social influences.

2.1.1. Reflections and definitions of health

Health, disease, and illness hold significant importance in modern societies, shaping a range of rights and obligations based on their definitions. However, despite their critical role, a universally accepted definition of health is lacking, leading to conceptual vagueness. As Venkatapuram (2013) points out, among the huge investments in health development, the expansive global healthcare industry, and extensive efforts to address health inequalities, there remains a lack of shared agreement of health across different sectors.

The observation by Venkatapuram (2013) is relevant; a cohesive understanding of health spanning various fields where health is referenced does not currently exist. The absence of a coherent conception on health undermines efforts for meaningful progress in public health and healthcare reforms (Nordenfelt, 2013 p. 271). The definition of health is often influenced by the prevailing paradigm within different organizations or practices. While some within the medical paradigm may view health more narrowly as the absence of disease, proponents of health promotion may adopt a more holistic perspective, focusing on the conditions necessary for optimal well-being.

Even though one universally agreed definition of health may remain indefinable, there have been several attempts to define health. One of the most widely recognized definitions is the one articulated by the World Health Organization (WHO) in 1948. This definition represents a shift from earlier notions of health solely as the absence of disease to a more comprehensive view encompassing physical, mental, and social dimensions:

> *Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity (World Health Organisation, 1948 p.1).*

However, this definition has faced criticism for its impracticality, as few individuals achieve complete well-being in all aspects simultaneously. Nevertheless, this comprehensive perspective on health and public health has continued to evolve within the WHO, with an increased emphasis on the importance of health promotion. As part of the 'Health for All' strategy (World Health Organisation, 1977), the WHO introduced the concept of supportive environments, acknowledging the significance of multiple dimensions, including the spiritual/existential, in promoting health and quality of life. In the Ottawa Charter for Health Promotion (World Health Organization, 1986), it states:

> *Health promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realise aspirations, to satisfy needs, and to change or cope with the environment. Health is therefore seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasising social and personal resources, as well as physical capacities. Therefore, health promotion is not just the*

responsibility of the health sector, but goes beyond healthy life-styles to well-being. (p.1 World Health Organization, 1986)

However, as Venkatapuram (2013) implies, this holistic perspective of health may not be universally embraced by all health stakeholders. A significant emphasis persists within medicine, public health, and the social sciences on disease prevention, risk factors, and treatment, reflecting a pathogenic perspective (Bauer et al., 2006b; Pérez-Wilson et al., 2021).

In the early 2000s, Nordenfelt (2004) proposes a definition of health within the health promotion paradigm, prompted by dissatisfaction with the still prevailing view of health solely as the absence of disease. He began by defining disability, a concept inherently negative yet implying its positive counterpart, ability. Shifting the focus to ability and health, he asked: What abilities should a healthy person possess? What tasks should they be able to accomplish? Consequently, Nordenfelt's definition of health focuses on individuals' capacity to lead fulfilling lives and effectively manage daily challenges. According to his view, individuals possess health when they experience well-being and possess adequate resources to navigate life's demands and pursue personal vital goals (Nordenfelt, 2004). This approach shares similarities with Antonovsky's salutogenic theory, which focuses on the origins of health (Antonovsky, 1979). For a comprehensive understanding of Antonovsky's salutogenic theory, a detailed exploration will be provided in the upcoming Chapter entitled "Conceptual framework" outlined in section 3.1 and will not be further elaborated here.

Nordenfelt's definition of health, alongside WHO's, is frequently referenced in discussions surrounding the conceptualisation of health. However, Nordenfelt's definition has not been immune to criticism. For example, Venkatapuram (2013) highlighted the need for a clearer explanation of vital goals within Nordenfelt's framework, urging for concrete examples to enhance comprehension. In response to this criticism, Nordenfelt (2013) argued that vital goals are inherently subjective and dependent upon individual personality and contextual factors. Thus, he argued that incorporating specific examples into a universal definition is impractical. Venkatapuram (2023) integrated Nordenfelt's concept of vital goals with the capabilities approach introduced by Sen (1985), an Indian economist. In the capabilities approach, Sen shifted the focus in the fields of economics and development studies from

an exaggerated emphasis on growth towards issues of personal well-being, agency, and freedom. Alongside Sen, Nussbaum, an American philosopher, is a prominent theorist within the capabilities approach. For instance, Nussbaum (2000) argued that certain basic capabilities, such as health, education, and participation in social and political life, are essential to human dignity and should be embedded in the principles of justice and human rights. Building on this framework, Venkatapuram suggested that the right to health should be understood as a moral entitlement to achieve and maintain good health. He extended Nussbaum's ideas by emphasising that, in addition to individual capabilities, social determinants play a critical role in shaping health outcomes. This perspective highlights how both personal abilities and societal factors are crucial for understanding and achieving health-related goals. While Nordenfelt acknowledged the merits of Venkatapuram's reasoning, he argued that the underlying purposes of their respective definitions differ, making reconciliation complex (Nordenfelt, 2013). However, Venkatapuram's perspective aligned with Marmot et al. (2012), who emphasised the interconnectedness of human rights and social determinants of health. Venkatapuram and Marmot (2023) argued that achieving health equity requires addressing social inequalities and ensuring a fair distribution of social resources.

2.1.2. Public health and health promotion

Like the concept of health, there are various definitions of public health. One of the earliest was formulated in the early 1900s by Winslow (1920), the first chairman of the Department of Public Health at Yale University School of Medicine. He defined public health as

> *"(...) the science and art of disease prevention, prolonging life and improving the quality of life through organised efforts and informed choices from society, organisations (public and private), communities and individuals" (Winslow, 1920 p.30)*

A similar but somewhat more recent definition by (Acheson, 1988), used by the WHO's European Region, argues that public health is efforts organised by society to prevent disease, prolong life and promote health. Both these early definitions of public health contain the health-promoting perspective. Despite this, traditionally public health work has been predominant within the medical

paradigm with a pathogenic perspective (Bauer et al., 2006a) primarily focused on the prevention of disease (Kickbusch, 2003). However, increasingly, public health includes what signifies the salutogenic paradigm with a health-promoting perspective.

Lalonde's writing (1974) "New Perspective on the Health of Canadians" became the starting point for an increasing number of strategies and policies that clearly aimed to improve the quality of life through both health promotion initiatives and disease prevention efforts (Lalonde, 1974; World Health Organisation, 1978; World Health Organization, 1986; World Health Organization. Regional Office for Europe, 1993). Based on these policies and strategies, the modernisation of public health work began a reorientation of health policy priorities from solely risk factor strategies, to also including strategies that address the social determinants of health. The basic principle of health promotion is that health is an intrinsic positive force, and that health promotion is a process to make it easier for people to gain greater control over and improve their health, i.e. empowerment (World Health Organization, 1986) and to enable this, collaboration between various societal actors is required. Health promotion can therefore be defined as

> *…the process of enabling people to increase control over, and to improve, their health....and that… Health is a positive concept emphasising social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being. (p.1 World Health Organization, 1986)*

2.1.3. Inequalities in health

Health inequalities refer to unjust and avoidable differences in health within and among different societal groups, manifesting in variations in life expectancy, prevalent health conditions, and access to healthcare (Whitehead, 1992). The concept of health as a human right, and the belief that everyone should have equal opportunities for good health and longevity, is articulated in the United Nations Universal Declaration of Human Rights (United Nations General Assembly, 1948) and in the WHO's constitution (World Health Organization, 1995). However, not all individuals have the same opportunities. Differences in education levels, occupations, income, and housing result in significant disparities in health, disease risk, and life

expectancy (Bernard et al., 2023; Howden-Chapman et al., 2023; Linder & Leyoch, 2020). Addressing these disparities is crucial to achieving health equity, which necessitates a focus on the social determinants of health. These determinants include the conditions under which individuals are born, grow, live, work, as well as age. Influenced by structural drivers such as economic arrangements, power distribution, gender equity, policy frameworks, and societal values, daily life circumstances profoundly impact health outcomes (Bernard et al., 2023; Gómez et al., 2021; Kirkbride et al., 2024; Marmot et al., 2012). Social determinants of health can impact genders differently (Kennedy et al., 2020; Linder & Leyoch, 2020), with significant social distinctions in how women and men are treated, as well as in the resources and resilience they possess. These gender dynamics affect health to varying degrees across societies and should inform efforts aimed at reducing inequities (Kennedy et al., 2020).

In the context of health inequalities, evidence shows that CMD and non-specific musculoskeletal pain, disproportionately affect those with socioeconomic disadvantages. Socioeconomic inequalities in mental health and long-term pain are evident across Europe and globally (Bernard et al., 2023; Linder et al., 2020; Linder & Leyoch, 2020; Mills et al., 2019). Socioeconomic status strongly influences long-term pain severity and related issues such as disability and mental health problems. Low income, debt, and unemployment are linked to higher mental health risks across the social spectrum, not just among the most disadvantaged (Kirkbride et al., 2024; Kivimäki et al., 2020; Mills et al., 2019; Singh et al., 2019).

The link between social policies and health equity is significant, with health inequity indicating how well a society meets its citizens' needs. This connection was underscored by the Covid-19 pandemic, which amplified existing inequalities (Venkatapuram & Marmot, 2023). Consequently, action to close the health gap in the population must be taken at the societal level (Kirkbride et al., 2024). Research shows that welfare policies offering more generous transfers and quality services can improve public health and reduce health disparities. As social spending increases, educational health inequities decline, with women benefiting more significantly than men (Marmot et al., 2012). The increasing focus on health equity in public health underscores the need for innovative, collaborative approaches that support individuals' health

and well-being. Recently, researchers have recognised that access to arts and participation in arts-based activities may serve as a social determinant of health. (Fancourt & Steptoe, 2019; Mak et al., 2021).

2.2. Health-promoting programmes

The global rise in mental ill-health has increased the demand for health services, prompting the exploration of complementary approaches to traditional medical care (World Health Organization, 2020). The following is a description of three health promotion programmes offered to individuals, either as an adjunct or independently, to enhance mental health and well-being. These are examples, but there are many others, such as existential discussion groups (Jansson et al., 2024; Olafsson, 2024) and shared reading groups (Kristensen et al., 2020). The programmes described in more detail below all fall within the scope of social prescribing, a cross-sector approach to addressing mental ill-health and social isolation (Dowrick et al., 2012) that recommend non-medical activities.

2.2.1. Social prescribing

This section will provide examples of the most widespread social prescription programmes. These are described in general terms as examples of health-promoting activities, rather than with a specific focus on the target group of this thesis. The majority of social prescription programmes focus on nature (nature-based prescribing), exercise (exercise-based prescribing), and arts and culture (arts-based prescribing) (Bekkering et al., 2023).

Social prescribing is a holistic method for primary care and social care to recommend people to undertake various local non-medical activities (Chatterjee et al., 2018; Drinkwater, 2019; Thomson et al., 2015). As such, it is an emerging cross-sector strategy for tackling health inequities through partnerships between primary care and various community actors. AoP is one of several social prescriptions. Social prescribing is increasingly being adopted globally, with initiatives in the United States, New Zealand, Australia, Spain, Scandinavia, and beyond (Aggar et al., 2021; Alderwick et al., 2018; Calderón-Larrañaga et al., 2022; Jensen et al., 2024). The United Kingdom, a pioneer in this field since the 1990s, has expanded its social

prescribing programmes from exercise (Lord & Green, 1995) moving onto 'arts' (Bungay & Clift, 2010) to adopting the more comprehensive stance of prescribing a wider range of activities aimed at holistic well-being (South et al., 2008). These programmes have shown benefits such as improved self-esteem, reduced anxiety, and decreased healthcare visits (Chatterjee et al., 2018; Thomson et al., 2015).

Social prescriptions, including Arts for Health programmes, have emerged as a model to address mental, psychosocial, and socioeconomic challenges, promoting well-being (Chatterjee et al., 2018; Golden et al., 2023; Tomlinson et al., 2020) while addressing the social determinants of health (Allen et al., 2014; Marmot et al., 2012). Yet, highlighted by the systematic review of Rempel et al. (2017), the aims of social prescription programmes often vary and might be different for different stakeholders: from cost savings, to resource reallocation or improved mental, physical or social well-being for patients. Nevertheless, social prescription programmes are increasingly used to promote more equitable health outcomes (Bernard et al., 2023). Therefore, it is crucial to explore how these programmes are experienced by individuals facing socioeconomic disadvantages. A systematic review of qualitative studies (Bernard et al., 2023) focused on this question. The result showed that social prescribing programmes were perceived as having a positive impact on mental health through increasing agency, self-confidence, social connections and reducing feelings of loneliness, which were crucial for the participants' mental well-being. The perceived accepting and non-judgemental attitude was particularly appreciated. However, some challenges were noted, particularly related to financial constraints. Individuals on low incomes sometimes faced difficulties accessing activities due to travel costs, or were unable to participate because the activities were not affordable (Bernard et al., 2023). This finding aligns with Antonovsky's concerns that general resistance resources, such as money (Antonovsky, 1987), play a critical role in determining whether individuals can benefit from specific resistance resources offered in society. If non-medical primary care programmes for CMD, such as social prescriptions, are to avoid exacerbating health inequalities, key socioeconomic barriers to accessibility and implementation must be addressed (Bernard et al., 2023). Another noted challenge was that underfunding sometimes led to the programmes being short-lived, which sometimes caused concern among the participants about what would happen

when the programme ended. Underfunding could also mean that those referring individuals to social prescription programmes had to struggle to find programmes that could accept them, as the limited number of programmes available often lacked sufficient capacity (Bernard et al., 2023).

While qualitative studies have offered valuable insights into individuals' experiences with activities prescribed through social prescribing, the broader evidence base remains limited. Bickerdike et al. (2017) identified methodological weaknesses in their review such as most studies were small-scale and constrained by poor design, including a lack of comparative controls, short follow-up periods, and a deficiency of standardised and validated measurement tools, missing data, and inadequate consideration of potential confounding factors. Despite these methodological limitations and a high risk of bias, the majority of evaluations yielded positive conclusions and reports. Bickerdike et al. (2017) conclude that for social prescribing to realise its potential, future evaluations must be comparative in design and provide sufficient detail to assess its value and effectiveness. Nonetheless, social prescribing is recognised for its potential to promote integrated care, where health and social care services are coordinated to provide holistic, patient-centred support, and reduce social isolation through various activities. However, as much of this understanding is based on qualitative data, there is a need for further quantitative studies to provide more objective evidence of the broader long-term impact of social prescription (Morse et al., 2022).

The diversity of measures observed in social referral initiatives, often linked to vague aims, indicates that despite having seemingly similar programme structures, the aim of these programmes frequently differs. Moreover, the result of these aims is influenced by the type of population and activity involved. However, the measures employed in social referral initiatives far exceed the number of aims they are intended to evaluate. This large quantity of measures, both within and across studies, makes comparability between studies, even those addressing the same or similar aims, difficult (Rempel et al., 2017). To address this issue, there is a need for standardised evaluation methods and clearer descriptions of programmes to enhance transparency and replicability (O'Donnell et al., 2022), and to inform the development of logic models that describe the mechanisms of action within AoP (Daykin et al., 2017; Dunphy et al., 2019). Accurately measuring what ‘works’ is inherently

tied to clearly defining the intended outcomes of these programmes and requires the use of meaningful, specific, and comparable indices.

Nature-based prescribing

There is a long tradition of the use of nature-based programmes in healthcare, particularly regarding elderly patients and those with mental disorders (Grahn et al., 2017; Tyson, 2007).

Nature-based rehabilitation programmes typically last several months to a year, involving activities in nature that provide mild sensory stimulation and therapeutic engagement. These experiences are reported by the participants to support recovery, promoting a sense of calm, self-awareness, creativity, and empowerment (Bergenheim et al., 2021). The unique composition of nature-based rehabilitation combines the impact of being in the garden and nature with established rehabilitation modalities such as physiotherapy, behavioural medicine, and occupational therapy (Bergenheim et al., 2021). In particular, therapeutic nature-based recreation is valued for its socially inclusive and psychologically safe environment, which promotes social connections and meaningful relationships (Picton et al., 2020).

Nature-based rehabilitation has been found to significantly reduce depression and anxiety (Zhang et al., 2022), particularly in cases of mild to moderate mental ill-health, with effects including improved self-esteem, reduced depression (Son et al., 2004). Moreover, nature-based prescriptions have shown to contribute to increased motivation, better social interaction (Parkinson et al., 2011), and a heightened sense of meaningfulness (Pálsdóttir et al., 2021; Siu et al., 2020). Reviews of nature-based programmes across different populations and settings have reached similar conclusions, highlighting the positive impact of such programmes on mental health (Annerstedt & Währborg, 2011; Kamioka et al., 2014; Picton et al., 2020).

However, although subjective reports often indicate these positive outcomes, there is limited objective evidence from quantitative studies. While a systematic review highlighted positive psychological effects of nature-based programmes (Corazon et al., 2019), only one study specifically showed that nature-based rehabilitation positively influenced burnout, depression, anxiety, and overall well-being (Sahlin et al., 2015). Furthermore, a Health

Technology Assessment (Ahlborg et al., 2020), comparing nature-based programmes to care as usual, suggested that it may not be more effective than other forms of rehabilitation, though patients typically experience positive health effects.

Finally, a study by Grahn et al. (2017) examined whether the length of a nature-based rehabilitation programme (8-, 12-, and 24-week rehabilitation periods) influenced the likelihood of returning to work after one year among patients with long-term stress and/or depression. The results showed that 68% of the participants returned to work or engaged in job training after one year. Those with longer rehabilitation periods reported higher occupational competence and were more likely to return to paid work, suggesting that extended rehabilitation increases the chances of returning to work.

Exercise-based prescribing

Physical inactivity has emerged as a global pandemic with health, consequences (Ekelund et al., 2016) Addressing this critical public health challenge is important, especially considering the current ageing population which is increasingly burdened by complex and long-term conditions (Thomson et al., 2015). Exercise is increasingly recognised as a sustainable intervention for individual health (Lucini et al., 2020). Its benefits extend beyond the prevention and management of chronic diseases to include improvements in social relationships, socialisation, and the reduction of isolation, depression, and stress (Clark et al., 2017; Sharon-David & Tenenbaum, 2017).

To effectively promote physical activity, a dual approach is necessary: reducing inactive behaviour by integrating physical activity into daily routines and introducing structured exercise programmes (Bull et al., 2020). The scientific literature provides numerous examples of physical activity programmes, some of which have proved effective and could serve as scalable models (Heath et al., 2012; Reis et al., 2016). However, other programmes have failed to produce significant changes (Friedberg et al., 2014; Song & Baicker, 2019). The most successful programmes are those that are multifactorial and tailored to meet the specific needs of individuals or groups. These programmes often incorporate technology-based strategies to enhance engagement and effectiveness (Milani & Lavie, 2015; Murray et al., 2012). In

contrast, simple counselling about exercise generally yields limited results (Friedberg et al., 2014; Song & Baicker, 2019). Effective programmes typically involve specific action plans developed in partnership with the participants and include intentional follow-up to ensure adherence and long-term success (Lucini et al., 2020; Reis et al., 2016). For physical activity programmes to be truly effective, they must extend beyond the research setting and become integrated into a broader delivery system, ensuring the sustainability of their health benefits (Lucini et al., 2020; Reis et al., 2016). A scoping review by Tao et al. (2023) highlighted exercise prescription as a safe, cost-effective method for managing non-communicable diseases. Their analysis of studies showed that exercise effectively prevents and manages these diseases while improving patients' psychological well-being, supporting its inclusion in comprehensive healthcare strategies (Bryant et al., 2017; Mikkelsen et al., 2022; Spreafico et al., 2021).

However, the review by Tao et al. (2023) also identified several methodological limitations in existing research, such as small sample sizes (Liu et al., 2020) and lack of sample size calculations (Kenny et al., 2022). Additionally, some studies relied on self-reported data, which may introduce performance and social desirability biases (Kenny et al., 2022; Weinstein et al., 2013). While acknowledging these methodological weaknesses, the review calls for more objective and precise measurements in future studies and emphasises the need to judge the beneficial effects of exercise programmes independently of medication.

In conclusion, despite the need for improved research methodologies, the evidence strongly suggests that governments and healthcare policymakers should incorporate structured exercise prescriptions into treatment strategies. This would enhance public health outcomes and address the widespread issue of physical inactivity (Tao et al., 2023).

Arts-based prescribing

AoP corresponds to the principles of social prescribing, empowering healthcare providers and social workers to recommend individuals to become involved in local, non-clinical initiatives addressing a range of psychosocial and socioeconomic issues (Chatterjee et al., 2018; Poulos et al., 2019). Specifically, AoP involves prescription to arts facilitators who lead group-

based arts activities, aiming to enhance participant well-being (Bungay & Clift, 2010).

AoP programmes are community-based initiatives integrated into primary healthcare and social support systems, reflecting the holistic ethos of social prescribing. Originating in the United Kingdom, AoP seeks to integrate arts programmes with conventional healthcare practices, expanding community care networks and empowering organisations to refer individuals across sectors (Chatterjee et al., 2018). Considering that AoP constitutes the primary subject of examination within this thesis, the particular structure and procedures inherent to AoP, which serve as the foundation for the conducted studies, will be precisely outlined in Chapter 5.

2.3. Arts for Health - Introduction to the field

Under this heading, the field of Arts for Health will be presented, along with its various definitions, orientations, and differences within the field.

In recent years, the relationship between the arts and health has received significant attention and recognition. This growing field within practice and research, often known as Arts for Health, includes a variety of practices and programmes designed to improve health and well-being (Clift & Camic, 2016; Davies et al., 2012). Arts for Health encompasses both arts engagement and arts therapies. Furthermore, within the field, arts activities are categorised into active arts engagement, which encompasses the act of making, performing, or creating arts (for example, sing, dance, paint a picture, writing a poem, or making a movie or performing in a concert). Receptive arts engagement involves experiencing, attending, listening to, or viewing art (such as attending a concert as part of an audience, listening to music, viewing a painting in a gallery, reading a poem, or watching a movie).

The field of Arts for Health can generally be categorised into three main areas. The first involves the implementation of arts programmes across various settings to directly promote health and well-being, addressing mental, social, and physical health dimensions. The second area focuses on incorporating artistic elements, such as visual arts, music, and sculptures, into environments to enhance well-being; for example, playing calming music in hospital waiting

areas to reduce anxiety. The third area integrates health and well-being initiatives into arts-related events, such as offering complimentary water at festivals where alcohol is served or providing nutritious food options during cultural events. This thesis primarily addresses the first area, focusing on programmes aimed at individuals on sick leave due to CMD and/or non-specific musculoskeletal pain. However, this Chapter also briefly presents arts programmes targeted at other populations and challenges, to offer a more comprehensive overview of the field.

Before proceeding, it is important to establish a definition of the term "arts", as many interpretations exist. For this thesis, the definition provided by Davies et al. (2012) is used, as it effectively illustrates the broad spectrum of creative activities encompassed by the term "arts". According to Davies et al. (2012), the arts can be categorised into five main areas (as shown in Figure 1). These include "performing arts", which cover both active and passive forms of expression, such as music, dancing, drama, singing, and sound art; "visual arts, design, and crafts", which encompasses activities like painting, drawing, ceramics, sculpture, fashion design, and textiles; "community and cultural festivals", involving both active participation and audience engagement; "literature", which includes storytelling, creative writing, journaling, and publishing, covering both the creation and consumption of written works; and finally, "digital and electronic arts", which encompass fields such as animation, digital photography, and filmmaking.

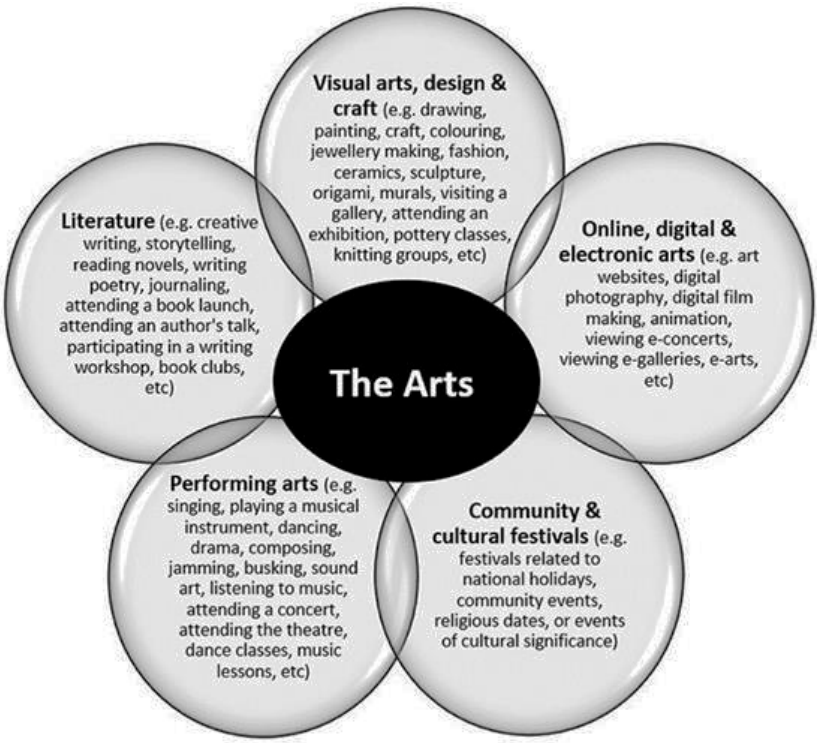

Figure 1. Art forms, activities and events (Davies et al., 2012). Republished with permission from the authors.

2.4. Research in the field of Arts for health

This section presents examples of Culture for Health studies, illustrating research with various target groups and diverse research designs. The section concludes with an overview of the AoP research.

Research has shown that participating in arts activities has an effect on health and well-being, both on "healthy" people and people with various kinds of health difficulties (Fancourt & Finn, 2019; Fancourt & Tymoszuk, 2019; Konlaan et al., 2000; Theorell, 2021; Theorell et al., 2013; Vaag et al., 2013). However, further studies are needed to deepen and broaden our understanding of the relationship between arts and health. Existing research has identified weaknesses that should be considered when considering the current body of

research in the field of arts and health. Examples of studies highlighting challenges and limitations in this area include those of O'Donnell et al. (2022) and Clift et al. (2021). O'Donnell et al. (2022) systematically assessed the acceptability and effectiveness of AoP to promote mental health among adults. They found a lack of experimental studies to show the effect and the methodological bias of the evidence as a whole, which limits the conclusions with regard to evidence of effectiveness. Furthermore, Clift et al. (2021) found that many studies draw premature conclusions, and that most of the studies involve short-term programmes, with evaluations conducted immediately upon completion and with limited follow-up. Clift et al. (2021) also highlight the issue that no attention is given to the characteristics of practice and participation that define arts activities, as distinct from other forms of social engagement. They asserted that to advance research and practice in the future, there is a need for more systematic reviews that involve careful quality assessments of both quantitative and qualitative studies (Clift et al., 2021).

Having addressed the weaknesses and challenges within Arts and Health research, the forthcoming section will now provide an overview of the current research in the field.

2.4.1. General Adult Population

One population study indicated that residents of urban areas who attended cultural events such as cinemas, theatres, art galleries, live music shows, and museums infrequently or moderately had significantly higher cancer-related mortality rates compared to those who attended frequently. Specifically, rare attendees were found to be over three times more likely to die from cancer during the follow-up period, while moderate attendees were nearly three times more likely to experience the same outcome. (Bygren, Johansson, et al., 2009). (Johansson et al., 2001) conducted a study in Sweden based on data from two interviews, 8 years apart, and involving nearly 3,800 participants. The findings suggest that cultural participation has a positive effect on maintaining health. After adjusting for sociodemographic factors, individuals who were less culturally active or became inactive between the two interviews had a 65% higher risk of impaired perceived health compared to those who remained culturally active. Importantly, participants who increased their cultural activity from being less active at the first measurement to active 8

years later showed similar perceived health outcomes to those who were active at both measurement occasions. The result in the longitudinal study (>36 years) by Bygren et al. (1996) suggest a prolonged survival. Results demonstrated, the lesser cultural exposure the higher all-cause mortality. Several potential confounders were taken into account; however most variables were self-reported, which risks self-report bias. Furthermore, similar result was found in a Danish study by Jensen et al. (2023) showing individuals with higher frequency of arts and culture engagement were more likely to report good health than those with lower engagement.

2.4.2. Older adults

Furthermore, a British study (Fancourt & Steptoe, 2019) based on data from over 2,000 individuals followed for a period of 10 years demonstrated that older adults who engage in film, theatre, or museum exhibitions at least once a month experience a 48 percent reduction in the risk of depression. Furthermore, for those who engage in cultural activities regularly, albeit slightly less frequently, the risk of depression decreases by 32 per cent.

A cluster-randomized study was conducted across two groups from aging-supported senior centres, focusing on a choir programme designed for community-dwelling adults aged 60 years and older. An intention-to-treat analysis at the 6-month point revealed that, compared to the control group, participants in the intervention group showed significantly greater improvements in loneliness and interest in life. However, no significant differences were observed between the groups regarding cognitive or physical outcomes, nor in terms of health care costs. (Johnson et al., 2020).

A study examined the impact of receptive arts engagement on eudaimonic well-being (emphasizes personal growth, purpose, and self-realization) in older adults over a 10-year period. The findings indicated that short-term engagement had no significant longitudinal effect on well-being. However, repeated engagement with theatre, concerts, opera, and museums was linked to enhanced eudaimonic well-being, with sustained participation in these activities showing an even greater positive effect. Notably, sustained engagement across all arts activities was also associated with higher

educational attainment, better socioeconomic status, and fewer health problems (Tymoszuk et al., 2020).

2.4.3. Healthy adults, adolescents or children.

In a systematic review conducted by McCrary et al. (2021) participation in music and dance was linked to positive 17 out of 18 outcomes across distinct health domains. In seven domains health benefits were associated with physical activity such as dance. Glucose/insulin outcomes were consistently reported to be unaffected by dance participation. The findings indicated that engagement in these activities contributes to social well-being, mental health, self-reported health and well-being, physical fitness and function, immune function, cognition, and body composition, among other advantages. Both acute and sustained performing arts participation were associated with health benefits, although the majority of evidence relates to sustained participation. However, the evidence regarding the health impacts of participation in performing arts remains in its early stages. Although key findings of the review were drawn from a significant number of high-quality studies, they emphasise that the overall quality of the included evidence remains low due to a predominance of non-randomised studies. Control and comparison groups varied across studies, including no intervention or waitlist controls, as well as comparisons with exercise (various forms), cognitive and language training, and other arts-based activities (e.g., visual art, drama).

2.4.4. Adults with mental health issues

Williams et al. (2018) systematically reviewed empirical research on the efficacy of group singing as a mental health intervention. The findings from seven longitudinal studies indicated that individuals with CMD experienced significant improvements in mental health and well-being, with moderate to large effect sizes while participating in choir singing. Additionally, six qualitative studies revealed overlapping themes, suggesting that group singing provides enjoyment, enhances emotional states, fosters a sense of belonging, and boosts self-confidence among participants (Williams et al., 2018). A population-based Norwegian study (Cuypers et al., 2012) utilised questionnaire data from the Nord-Trøndelag Health Study (2006–2008) involving 50,797 adult Norwegians to analyse the association between arts

activities and perceived health, anxiety, depression, and life satisfaction in both genders. The results, adjusted for relevant cofactors, indicated that participation in arts activities was significantly associated with good health, high life satisfaction, and lower anxiety and depression scores in both genders. One study (Redmond et al., 2019) explored qualitative data based on patient satisfaction forms completed after participants had finished an arts programme. Participants were referred based on criteria such as low mood, bereavement, and social isolation. The data collected between 2009 and 2016 comprised responses from 1,272 participants. The findings indicate an increase in social well-being, including self-discovery and social inclusion as key themes.

2.4.5. Medical care staff

A randomised controlled trial by Bygren, Weissglas, et al. (2009) involving 101 healthcare staff examined the relationship between attending cultural events weekly for eight weeks and health outcomes. Assessing eight health factors (physical functioning, physical role, bodily pain, general health, vitality, social functioning, emotional role, and mental health), the study found that participation in cultural events, such as films, concerts, art exhibitions, or choir singing, significantly improved perceived physical health, social functioning, and vitality. However, other factors along with cortisol and immunoglobulin levels, did not show significant differences between the intervention and control groups.

2.4.6. People in Grief

Another study exploring effects of choir singing was conducted by (Fancourt et al., 2022) Employing a non-randomised controlled design they examined the effects of 90-minute weekly choir singing over 12 weeks on mental health among individuals bereaved by cancer. While no significant improvements in mental health were observed, participants in the choir displayed greater stability in their mental health over 24 weeks. Those engaged in choir singing exhibited more stable depressive symptoms and levels of well-being, along with gradual improvements in self-efficacy and self-esteem. In contrast, the control group experienced increasing depressive symptoms, decreased well-

being, lower self-esteem, and no improvement in self-efficacy. Findings were consistent across all covariates (Fancourt et al., 2022).

2.4.7. Young girls

A study investigated the effects of an intervention consisting of twice-weekly dance sessions, focusing on enjoyment and socialization, over an 8-month period. The intervention aimed to assess participants' self-reported frequency of somatic symptoms and emotional distress. Follow-up assessments at 8, 12, and 20 months revealed a significantly greater reduction in both somatic symptoms and emotional distress in the dance intervention group compared to the control group (Duberg et al., 2020). A study (Sandberg et al., 2021) involving young girls investigated the effects of participation in dance programmes on daytime tiredness, alertness, and sleep quality. The results indicated that daytime tiredness decreased significantly in the dance group compared to the control group at all follow-ups. Alertness also increased significantly within the dance group, although no significant difference was found when compared to the controls. Significant improvements were observed in all aspects of sleep quality within the dance group, but only one significant result was identified between the groups. No conclusive changes in sleep duration were noted. Additionally, school satisfaction increased significantly in the dance intervention group, but this significance diminished after adjusting for baseline differences between the groups.

2.4.8. Employees

Theorell and Nyberg (2019), using a biennial national job survey, suggest that involvement in organized arts activities within the workplace may act as a protective measure against the worsening of depressive symptoms, potentially reducing the risk of sick leave. Similarly, Woiwode et al. (2021) found that integrated arts-related activities into workplaces, including dance and music, helped reduce stress levels and prevent burnout.

2.5. Arts on prescription

Research on AoP programmes show improved mental health and well-being, including enhanced self-confidence and self-esteem (Golden et al., 2023; Jensen, 2019; Jensen et al., 2024; Thomson et al., 2015), and a sense of achievement (Poulos et al., 2019). Furthermore, findings show that participants experience engagement and enjoyment (Jensen & Torrissen, 2019) and often describe how their involvement in arts activities allows them to become fully immersed, helping them forget their worries and concerns (Hughes et al., 2019). Participants report a transition from self-criticism to a more self-caring mindset (Jensen, 2019), indicating an increase in self-efficacy(Golden et al., 2023; Jensen & Torrissen, 2019). Additionally, many individuals observe a rise in motivation (Hughes et al., 2019; Jensen et al., 2024), empowerment (Poulos et al., 2019), and a greater sense of control over their lives (Eades & Ager, 2008). However, as noted by (Hughes et al., 2019), positive well-being outcomes vary according to the nature of interactions among individuals within the AoP group, suggesting group dynamics is important for facilitating well-being benefits (Bungay et al., 2023). Further, studies identify a range of social benefits experienced by participants in the arts programmes (Jensen et al., 2024). Common themes include improved social interactions (Hughes et al., 2019; Makin & Gask, 2012) and the development of meaningful relationships (Poulos et al., 2019). Participants frequently highlight the advantages of sharing experiences, normalising emotions and fosters a sense of community and reducing social isolation (Golden et al., 2023; Kellezi et al., 2019; Thomson et al., 2020). However, some participants find the social environment challenging, reporting feelings of disconnection or social anxiety (Hughes et al., 2019; Stickley & Hui, 2012b), indicating that group settings may not be suitable for everyone.

Furthermore, several studies have identified a sense of development among participants, with many reporting personal growth on both mental and emotional levels (Jensen et al., 2024). This growth often manifested as an enhanced ability to imagine a new future (Jensen & Torrissen, 2019; Stickley & Hui, 2012b). Participants also described how development enabled them to explore new opportunities, embrace and sustain new identities, leading to positive life transformations (Jensen, 2019; Stickley & Eades, 2013).

Development was demonstrated by the discovery of a renewed sense of purpose (Poulos et al., 2019), and a return to normality (Makin & Gask, 2012).

Notwithstanding the evidence supporting the positive impacts of AoP on mental health and well-being, Bungay et al. (2023) caution that participation in such programmes can also lead to unintended harm. O'Donnell et al. (2022 identified adverse effects such as self-imposed pressure to achieve high artwork standards, and Vukčević Marković et al. (2020) describe occasions where participants relived traumatic experiences. Additionally, reports of "painful endings" have emerged. Daykin et al. (2017) describe how some participants felt loss and despair at the programme's end, and Hughes et al. (2019) found that the lack of follow-on activities sometimes created tensions in the participants, leading to anxiety. Given that research suggests AoP can act as catalysts or stepping stones for participants (Stickley & Hui, 2012a), access to ongoing activities or contexts after completion could be beneficial (Bungay et al., 2023). Sumner et al. (2020) emphasise that follow-up support and facilitating transitions to other initiatives are crucial for maintaining motivation and well-being. In conclusion, while AoP programmes have shown potential in promoting mental health and well-being across a diverse range of referral types, challenges remain in ensuring that these programmes are delivered with consideration for the specific challenges faced by the target population and are adequately supported post-intervention (Jensen et al., 2024). The evidence suggests that AoP can be beneficial; however, these benefits are not universally experienced, and the complexity of participants' needs must be carefully managed to prevent unintended harm (Holt, 2020, 2023; Van De Venter & Buller, 2015; Sumner et al., 2020).

To summarise the results presented in Sections 2.4 and 2.5, the logic model linking the arts with health (Figure 3) is useful. This model was developed in conjunction with the WHO's scoping review on arts for health research (Fancourt & Finn, 2019). Based on the diverse components, causal mechanisms, and health outcomes identified in the research, Fancourt and Finn (2019) suggest that arts activities should be viewed as complex, multimodal programmes that integrate multiple health-promoting elements. Chapter 3 (3.2.1) will provide a more detailed description and reflections on how this model aligns with AoP and the theoretical framework of this thesis.

3. Conceptual framework

In this Chapter, the primary theory underpinning the understanding of AoP, the salutogenic theory, will be presented and described, along with additional theories and theoretical concepts employed in the studies. All have been selected as they are considered to contribute to the theoretical understanding of AoP and are thus helpful in understanding and discussing the effects and mechanisms related to participation in arts activities with others within the AoP context. In addition to the salutogenic theory, the concepts of community of practice and self-efficacy, as well as the theory of flow, will also be described. This Chapter concludes by explaining the rationale for including the selected theories and concepts to understand AoP demonstrating how they align with the logic model linking the arts with health.

3.1. The salutogenic theory

The salutogenic theory emerged from Antonovsky's (1987) research on Holocaust survivors, where he observed that, despite enduring harrowing experiences, some individuals managed to maintain good mental health. Antonovsky sought to identify the common factors contributing to their resilience and categorised them into three dimensions: Comprehensibility (the ability to perceive the world as coherent and understandable), Manageability (the capacity to cope with life's demands), and Meaningfulness (the perception of life's challenges as engaging and purposeful). Together, these dimensions foster a sense of coherence in individuals' lives.

As previously mentioned Nordenfelt (2004) and Venkatapuram (2013) emphasise the importance of focusing on the individual's resources and what is required to maintain health and effectively manage daily challenges in order to live a fulfilling life, rather than viewing health solely as the absence of disease. This resource and capability approach aligns with Antonovsky's salutogenic theory and the concept of general and specific resistance resources, which are fundamental to the theory. Resistance resources include both personal and environmental assets that support individuals in navigating life's difficulties. Although Antonovsky (1979) categorised resistance

resources as general and specific, he acknowledged that their categorisation depends on the context in which they are applied. General resistance resources are the resources of a person, a group, or a community that facilitate the individual's abilities to cope effectively with stressors and contribute to the development of the individual's level of SOC (Antonovsky, 1979, 1987). These resources include community environments that provide opportunities for cultural and social participation, as well as individual resources such as self-efficacy, self-confidence, self-esteem, and external support such as social networks and financial stability. Antonovsky noted that these general resistance resources develop throughout life, influenced not only by biological elements and social factors, but also by cultural, and environmental factors, i.e., social determinants (Antonovsky, 1979; Silventoinen et al., 2022). In line with Antonovsky's statements, Venkatapuram and Marmot (2023) also emphasise that health is not only shaped by individual factors, but is significantly influenced by broader social determinants, which play a critical role in shaping health outcomes.

The salutogenic theory describes a movement along the health continuum between the poles of "dis-ease" and "ease", (Antonovsky, 1993) as illustrated in Figure 2 (Lindström & Eriksson, 2010). This movement is a dynamic interactive process wherein individuals' resistance resources meet various life stressors. When these resistance resources are stronger than the stressors (life challenges), individuals move closer to the "ease" pole of the health continuum (Forbech Vinje et al., 2022). The position on the continuum is not static but changes over time. Depending on life's challenges, individuals find themselves at different points between the "dis-ease" and "ease" poles. From this perspective, individuals are never entirely healthy or entirely sick but are always situated somewhere along the continuum (Eriksson, 2022). When confronted with life stressors, an individual's worldview or level of self-efficacy (Bandura, 1997) influences their ability to manage these challenges (Eriksson & Lindström, 2008). Major life events, such as prolonged illness (Sundberg et al., 2022) or unemployment (Vastamäki et al., 2009), can affect an individual's health and SOC, potentially shifting their position closer to the "dis-ease" pole. Although the foundation of an individual's general resistance resources is built during upbringing, these resources can be strengthened to better equip individuals to handle life's challenges (Eriksson, 2022). According to Antonovsky, people manage stressful situations in one of three

ways: 1) being neutral 2) successfully managing stress by utilising their abilities and resources, which contributes to movement towards health on the continuum, and 3) being unable to manage the stressor, which leads to a movement towards ill-health on the continuum and can result in illness and, in extreme cases, breakdowns and death (Antonovsky, 1987).

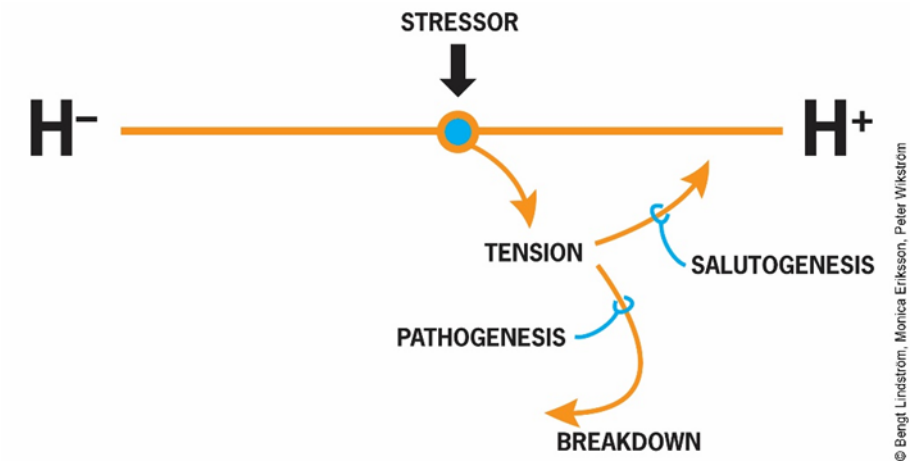

Figure 2. The dis-ease (H-) / ease (H+) continuum (Antonovsky, 1979, 1987). (Lindström & Eriksson, 2010, p.13). Republished with permission from the authors.

The salutogenic theory posits that individuals' ability to handle life's challenges constructively is influenced by their access to both general and specific resources. These are tools for mobilising resources to manage life events towards the "ease" pole of the continuum (Antonovsky, 1987; Eriksson, 2022). Specific resistance resources are tailored by the welfare system to address situation-specific needs. Health promotion initiatives play a crucial role in ensuring access to specific resistance resources, such as supportive social and psychological environments or targeted interventions (Antonovsky, 1979). Antonovsky criticised societal inadequacies, arguing that access to specific resistance resources often relies on chance rather than on interventions or assistance that are thoughtfully organised to reach individuals

in need at the moment they require support or care. He further stated that an individual's access to specific resistance resources was largely determined by their general resistance resources. For example, individuals with greater financial resources can more easily access specific resources, which are often available at a cost (Antonovsky, 1979). In the thesis, AoP is explored as a specific resistance resource.

3.1.1. Community of practice and relations

Wenger (1999) suggests that participation in a community of practice involves a dynamic process that intertwines doing, talking, feeling, and belonging. He highlights membership in such a practice as a form of mutual engagement, where individuals share experiences and knowledge, cultivating a joint understanding of their shared circumstances. Through these collaborative activities, relationships are formed based on shared commitment, which fosters personal growth through collective actions, narratives, and a sense of belonging. A community of practice is characterised by the absence of external demands, instead promoting an environment of understanding and support. This atmosphere encourages members to come together while engaging in various activities. Members often find cohesion in their experiences, which fosters a sense of solidarity and shared understanding of their circumstances (Wenger, 1999).

Further, a community of practice emphasises the importance of sharing activities and experiences with others who face similar challenges and share related goals (Wenger, 1999). Participation in such a practice can enhance social connectedness through a sense of belonging and the feeling of being part of a collective or social network. Social connectedness plays a crucial role in various health outcomes, including mental health, by providing support, reducing feelings of isolation, and nurturing a sense of purpose and identity (Umberson & Karas Montez, 2010). Conversely, social isolation has been linked to adverse effects, worsening mental health issues (Holt-Lunstad, 2022; Levula et al., 2017). Without a sense of belonging and positive social connections, individuals may experience feelings of loneliness, depression, anxiety, and anger (Berkman & Glass, 2000; Heinrich & Gullone, 2006).

3.1.2. Self-efficacy

Self-efficacy, as conceptualised by Bandura (1982), is a theoretical construct analogous to Sense of Coherence (SOC) and similarly adopts a resource-oriented perspective. It refers to an individual's confidence in their ability to execute specific behaviours, which is influenced by their actions, available resources, and belief in their capacity to overcome challenges. According to Bandura (1982), self-efficacy significantly influences individuals' emotions, thoughts, behaviours, and motivation, shaping their perceptions of their capabilities. While knowledge and skills are essential, they must be coupled with self-efficacy; without this confidence, individuals may lack the motivation to engage in tasks or activities.

Individuals' perceptions of themselves and their capabilities are shaped by both internal beliefs and external influences, which in turn guide their actions (Bandura, 1997). These perceptions play a significant role in enhancing human performance and personal well-being across various contexts. Individuals with a strong sense of self-efficacy tend to approach difficult tasks with confidence, viewing them as challenges to be conquered rather than as threats to be avoided. These individuals persist in their efforts despite setbacks, attributing any failures to a lack of effort or skills that they believe can be developed. This resilient attitude fosters personal achievement, reduces stress, and helps mitigate vulnerability to depression. Conversely, individuals with low self-efficacy are more likely to focus on their personal shortcomings, potential obstacles, and the risk of negative outcomes when confronted with challenges. They often give up quickly and take longer to regain confidence after experiencing failure. This increases their vulnerability to stress and depression. However, self-efficacy is not a static trait; it can be cultivated through mastery experiences. Successfully completing challenging yet manageable tasks build confidence, reinforcing the belief that effort and persistence lead to improvement. Additionally, observing similar individuals succeed through effort also strengthens a person´s belief in their own abilities (Bandura, 1997). The impact of success or failure on self-efficacy extends beyond individual tasks and shapes attitudes toward future activities. When individuals successfully complete an activity, it not only enhances their desire to participate in similar activities but also increases the level of effort they are willing to invest, playing a crucial role in shaping future behaviour and

motivation (Bandura, 1986). A successful flow experience, where a person is deeply engaged in a task, can significantly enhance self-efficacy for both the activity in question and similar tasks in the future (Eryılmaz et al., 2021).

3.1.3. Flow theory

Flow, as described by Csikszentmihalyi, refers to "a particular kind of experience that is so engrossing and enjoyable that it is worth doing for its own sake, even though it has no consequences outside itself" (Csikszentmihalyi, 1990 p. 824). This state of complete absorption occurs when individuals are fully engaged in a task, feeling a perfect balance between their skills and the challenge at hand (Csikszentmihalyi & Figurski, 1982). Flow theory suggests that the core elements of this state are closely linked to the perceived skills an individual possesses in relation to an activity and the perceived challenges of that activity. However, if the activity is perceived as too easy, it may lead to boredom. On the other hand, when the activity is considered too difficult, it can increase anxiety. The individual's perception of an activity's difficulty or achievability, therefore, plays a critical role in shaping their emotional state during the task . Ultimately, the relationship between self-efficacy, the nature of the activity, and emotional responses such as pleasure, boredom, or anxiety emphasises the importance of both personal beliefs and the external environment in influencing performance and overall well-being. Moreover, the experience of flow is inherently tied to feelings of enjoyment and pleasure, making it intrinsically rewarding, characterised by a sense of harmony where thoughts, feelings, and actions align seamlessly (Csikszentmihalyi & Figurski, 1982). Experiencing flow not only provides immediate enjoyment but also fosters personal growth. As individuals master challenges, they develop new skills and seek out more complex tasks to maintain engagement. This concept of development stretches their abilities, leading to a richer set of skills for future challenges (Moneta & Csikszentmihalyi, 1996). In essence, flow offers a continuous cycle of challenge and skill-building, providing both immediate satisfaction and long-term personal development (Csikszentmihalyi, 1990).

3.2. AoP and the theoretical framework

The theories and theoretical concepts presented above complement each other. The salutogenic theory suggests that individuals' ability to manage life's challenges constructively is influenced by their access to general resistance resources, such as self-esteem, self-confidence, and strong social relationships. Together, these factors affect their resilience and sense of coherence, which consists of the ability to perceive the world as comprehensible, the capacity to cope with life's demands, and the perception of life's challenges as meaningful.

The concepts of self-efficacy and flow were also incorporated into the framework, as they underscore the importance of moderately challenging tasks for personal development, thereby complementing the primary theory developed by Antonovsky. Self-efficacy, in particular, can be strengthened not only by experiencing success in person but also through external factors. Observing others in similar situations succeed, or sensing that those around you believe in your ability, can also significantly improve self-efficacy. The flow theory enhances the framework by aiding to interpret qualitative data, especially in relation to aesthetic engagement within the AoP. Finally, to better understand the social dimension within AoP, Wenger's concept of a community of practice was incorporated. In this thesis, AoP is viewed as a community of practice where individuals share their experiences (such as ill health and participation in performing arts activities) and their goals (to improve well-being and return to work) through collective arts activities and interpersonal relationships. Together, these theories and concepts provide a comprehensive understanding of the active ingredients, components, and causal mechanisms in AoP and their impact on health outcomes.

3.2.1. AoP, the framework and the logic model

Although the Logic Model linking the arts and health does not explicitly address all aspects of health previously discussed, such as the principles of justice, human rights (Nussbaum, 2000) and freedom (Sen, 1985), it acknowledges personal well-being and agency by recognising psychological mechanisms such as enhanced self-efficacy and coping (Figure 3). This aligns with the concept of individual capabilities emphasised by Nussbaum (2000)

and Sen (1985), as well as Antonovsky's dimension of manageability (Antonovsky, 1979, 1987). Furthermore, it resonates with Nordenfelt's definition of health (Nordenfelt, 2004), which highlights individuals' inherent abilities to lead meaningful lives and effectively manage daily challenges.

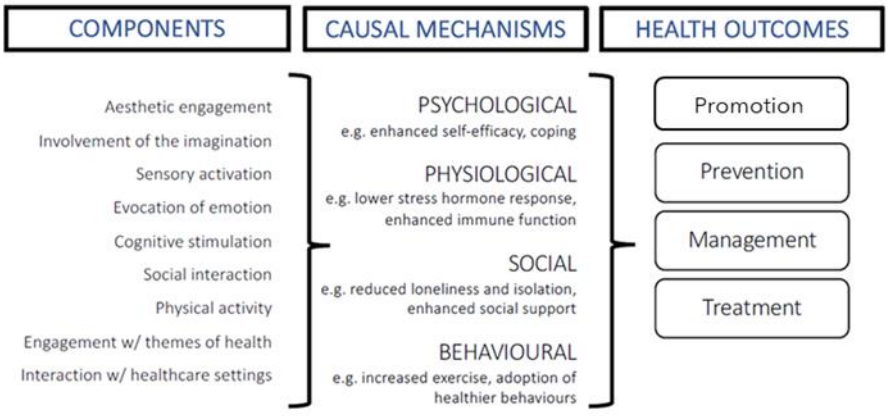

Figure 3. Logic model linking the arts with health (Fancourt & Finn, 2019). Used with permission from the authors.

In the context of AoP, components in the Logic Model linking the arts with health (Figure 2), aesthetic engagement, imagination, and sensory activation, contribute to the understanding of the active ingredients that facilitate flow states in arts activities. These components also present challenges that must be balanced with participants' perceived abilities. When AoP activities align with the participants' capabilities, they can enhance self-efficacy and a sense of manageability (SOC), with self-efficacy recognised as a crucial psychological mechanism within the logic model.

Further, the social dimension is highlighted in the logic model both as a component and a causal mechanism. The social benefits of AoP programmes can be understood through the lens of a community of practice within an AoP group. Alongside self-efficacy and coping, social support also embodies general resistance resources (Antonovsky, 1979, 1987). Being part of a community of practice with others in similar circumstances can enhance individuals' understanding of their own situations, thereby improving their

sense of comprehensibility (SOC). Witnessing the successes in the arts activities of others in the AoP group can also contribute to an increase in personal self-efficacy.

Moreover, the physiological mechanisms outlined in the logic model include reduced stress, which, in the context of AoP, can be attributed to participants being in a non-demanding environment. Additionally, the fourth causal mechanism, behavioural, can be interpreted as participants gaining the confidence to engage in activities they had previously avoided, facilitated by this supportive atmosphere. When they experience success in these activities, it fosters enhanced self-respect and self-confidence, extending to activities outside of AoP. These experiences reflect improvements in self-efficacy and manageability (SOC).

Regarding the promotional aspects of health outcomes (Figure 3), reported improvements in self-esteem, self-efficacy, an enhanced sense of meaning, and hope for the future serve as illustrative examples. Concerning health outcomes related to management, the ability to cope with pain and anxiety during arts activities can be interpreted as significant. Furthermore, evidence suggesting that AoP may contribute to a reduction in symptoms of CMD can be viewed as a treatment aspect of health outcomes within the context of AoP. As AoP is not regarded as a preventive programme in this thesis, the preventive aspects of health outcomes are not included.

4. Aim and research questions

The aim of this thesis is to explore and evaluate the effects of an AoP programme on mental health and well-being among individuals on sick leave due to CMD and/or non-specific musculoskeletal pain. The latter often co-occurs with CMD. The quantitative studies also examine the effect of social determinants on the dependent variables.

The thesis sought to answer three overarching research questions:

- What is the effect of a 10-week health-promoting intervention, in the form of AoP, on well-being and mental ill-health after 6 and 12 months among individuals on sick leave due to CMD and/or non-specific musculoskeletal pain?
- Do the social determinants education and finances have an effect on the dependent variables?
- What are participants' experiences of engaging in AoP, and how do they describe the impact of their participation on their health, well-being, and daily life?

5. AoP in the Swedish context

This Chapter begins with a brief overview of the problem, the challenge with sick leave related to CMD, and/or non-specific musculoskeletal pain. It then provides a description of the Swedish context, including the Swedish model and the social insurance system. The Chapter concludes with an overview of the various components of the studied AoP programme, including its content, structure, and implementation.

5.1. Sick leave for CMD and pain

Sick leave due to CMD, including stress, anxiety, and depression, has been rising steadily in Sweden and now constitutes nearly 50% of all sick leave cases for women and just under 40% for men (AFA, 2023; Försäkringskassan, 2023b; Timp et al., 2024). CMD and long-term pain account for most recurrent and long-term sick leave cases in Sweden. Mood disorders, severe stress reactions, and anxiety disorders are responsible for 90% of sick leave with a mental diagnosis. Women are over twice as likely as men to be on sick leave for mental health issues (AFA, 2023; Försäkringskassan, 2020, 2023b; Timp et al., 2024).

The risk of long-term sick leave generally increases with age, peaking in the 56–64 age group. However, for mental health diagnoses specifically, the highest risk is found in the 36–45 age group for both genders (AFA, 2023). Mental health issues are prevalent across all age groups except for men over 60 years, where musculoskeletal disorders are the leading cause of sick leave (Försäkringskassan, 2023b). Despite little evidence of positive effects, many individuals remain on passive sick leave, which has been shown to contribute to social isolation and loss of identity (Holmgren & Dahlin Ivanoff, 2004; Jansson et al., 2014; Vingård et al., 2004). Furthermore, research indicates that long-term sick leave harms self-image, self-esteem, and can lead to feelings of shame (Nielsen et al., 2013) and social isolation (Verdonk et al., 2008).

5.2. The Swedish context

This section will describe the Swedish model, working conditions in the Swedish labour market, the health care system, and the Swedish social insurance system.

5.2.1. Labour market

The Swedish labour market has become more demanding. According to Statistics Sweden (Statistiska centralbyrån, 2023), three out of five Swedes, or just over 60 per cent, frequently work under time pressure. Although this trend was declining for a period, it has increased again in the early 2020s. More than half of the Swedish workforce reports having mentally demanding work, the highest proportion recorded since the survey began in 1980. The percentage of individuals describing their work as mentally demanding has risen by nine percentage points to 52% over the past decade. Additionally, 60% of employees report often working under time pressure. Furthermore, the proportion of individuals who find it difficult to disconnect from work during time off has increased from 29% to 43% over the past 20 years. As predictors of sick leave for individuals with CMD include high job demands, low job control and high job strain, along with factors such as prior absenteeism, comorbidity, female gender, and lower educational levels (de Vries et al., 2018; Verdonk et al., 2008), these changes in the labour market may partly explain the increasing sick leave rates within this patient group.

5.2.2. Health care system

In Sweden, health care responsibility is shared among the national government, 21 regions, and 290 municipalities, coordinated through the Swedish Association of Local Authorities and Regions. The Ministry of Health and Social Affairs sets national principles and guidelines, while regions handle healthcare services. Municipalities manage social welfare and home care. Funded primarily by taxes, the health care system serves the entire population (Anell et al., 2012). In the Scandinavian welfare model, sick leave gives a formal right to be absent from work to recover from an injury or illness, but it also entails an obligation to rehabilitate and return to work in order to earn a self-sufficient income (Esping-Andersen, 1990).

5.2.3. Social insurance system

The Swedish Social Insurance Agency (Försäkringskassan) oversees the sick leave process and determines financial sickness allowances based on medical certificates that assess work capacity.

Between 2006 and 2020, the Swedish Association of Local Authorities and Regions and the Ministry of Social Affairs entered into agreements regarding sick leave and rehabilitation (Sveriges kommuner och regioner, 2024). The aim was to provide financial incentives to the regions, encouraging them to prioritise quality-assured processes for handling both sick leave and rehabilitation. In 2008, the rehabilitation chain was introduced in Swedish social insurance system (Försäkringskassan, 2024a), which involved new scheduled checkpoint review meetings. It also implemented the Social Insurance Agency's medical evaluation model, which provides specific sick leave recommendations for various diagnoses. (Försäkringskassan, 2024a). With the rehabilitation chain, there was an increasing shift in the social insurance system from a focus on illness to work ability. A medical diagnosis alone was no longer sufficient for sick leave; it also had to indicate an incapacity to work.

The rehabilitation chain outlines the stages of rehabilitation and specifies how long an individual can be on sick leave before a medical assessment is required. Under the Swedish sickness insurance system, individuals are entitled to sickness benefits for the first 90 days if they are unable to carry out their usual work or any temporary duties provided by their employer. After 90 days, eligibility is restricted to those who cannot perform any work for their current employer. From day 180 onwards, entitlement to sickness benefits is only granted if the person is deemed unable to undertake any work in the general labour market. (Försäkringskassan, 2024a). Periods of reduced work capacity are cumulative if less than 90 days have elapsed between sickness periods, preventing a reset of the rehabilitation chain (Försäkringskassan, 2024a). The system allows for part-time (25, 50, or 75%) or full-time sick leave depending on the individual's work capacity (Försäkringskassan, 2024b).

5.3. The start of AoP in Sweden

Based on research and practice in other countries (Jensen et al., 2024), the Swedish government decided to test and develop a model for Arts on Prescription in Sweden in 2009, specifically targeting patients on sick leave due to CMD and/or non-specific musculoskeletal pain (Brodén, 2013). This initiative was collaboratively developed by the Ministry of Health, the Ministry of Social Affairs, and the Ministry of Culture. Two pilot projects were launched: one in Västerbotten County Council (now a region) and the other in Region Skåne, each with distinct focuses. In Region Västerbotten, the target group comprised employees of the region experiencing stress-related issues (Janlert & Littbrand, 2011), while in Region Skåne, the project focused on individuals on long-term sick leave due to CMD and/or non-specific musculoskeletal pain (Berg, 2011), resulting in a report of the developed method (Gedeborg-Nilsson, 2015). Although no scientific publications have emerged from these pilot projects, evaluation reports are available in Swedish (Janlert & Littbrand, 2011; Stigmar et al., 2016).

5.4. Description of the AoP programme

This section will describe the Arts on Prescription (AoP) programme that underpins this thesis, detailing its collaboration model, referral process and implementation. The content and organisation of the AoP programme offered in the two regions recruiting participants for the intervention group are inspired by, but do not fully replicate, the model developed in Region Skåne during the previously mentioned pilot project (Gedeborg-Nilsson, 2015).

5.4.1. Collaboration model and referral process

The AoP framework encompasses collaboration between regional, municipal, and artistic professionals, as illustrated in Figure 4, targeting individuals on sick leave due to CMD and/or non-specific musculoskeletal pain. The AoP programmes are community-based and provided at no cost to individuals on sick leave for these conditions. The process begins with healthcare providers initiating AoP through referrals, which are then managed by a County AoP coordinator and transferred to local AoP coordinators, also referred to as link

workers. To ensure clarity, I would like to emphasize that, in my role within the region, I do not hold any of the roles described above and illustrated in Figure 4.

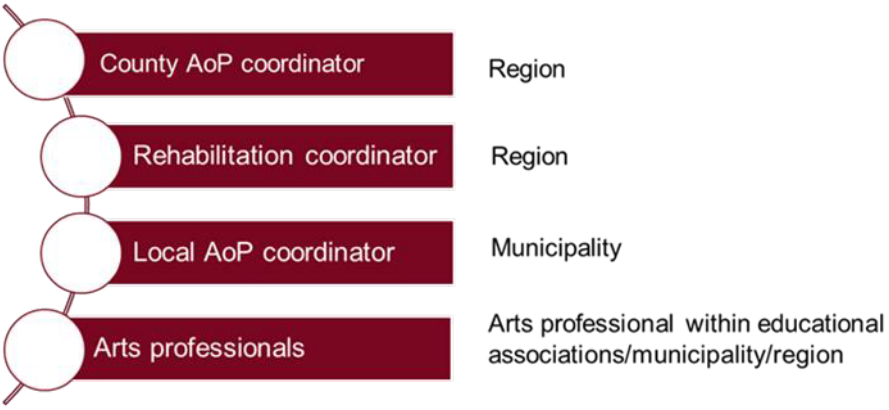

Figure 4. The collaborative model for AoP in the thesis.

Within the AoP framework, the region is responsible for supporting and coordinating cross-county AoP programmes, with the County AoP-coordinator overseeing this process. Additionally, the region prescribes patients to AoP groups in various municipalities, facilitated by rehabilitation coordinators. Prescribers for AoP include a range of professionals involved in the patient's care within primary care and open psychiatric services, such as rehabilitation coordinators, physicians, psychologists, counsellors, physiotherapists, and nurses.

The local AoP-coordinator puts together and coordinates the AoP-programme and maintains communication with the participants, arts professionals, and prescribers. The local AoP coordinator conducts the pre-programme information meeting, introducing participants to the purpose, content, and implementation of the AoP, emphasising that the focus is on personal development rather than performance (Region Jönköpings län, 2024). Furthermore, the local AoP-coordinator attend two AoP sessions and facilitates the evaluation and reunion sessions. On completion of the programme, the local AoP-coordinator sends a response to the prescribers, detailing the participant's attendance record and any reported absences.

5.4.2. Structure and content

At the information meeting, before the programme starts, the participants receive a folder containing the schedule, and details of all planned sessions, Figure 5 provides an example. The folder also includes the addresses to the various locations where AoP sessions are held, as well as contact information for the local AoP-coordinator, whom the participants should contact in case of absence. After each activity, the arts facilitator signs the activity plan. The number of sessions attended by each participant is then reported back to the referring entity.

Date	Activity	Time and Place	Sign.
5/3	Information meeting	13.30-15.30 Community centre	
12/3	Ceramics	13.30-15.30 Pottery studio	
14/3	Ceramics	13.30-15.30 Pottery studio	
19/3	Ceramics	13.30-15.30 Pottery studio	
21/3	Poetry reading	13.30-15.30 Library	
26/3	Dance	13.30-15.30 Dance studio	
28/3	Dance	13.30-15.30 Dance studio	
4/4	Dance	13.30-15.30 Dance studio	
9/4	Music concert	12.00-14.30 The concert hall	
14/4	Drama	13.30-15.30 Theatre society's premises	
16/4	Drama	13.30-15.30 Theatre society's premises	
21/4	Drama	13.30-15.30 Theatre society's premises	

Figure 5. Example of a page from an AoP folder.

The programme includes a total of 22 sessions: 19 dedicated to arts activities, one to an information session before the programme starts, one for evaluation during the final AoP session, and one to a reunion approximately three weeks after the programme concludes. Practically, AoP entails participating in arts

activities for 2.5 hours (including a coffee break) twice a week over ten weeks, within closed groups of 6–10 participants. The arts sessions cover various disciplines such as singing, dancing, drama, literature, and crafts, complemented by library and museum visits, theatre performances, and concerts. Professionals from approximately six different arts disciplines engage in delivering the AoP sessions, providing the participants with exposure to a diverse range of creative experiences. While AoP programmes are tailored to local contexts and incorporate regional arts professionals and cultural events, they all emphasize active engagement in the arts alongside attending theatre and concert performances.

At the reunion meeting three weeks after completion, participants receive a "Culture Card" (Figure 6), detailing free or discounted arts offerings in the municipality and nearby areas, with the aim of encouraging continued involvement in arts-related activities.

Figure 6. The Culture card, personal, is valid for one year.

6. Method

This Chapter will present an overview of the studies, their designs, study sample of the participants, and data collection as well as method used. Under the headings Data Collection and Data Analysis, the quantitative studies (Studies I-III) and the qualitative study (Study IV) are presented separately.

6.1. Study design

The thesis includes three quantitative studies (Studies I-III) and one qualitative study (Study IV). Study I-III have a quantitative experimental prospective design with a control group using a questionnaire at baseline and at 6- and 12-months follow-up. Study IV has a qualitative design with a focus group methodology. Furthermore, Studies I-III followed a modified intention-to-treat design (Gupta, 2011). This meant that all individuals who attended the AoP information meeting and completed the baseline questionnaire were counted as the participants in the intervention group, regardless of whether or to what extent they participated in the AoP programme.

In this thesis, mental disorders are operationalised through instruments measuring stress, using the Stress and Crises Inventory-93 (SCI-35) (Ericsson et al., 2015; Nyström & Nyström, 1996) (Study I), as well as anxiety and depression, assessed by the Hospital Anxiety and Depression Scale (HADS) (Zigmond & Snaith, 1983) (Study I). Mental well-being is operationalised through the Sense of Coherence Scale (SOCS-13) (Antonovsky, 1987) (Study II). Similarly, Study III adopts a salutogenic approach, focusing on self-efficacy, measured by the General Self-Efficacy Scale (GSES)(Löve et al., 2012) . Education and concern about finances are used as indicators of social determinants of health and health inequality. Furthermore, through the narratives in Study IV, the effect of participation on CMD, non-specific musculoskeletal pain, and general resistance resources was explored.

A detailed description of the research participants and data collection methods will follow. However, to provide an initial overview, Table 1 presents a summary of the four studies included in this thesis.

Table 1. Overview of studies including study sample, design, data collection, and analytic approach.

Study	Design	Sample	Data collection	Analysis
I	*Quantitative experimental prospective design with control group*	Persons with CMD/pain Count: 247 intervention group, 232 control group	Questionnaire at baseline, 6- and 12-months sociodemographic stress (SCI-93) anxiety/ depression (HADS)[b]	Descriptive statistic, ANOVA Fisher's Exact Test, Fisher-Freeman-Halton Test
II	*Quantitative experimental prospective design with control group*	Persons with CMD/pain Count: 335 intervention group, 251 control group	Questionnaire at baseline, 6- and 12-months sociodemographic sense of coherence (SOCS-13)[c]	Descriptive statistic, ANOVA Fisher's Exact Test, Fisher-Freeman-Halton Test
III	Quantitative experimental prospective design with control group	Individuals on sick leave due to CMD and/or pain Count: 286 intervention group, 116 control group	Questionnaire at baseline, 6- and 12-months sociodemographic self-efficacy (GSES)[d] source of income occupational status	Descriptive statistic, ANOVA Fisher's Exact Test, Fisher-Freeman-Halton Test
IV	Qualitative design with focus group methodology	30 women on sick leave due to CMD and/or pain.	Five focus groups	Qualitative explorative

[a] Stress and Crises Inventory -93
[b] Hospital Anxiety and Depression Scale
[c] Sense of coherence scale
[d] General self-efficacy scale

6.2. Setting and participants

This section begins with a description of the setting and the recruitment of the participants for the intervention and control groups in Studies I-III, followed by a similar description for Study IV.

6.2.1. Studies I-III

Under this heading, the setting and the different recruitment processes for the intervention and control groups are described. The section concludes with a reflection on the variations in participant numbers across the different studies.

Setting and recruitment

The participants for the intervention group were recruited in two regions (Region Jönköping County (1) and Västra Götaland Region (2) that offered AoP according to the community-based established model, conducted outside the healthcare system. Participants for the control group were recruited from these two regions and an additional four regions (Uppsala (3), Region Östergötland (4), Region Kalmar (5), and Region Blekinge (6), in south and middle Sweden.

This thesis includes four studies involving individuals aged 18 to 66 who are on partial or full-time sick leave due to mild to moderate mental health issues and/or unspecified long-term pain. The CMD diagnoses include depression (F31-F39), anxiety (F40-F42), and stress-related disorders (F43-F48), while musculoskeletal diagnoses encompass pain disorders related to psychological factors (F45.4) and long-term pain (M79, R52), based on ICD-10 classifications (Organization, 2004). Additional criteria included the ability to understand and communicate in Swedish, as the questionnaires were exclusively available in Swedish and no interpreter was provided, while exclusion criteria encompassed severe depression, ongoing substance abuse, psychosis, and suicide risk.

Recruitment of the intervention group

Prospective participants for the intervention group were prescribed AoP as part of their rehabilitation between 2014 and 2020. During the information meeting preceding the start of the AoP programme, the local AoP-coordinator

Table 2. Distribution of sociodemographic characteristics at baseline in the intervention group, distributed in the Region Jönköping County (1) and the Region Västra Götaland.

Region N=420	Region 1 n=374	Region 2 n=46	Total n(%)a
Gender n=388			
Woman	316	41	357(85)
Man	26	5	31(15)
Age group n=388			
18-29	28	3	31(8)
30-49	169	23	192(49)
50-66	145	20	165(43)
Education n=384			
Compulsory school	51	3	54(14)
Upper secondary school	192	17	209(54)
University	97	24	121(32)
Marital status n=378			
Married/Cohabiting	201	27	228(60)
Living apart	11	2	13(3)
Single	122	15	137(36)
Country of origin n=385			
Sweden	292	39	331(86)
Within Europe	14	2	16(4)
Outside Europe	34	4	38(10)
Financial concern n=377			
Yes, often	116	22	138(37)
Yes, rather often	108	9	117(31)
No, seldom	93	9	102(27)
No, never	16	4	20(5)
Participated in arts during the past 3 years? n=338			
No	159	23	182(54)
Yes, occasionally	68	11	79(23)
Yes, regularly	66	11	77(23)
Level of sickness absence b n=314			
0%	13	1	14(4)
25%	4	0	4(1)
50%	17	1	18(6)
75%	21	1	22(7)
100%	218	42	260(83)

[a] Presented in rounded percentage

[b] Numerous missing due to uninterpretable responses.

invited them to participate in the research study. Whether they participated in the study or not did not affect their involvement in AoP.

Between spring 2014 and spring 2020, 616 individuals were recommended for AoP participation. Of these, 483 (78%) engaged in AoP, and 459 (95% of those who engaged) consented to participate in the research that, underpins the studies presented in this thesis. As shown in Table 2, incomplete sociodemographic information from some participants resulted in variations in sample sizes within the sociodemographic data.

Recruitment of the control group

Participants of the control group were recruited from a total of six regions. Considerable time and effort were required to establish contact with regions beyond my own. This involved identifying the appropriate stakeholders and presenting the study to them. Securing their agreement to participate often required obtaining their signatures before proceeding. Additionally, I needed to gain access to individuals who could assist in identifying and providing personal information about those eligible for the control group.

From spring 2017 to autumn 2019, regions were contacted via email, telephone, and in-person visits to present and discuss the study's objectives and design. Various strategies were employed to establish initial contact, including emails to members of the national Arts for Health network, and previous contacts involved in rehabilitation programmes for the target group. In regions without direct contacts, initial outreach was made through the regional switchboards, often leading to multiple transfers between personnel before reaching the appropriate individual.

Once a region agreed to participate and completed its internal process for ethical approval, the next step was to determine how that specific region could identify individuals within the target group to invite to the study. The methods varied significantly between regions. Most regions were able to centrally identify these individuals, whereas others relied on staff who interacted directly with individuals of the target group and then invited them to participate in the study. These differing approaches led to substantial variations in the number of individuals approached across regions, as illustrated in Table 3.

The recruitment of the participants for the control group was conducted between 2017 and 2019. Most potential participants were selected through a stratified selection process conducted by personnel working centrally with patient data in each region (Regions 1 and 3-5). In two regions (Regions 2 and 6), central stratification was not feasible. Instead, healthcare staff, primarily rehabilitation coordinators in the primary care units, approached patients meeting the inclusion criteria during routine follow-up visits to the health centre. The stratification process included all primary care areas within each region, covering both urban and rural areas. It was conducted as follows: individuals on sick leave due to the previously mentioned diagnosis codes during the intervention period were identified. These individuals were then sorted by primary care unit and subsequently either alphabetically by surname (A-Ö or Ö-A) or by date of sick leave. The method varied between regions. Every fifth person was selected until a maximum of 400 individuals was reached. The number of selected participants varied according to regional conditions. Once identified, potential participants were contacted by letter, which included information about the study and the baseline questionnaire. The number of prospective participants and those who accepted participation across the six regions is presented in Table 3.

Table 3. Prospective participants in the control group: Number approached, and number accepted across the six regions.

Region	*Asked persons n/year*	*Accepted (n)*
Region Jönköping	300/2017 & 400/2018	88
Västra Götaland Region	15/2017	9
Region Uppsala	300/2018	69
Region Östergötland	300/2018	41
Region Kalmar	400/2018	44
Region Blekinge	60/2019	11
Total	1 775/2017-2019	262

Differences in recruitment between intervention and control groups

As described above, the recruitment processes for the intervention and control groups differed. The participants for the intervention group were invited to join the study during an information meeting before starting AoP as a rehabilitation programme. Only those who were partially or fully on sick leave (92%) were prescribed AoP, although there were exceptions (n=13) who received a prescription despite not being formally on sick leave. Those who agreed to participate could complete the baseline questionnaire on-site or choose to fill it out at home and return it to the researcher in a prepaid envelope. For the control group, the recruitment process was the opposite. Twenty individuals were personally invited to participate, while the remaining 92% were contacted by mail after being identified through a stratification process. Along with the invitation, they received the baseline questionnaire, which they completed if they agreed to participate and returned to the researcher in a prepaid envelope. During the stratification process, individuals who were on sick leave for one of the included diagnoses during the recruitment period were identified. However, this approach did not guarantee that the individual was still on sick leave when they received the invitation and completed the baseline questionnaire, leading to the risk that some had already ended their sick leave. Indeed, it was found that 135 participants (53%) who agreed to participate in the control group had ended their sick leave between the time they were identified and the time they completed the baseline questionnaire (see Table 4).

Table.4 Distribution of sociodemographic characteristics at baseline in the control group, distributed in regions 1-6[b].

Regions N=257[a]	*1*	*2*	*3*	*4*	*5*	*6*	*Total*
	86	*8*	*68*	*40*	*44*	*11*	*n (%)*
Gender							*n=256*
Woman	71	7	52	31	24	11	196(77)
Man	14	1	16	9	20	0	60(23)
Age group							*n=257*
18-29	10	1	13	12	7	0	43(16)
30-49	43	2	33	7	17	7	109(42)
50-66	33	5	22	21	20	4	105(41)
Education							*n=254*
Compulsory	9	0	10	3	9	0	31(12)
Upper second	45	8	24	25	17	7	126(50)
University	32	0	34	11	16	4	97(38)
Marital status							*n=255*
Married/Cohabiting	51	7	41	26	26	8	159(62)
Living apart	6	0	4	3	2	0	15(6)
Single	29	1	23	10	15	3	81(32)
Country of origin							*n=253*
Sweden	79	7	55	37	40	11	229(91)
Within Europe	2	0	4	0	1	0	7(3)
Outside Europe	4	1	9	1	2	0	17(7)
Financial Concern							*n=254*
Yes, often	21	3	23	8	10	2	67(26)
Yes, rather often	20	0	20	10	13	4	67(26)
No, seldom	31	3	18	17	14	5	88(35)
No, never	1	1	7	4	6	0	32(13)
Sickness leave							*n=253*
0%	49	0	26	28	31	1	135(53)
25%	4	1	2	1	1	0	9(4)
50%	3	0	13	5	0	2	23(8)
75%	9	1	10	0	0	1	21(8)
100%	19	6	16	6	11	7	65(26)

[a]Five participants (n=5) have missing data on their associated region
[b]Region Jönköping County (1);Västra Götaland Region (2), Region Uppsala (3), Region Östergötland (4), Region Kalmar (5), Region Blekinge (6).

Differences in the number of participants in Studies I-III

As shown in Table 1, the number of participants in Studies I–III varies, despite all being part of the same study sample. This variation is mainly due to two major factors. First, the lower number of the participants in Study I is due to a different inclusion threshold. In Study I, the participants were required to provide two responses, whereas in Studies II and III, only one response was needed. The decision to consider a completed response (i.e., completion of the HADS and SCI-93 instruments according to the thresholds outlined in Table 6, p. 65) at a single time point as sufficient for inclusion in the analyses was based on my later understanding that data from one measurement point is adequate for the mixed effects model (Pugh et al., 2022). The approach thus shifted to expanding the inclusion of the participants who had taken the time to complete the comprehensive questionnaire. The mixed effects model is described in more detail in section 6.4.1. Secondly, in Study III, the focus was on the participants who were still on full or partial sick leave (25-100%) at the time of completing the baseline questionnaire. This criterion resulted in the exclusion of over 100 participants from the control group and a few from the intervention group.

6.2.2. Studies IV

Setting and recruitment

The focus groups were conducted in Jönköping County autumn 2015 as part of the evaluation of the AoP project in the Region Jönköping County. By the time the focus groups took place, five AoP groups across four municipalities had completed the programme. During the final AoP session, the local AoP coordinator invited the participants to join a focus group to discuss their experiences. Those who expressed interest were later contacted by the researcher, while the participants who were absent from this final session were not subsequently invited. Of the total 35 individuals who participated in the five AoP groups, 30 women accepted the invitation to take part in the focus group with others from their AoP group. The distribution of socio-demographic characteristics is presented in Table 5.

Table.5 Distribution of sociodemographic characteristics across the five focus groups, presented as total numbers (n) and percentages (%).

AoP=n/Focus groups =n (%)	*35/30 (85)*
	Focus group 1-5 n (%)
Age	Mean 43 years (21 -65 years)
Gender	
Woman	30 (100)
Men	0 (0)
Education	
Compulsory school (n)	5 (17)
Upper secondary school 2–3 years	16 (55)
Higher Vocational Education <3 years	8 (28)
Country of origin	
Sweden	28 (93)
Outside Europe	2 (7)
Cultural habits last 6 months (n)	
Regularly	1 (4)
Single occasions	13 (54)
No	10 (42)
Reason for referral	
CMD [a](including stress, anxiety and depression)	38 (70)
Pain	6 (11)
CMD and pain	10 (19)
Self-reported history sick leave at baseline (months)	
Min-Max	3-124
Median	19
Means	33

6.3. Data collection

Data collection was conducted in six regions in southern and central Sweden. The participants were primarily recruited from primary care, with some from outpatient psychiatric care for the intervention group. For studies I-III, baseline and follow-up data were gathered between 2014 and 2021 using questionnaires including various self-assessment instruments and questions about sociodemographic characteristics, occupational status, financial

concern and arts engagement. Questionnaire data collection for the intervention group was carried out in two regions: Region I from spring 2014 to spring 2021, and Region II from spring 2018 to spring 2021. For the control group, data collection took place between autumn 2017 and spring 2021, though the start dates varied depending on when each region was ready to participate (Table 3). To counteract that strained financial resources would affect participation in AoP, the programme is free of charge. However, eventual travel costs are added, which could have an inhibiting effect (Bernard et al., 2023). Different options for completing the questionnaire were a way to facilitate participation based on different needs. It was possible to answer the questionnaire on paper, digitally or by telephone. Receiving assistance from someone to read the questions and fill in the answers could make it easier for those who had difficulty concentrating, reading, and answering the many questions. The high number of questions, on the other hand, could be an obstacle for those who had difficulty concentrating due to fatigue.

6.3.1. Instruments used in Studies I-III

The self-assessment instruments, described in detail below, have demonstrated good reliability and validity.

Stress and Crises Inventory -93 (SCI-93) (Study I)

SCI-93 is an instrument based on physiological stress theory and psychological crisis theory (Nyström & Nyström, 1996). It measures an individual's experience of stress symptoms and consists of three subscales: vegetative symptoms (20 questions), psychological symptoms (six questions), and muscular symptoms (nine questions). Responses are rated on a scale from 0 (no symptoms) to 4 (high degree of symptoms). In this thesis, only the summarised value was used, not the sub-scores. The highest possible summarised score is 140 points. SCI-93 has been applied in the medical insurance context in Sweden and has demonstrated good test-retest reliability and satisfactory known-group validity (Ericsson et al., 2015; Krafft & Nyström, 2002; Nyström & Nyström, 1996). Cronbach's alpha for the SCI-93 instrument in the study sample ranged from 0.938 to 0.944. To be included in the analysis, 29 out of the 35 items had to be answered.

Hospital Anxiety and Depression Scale (HADS) (Study I)

HADS was used to measure anxiety and depression. The instrument consists of 14 questions divided into two subscales. The one subscale with seven questions measures anxiety and the second, also with seven questions measures depression (Zigmond & Snaith, 1983). HADS is a familiar and frequently applied instrument which has been tested in several different contexts (Bjelland et al., 2002; Saboonchi et al., 2013). The instrument has shown satisfactory reliability in several studies and has demonstrated a stable two-factor structure that supports the two subscales. HADS has been tested in primary care populations and has demonstrated the ability to detect psychiatric morbidity (Bjelland et al., 2002). Cronbach's α for HADS in the study sample ranged between 0.859 and 0.897 for anxiety, and 0.841 and 0.898 for depression. HADS (Study I). To be included in the analysis, 12 out of the 14 items had to be answered.

Sense of coherence scale (SOCS) (Study II)

The SOCS was developed from Antonovsky's concept of sense of coherence and its three dimensions: manageability, comprehensibility, and meaningfulness (Antonovsky, 2005) It generates scores for total SOC ranging from 13 to 91: Low SOC: 13-60. Moderate SOC: 61-75. High SOC: 76-91 (Eriksson & Contu, 2022). The version of the SOCS instrument used in this study consists of 13 questions and is, according to Antonovsky, as reliable as the longer version. The response alternatives are presented on a semantic differential scale ranging from one point to seven points. SOC-13 is used internationally and for a number of different target groups. Its psychometric properties are described as good with satisfactory validity and reliability (Eriksson & Lindström, 2005). Cronbach´s α in our study sample ranged from 0.80 to 0.89 (SOC 0.89, Comprehensibility 0.85, Manageability 0.89, and Meaningfulness 0.80). To be included in the analysis, 11 out of the 13 items had to be answered.

General self-efficacy scale (GSES) (Study III)

General self-efficacy (GSE) was assessed using the validated Swedish version (Löve et al., 2012) of the GSES (Schwarzer & Jerusalem, 1995). The GSES is a self-assessment questionnaire measuring a person's general

sense of competence in dealing with unforeseen situations and difficulties. The instrument consists of 10 items, and responses are made using a four-point scale (1=not at all accurate, 2=hardly accurate, 3=moderately accurate, and 4=exactly accurate), resulting in a general score of the sum of all items. The total score ranges from 10 to 40, with higher scores indicating a higher sense of GSE. 10-19 indicating low GSE, 20-29 moderate GSE, and 30-40 high GSE. The instrument has demonstrated good validity and reliability (Scherbaum et al., 2006). Cronbach´s α in our study sample was 0.89. To be included in the analysis, eight out of the 10 items had to be answered.

Sociodemographic characteristics

In addition to the self-assessment instruments, the questionnaire included several questions on sociodemographic factors including age, gender, education, marital status, country of origin, and financial concerns. The question used for data collection for financial concern was the following "Are you concerned about your finances?" with response options including 'Yes, often', 'Yes, rather often', 'No, seldom', and 'No, never'.

Further, the questionnaire contained questions about self-reported source of income (Figure 7.) and occupational status (Figure 8.). For the purpose of this thesis, only the information on income and occupational status related to sick leave (including activity compensation, sickness and benefit disability pension) was used. Questions for source of income and occupational status are presented below.

What is your source of income? Multiple options may be selected.	*Time (%)*
☐ Sickness benefit	
☐ Sickness compensation	
☐ Activity compensation	
☐ Employment	
☐ Unemployment benefit	
☐ Activity support/development allowance	
☐ Social assistance	
☐ Student loan	
☐ Other, please specify	

Figure 7. Question about source of income

What is your occupational status? (Not including household work or leisure activities.) Multiple options may be selected.	*Time %*
☐ Paid employment	
☐ Studies	
☐ Internship/work training	
☐ Job seeking	
☐ Sick leave (no occupation)	
☐ Other, please specify	

Figure 8. Question about occupational status

6.3.2. Focus group methodology in Study IV

Study IV utilised data collected from five focus groups during autumn 2015. Four focus groups were conducted soon after the programme concluded, and one three months later, to assess whether the elapsed time affected the participants' perceptions of their experiences. During the focus groups only the participants and the researcher who moderated the discussions, were present. The focus group discussions were conducted within the original AoP groups. The sessions started with open-ended questions (see interview guide in Appendix), stimulating discussions about the participants 'experiences in AoP and its effects on health and daily life. The participants were encouraged to reflect individually and collectively, sharing their stories in response to the questions posed. The moderator intervened with follow-up questions when necessary to elaborate or clarify the discussions. Throughout the focus group discussions, the moderator ensured accurate interpretation of the participants' comments, particularly by confirming understanding at the end of the sessions. Each focus group session ranged from 63 to 102 minutes and was recorded and transcribed verbatim.

6.4. Data analysis

This section provides a description of the various analyses and statistical methods used to process the quantitative and qualitative data underpinning the studies in this thesis.

6.4.1. Studies I-III

Dependent variables

Dependent variables in the thesis were stress, measured with the SCI-93 (Study I), anxiety and depression, measured with the HADS (Study I), SOC, measured with the SOCS-13 (Study II), and GSE, measured with the GSES (Study III).

Main independent variables

The questionnaire included three main independent variables. The variable concerning treatment (whether the participants took part in AoP or only

received care as usual), two variables aligned with the research question of whether social determinants affected the studies' dependent variables: financial concern and educational level. The financial concern question was phrased as, “Are you concerned about your finances?” with response options: “Yes, often,” “Yes, rather often,” “No, seldom,” and “No, never. The question about educational level was phrased as, “What is your level of education” with response options “Primary school”, “Secondary school” and “College/ University”.

Control variables

Other independent variables used as control variables included the sociodemographic characteristics of age, gender, marital status, and country of origin. Additionally, one question was used to assess the participants' arts engagement: “Have you engaged in any arts activities (e.g., painting, dancing, playing music, singing, pottery, or felting) in the past three years?” with response options: “No,” “Yes, occasionally,” and “Yes, regularly.”

Data analyses in Studies I-III

The study participants included those in the intervention and control groups who had completed the questionnaire at least once. However, in Study I, participants were required to provide responses at both baseline and one additional time point. To be included in the analyses for the respective studies, the participants had to provide a sufficient number of responses on the instruments relevant to each study, as illustrated in Table 6. Additionally, the participants had to provide information on the independent variables shown to be relevant for inclusion in each study's analysis model by backward elimination, as illustrated in Table 7. The process of backward elimination is described in more detail below under the heading Identification of best-fitting model.

Statistical analyses

In Studies I-III, SPSS Statistics version 27.0 was used to conduct ANOVA through mixed effects models (Pugh et al., 2022). R version 4.2.2 (R Core Team, 2022) was utilized to generate imputation values for partial internal missing values within the instruments. To compare categorical variables between groups, Fisher's Exact Test was employed for 2x2 tables, while the

Fisher-Freeman-Halton Test was utilized for tables larger than 2x2. Additionally, R version 4.2.2 was used in Studies I-III to conduct power calculations for between-group changes over time for the used instruments. The level of statistical significance for all analyses was set at $p < .05$.

Mixed effects models are designed to analyse fixed factors, random factors, interactions, and nested factors. 'Person' (participant ID) within-group over multiple time points is an example of a nested factor. In this thesis, the model is applied under the assumption that data are missing at random. Mixed effects models use available data to estimate model parameters using the least squares method. The results include F-tests, adjusted marginal means with corresponding 95% confidence intervals (CI), effect sizes measured by Partial Eta Square η_p^2 (Fritz et al., 2012), number of observations (responses to the questionnaire) and subjects included (n) in the analysis.

In all studies, the model included the fixed factors "Group" (intervention and control groups) and "Time" (baseline, 6-, and 12 months), and the two-factor interaction "Group*Time" because the research question focused on whether the dependent variable changed between baseline and follow-up ("Time") and whether this change over time differed between the intervention and control groups ("Group*Time"). Since the participants might respond to the questionnaire at multiple time points the analysis also included "Person" as a random factor nested within Group and all other fixed factors except "Time" (Kutner et al., 2005 pp. 685,1049,1088).

Validation of results generated by the applied model

Since this study had known imbalances and data loss that needed to be addressed, a mixed effects model (Pugh et al., 2022) was employed. This model could address these issues while estimating effects as Partial Eta Squared (η_p^2). The mixed effects model's management of unbalanced data was validated by comparing adjusted means with and without imputed values at 6 and 12 months, where 6-month values replaced 12-month values if available, and vice versa. The analysis of model validity was published for Studies II and III but not for Study I. Consequently, this analysis of Study I with adjusted mean values with and without imputed data for stress, anxiety, and depression are presented in Table 8 in the Appendix.

Table 6. Threshold for instruments in Studies I-III. Presented in number and percentage.

Study	Instrument	Maximum missing values/ total values (%) maximum missing values.
I	Stress SCI-93	6/35 (17)
I	Anxiety & Depression HADS	2/14 (14)
II	Sense of coherence SOC-13	2/13 (15)
III	Self-efficacy GSES	2/10 (20)

Management of internal missing values

To impute near-complete responses for each instrument, missing values at the individual level were replaced if no more than 20% of values were missing. These imputations were derived as predicted values using a regression method described by (Kutner et al., 2005, pp. 967-970), applied separately for the baseline, 6-, and 12-month assessments. For internal missing items in the instruments at the individual level in Studies I-III, replacement values were imputed if no more than 20% of the total items in the instruments were missing. These replacement values, which were subsequently used in the ANOVA analysis, were generated through a two-way ANOVA with a regression approach as described by Kutner et al. (2005 pp. 967-970), separately for baseline, 6 months, and twelve months.

Identification of the best fitting model

For model selection, stepwise analyses were conducted for Studies I-III to identify the most predictive variables (those with significant effects on the dependent variable) while avoiding overfitting. Backward elimination was

utilised to optimise the model by systematically removing non-significant variables and interactions. The process began with the inclusion of all available independent variables and two-factor interactions between fixed factors in the initial model. An iterative approach was then applied, where the variable or two-way interaction with the highest p-value, indicating the least statistical significance, was removed in each step. A main effect was not removed if that variable was part of any interaction that had not already been removed from the model. This procedure continued until the only variables and two-way interactions that remained were those that met the predetermined significance threshold ($p \leq 0.05$). ID within group, Group, Time and Group*Time were always forced in the model. By progressively eliminating less relevant predictors, backward elimination ensures that the final model includes only the variables that contribute meaningfully to explaining the variation in the dependent variable, thereby enhancing the model's interpretability and precision.

In Studies I-II, the stepwise analysis commenced by including the variables (fixed factors) group, time, gender, age group, education, and concern about finances. In Study III, country of origin and marital status were additionally included in the initial stepwise analysis.

The final analysis model varied slightly between Studies I-III based on the specific dependent variable, as illustrated in Table 7. In the dataset for Study II, Gender, Age group, and Education did not show a significant effect on SOC in the stepwise analysis. However, these fixed factors were included in the model to adjust for gender, age, and education, as they have shown a significant effect on SOC in previous studies (Sundberg et al., 2022).

Table 8. Illustration of best-fitting model in Studies I-III

Study	Dependent variable/s/ instrument	Fixed factor Main effect	Fixed factor 2-factor interactions	Random factor
I	Stress/ SCI-93 Anxiety/ HADS-A Depression/ HADS-D	Group Time Gender Age group Concern about finances	Group*Time	Person
II	Sense of coherence/ SOCS	Group Time Gender Age group Education Concern about finances	Group*Time Group*Concern about finances Age group*Time	Person
III	Self-efficacy/ GSES	Group Time Concern about finances Country of origin	Group*Time	Person

Subset analyses

Given the imbalance in the data, several subset analyses were conducted to investigate whether differences in the study sample would impact the outcome variables when comparing the intervention and control groups. These sub-analyses were performed within the intervention group exclusively, as well as collectively within both the intervention and control groups. In the analyses limited to the intervention group, the various subsets (such as AoP period) replaced the 'Group' variable, which otherwise represented the intervention and control groups, in the analysis.

Otherwise, the analysis was identical to the main analysis. The fallowing sub-analyses were conducted in the sub-studies:

- The distribution of sociodemographic characteristics at baseline were compared between the intervention and control groups using only data at baseline.

- Analyses between subsets within the intervention group included all time points. Subset analyses conducted within the intervention group were as follows:

1. Between participants who completed follow-up before and during 2017 or later, 'AoP period' replaced 'Group' in the model.

2. Between participants prescribed from primary care and outpatient psychiatric care, 'Referral body' replaced 'Group' in the model.

3. In Study III, a sub-analysis was also conducted to compare those who did or did not respond to the SOC-13 questionnaire at baseline. In this analysis, 'SOC-13 at BL' replaced 'Group' in the model. Missing data primarily resulted from the absence of the SOC-13 instrument during 2016-2017.

- One subset analysis was conducted on both the intervention and control groups. This sub-analysis compared those who had answered the questionnaire at all three occasions with those who had answered at only one or two occasions. Unlike the sub-analyses within the intervention group, this analysis included both the 'Group' variable and the sub-analysis variable '<3 vs 3 occasions' as additional variables in the model. This analysis contained the intervention and control groups across all time points.

Subsequent analyses conducted in Study I-III

Three updates have been made following newly acquired knowledge after the publication of Study I. First, the change of inclusion threshold from two completed responses to one, which increased the number of participants included in the analyses. Secondly, the previously mentioned sub-analyses were undertaken in response to identified needs during the review process, where concerns were raised regarding the potential impact of data imbalances on the outcome measures. As a result, these sub-analyses were conducted in Studies II and III prior to publication. Based on the results in Study II, which showed that the 'Referral' body had a significant effect on SOC, I examined the potential effects of all previously mentioned subgroups on CMD (Study I). These sub-analyses for Study I can be found in Table 9 in Appendix. Thirdly, the need to adjust for sick leave became apparent following analyses of whether different levels of sick leave affect GSE (Study III). Based on the descriptive results from Study III, which revealed that GSE values varied with different levels of sick leave, re-analyses were conducted for Study I (for stress, anxiety, and depression) and Study II (for SOC) to adjust the results for sick leave status. Results are presented in section 8.1 and 8.2.

6.4.2. Study IV

In Study IV, data from five focus groups, each corresponding to one of five AoP groups, was re-analysed using conventional content analysis (Hsieh & Shannon, 2005). The analytical approach was underpinned by a theoretical framework incorporating the concept of community of practice (Wenger, 1999) and the concept of flow (Csikszentmihalyi, 1990). While these theoretical foundations provided a background for the analysis, the categories emerged primarily through inductive processes.

In Study IV, data from five focus groups was re-analysed using conventional content analysis (Hsieh & Shannon, 2005). The analytical approach was grounded in a theoretical framework that incorporated the concepts of community of practice (Wenger, 1999) and flow (Csikszentmihalyi, 1990). Although these theoretical foundations informed the analysis, the categories emerged through inductive processes.

Initially, the data underwent multiple listening and readings to identify units of meaning and relevant codes, highlighting key thoughts and concepts reflecting the participants' experiences. Detailed notes were taken on the participants' interactions, including verbal expressions, laughter, and affirmations, with special attention to concurrent speech and shared experiences indicating communal support. The analysis also examined the interaction processes within focus groups to interpret group dynamics. Subsequently, the data was grouped and coded, with codes organized into meaningful clusters based on their relationships. Discussions within the research group ensured that the labels assigned to codes captured the breadth of key ideas. These codes were further grouped into subcategories and then into overarching categories. Category development was an iterative process, with continuous refinement of interpretations to ensure a thorough and nuanced understanding of the dataset.

7. Ethical considerations

In accordance with the principle of autonomy (SFS, 2003) all the participants in the thesis received written information regarding: the purpose of the study, voluntary participation, and the possibility to withdraw at any time without explanation. The participants in the intervention group also received verbal information at the meeting before they started AoP and, for Study IV also before they started the focus groups discussions. Following the above information, the participants signed informed consent forms. Furthermore, in the studies, the participants did not have a dependent position towards the researcher or the person who asked them to participate in the study. In my strategic role in the region, I did not involve with or hold any meetings with participants. Further, the role did not include to be contact person for the healthcare personnel.

The AoP coordinator provided information to prospective participants in the intervention group about AoP and the opportunity to participate in the study. The participants were not dependent on the AoP coordinator in their sick leave process in healthcare. They were also informed that their participation in the AoP would not be affected, whether they participated in the study or not. For those who decided to participate in the study´s intervention group, the questionnaire could be completed in connection with the information meeting or at home.

The time given in connection to the meeting to answer the baseline questionnaire could be perceived as possible pressure, which must not occur according to research ethics. However, this could be interpreted both positively and negatively. On one hand, the participants willing to engage in the study did not need to dedicate time to answer the questionnaire at home and were given the opportunity to seek clarification on any queries they had. Conversely, individuals who did not want to participate may have felt compelled to do so due to perceived social pressure.

In Study IV, the participants were briefed on the study's objectives, the interview procedure, and the recording process. As being recorded could have been perceived negatively, the participants were reminded of their voluntary

participation rights and the choice to withdraw without giving a reason at any stage. After this informed written consent was obtained (SFS, 2003). Moreover, the participants were assured of their confidentiality, with codes employed to safeguard this during data analysis and presentation (Öman & Lindblom, 1998).

Moreover, to foster an environment where the participants felt secure in sharing their thoughts and experiences during discussions, the facilitator emphasised the importance of confidentiality within the group. The participants were encouraged and unanimously agreed that the content discussed within the focus groups should remain confidential. All data collected and quotes (study IV) from the data, will be presented in such a way that neither participants nor workplaces can be identified (Öman & Lindblom, 1998). Furthermore, all data collected across all intervention studies will be securely stored for a minimum of 10 years to facilitate review (SFS, 2003). Explicit measures were taken during the data collection process to ensure the confidential handling of information, particularly during the distribution of questionnaires.

Contact information was included in the cover letter in case there were any questions. Furthermore, for each completed questionnaire, the participants could choose a lottery ticket or cinema ticket. This could be considered a form of unethical influence. However, by limiting the level to a maximum of SEK 150 it was considered that this ethical principle would not be contravened (SFS, 2003).

The principle of non-maleficence asserts that any potential risks of harm must be proportionate to the benefits that can be derived from research (Gustafsson et al., 2005). Prior to conducting the studies, careful consideration was given to the participants' possible inconveniences associated with completing questionnaires about health, health issues, and sick leave. Additionally, concerns about their feelings of personal privacy were addressed when the researcher requested permission to monitor their sick leave changes through registry data. Although the implementation of the study required careful attention to ethical considerations in order to respect the participants' integrity, the potential benefits were judged to outweigh the associated risks. If the AoP programme could enhance mental health and well-being, this was

viewed as a justifiable balance against any potential psychological harm (Gustafsson et al., 2005). Additionally, all the participants maintained their usual healthcare connections throughout the study, ensuring continuous primary care support. The principle of justice deals with the right to fair treatment and equality (Beauchamp & Childress, 2013). Regarding this principle, there are a few concerns. First, the fact that the intervention group consisted of significantly more women compared to the control group should be highlighted. It is one thing that women were overrepresented in the study population, this can be explained by the fact that more women than men state that they have mental health problems, and that more are therefore also on sick leave for these diagnoses. However, this does not explain why there are significantly more women in the AoP group compared to the control group. It could be because fewer men compared to women were asked about participation, which in that case would contribute to unequal access to AoP. However, the researcher was not able to influence this part of the study. This unequal distribution will be highlighted when the results from the thesis are to be presented in the participating regions.

8. Summary of the results

The following section provides an overview of the results from the four studies presented in this thesis. For more detailed information on each study, the original publications, included at the end of the thesis, are recommended.

8.1. Study I

The results in Study I*demonstrated a statistically significant greater decrease in depression (p=.03) in the intervention group over time compared to the control group. However, this difference was not maintained after adjusting for sick leave. No statistically significant differences over time were found between the groups regarding stress (p=.15) or anxiety (p=.24). The within-group decrease in stress, anxiety, and depression over time was statistically significant for both groups, with the effect size η_p^2 indicating a large effect in the intervention group (stress η_p^2=16 , anxiety η_p^2=20 depression η_p^2=19) and a medium effect (stress η_p^2=9 , anxiety η_p^2=12, depression η_p^2=9) in the control group. Additionally, the participants with higher levels of financial concern reported significantly higher scores for stress, anxiety, and depression compared to those without financial concerns. Notably, no significant differences in the CMD scores were observed across varying education levels.

---

* Some errata in Study I were overlooked prior to the publication. In Table 3 (p. 6 in the published article), the symbol between CI should be "–" rather than "±". The correct notation for Partial Eta Squared is η_p^2, but ŋ was mistakenly used on several occasions in both the table and text. P-values for differences in stress levels based on financial concerns should be <0.001, as shown in Table 4 (p. 5) of the published article, rather than p=0.004 as stated on p. 7. Additionally, the p-values for differences in levels of CMD by education on p. 7 should be stress (p=0.07), anxiety (p=0.13), and depression (p=0.16), as per Table 4 (p. 7).

8.1.1. Result in subsequently conducted analyses

As previously mentioned, sub-analyses and adjustments for sick leave were carried out following the publication of Study I. These sub-analyses are explained in detail under the heading "Subset Analysis" in Chapter 6.4.1, with the results presented below.

Analysis of Referral Bodies within the Intervention group

Differences between Referral Bodies

The participants prescribed from open psychiatric care had higher depression, anxiety and stress values at baseline compared to those from primary care (depression mean diff = 2.1, anxiety mean diff = 1.6, stress mean diff = 2.7).

The analysis revealed a statistically significant difference in change over time between the referral bodies. Mean values for anxiety (p=.008) and depression (p<.001) decreased significantly more in the group from open psychiatric care compared to those from primary care. In contrast, the difference for stress was non-significant (p=.693). Complete results from the sub-analyses are presented in Table 9 in the Appendix.

Intervention vs. control groups: Referral Impact

For stress, a significant between-group difference over time was found only when participants from open psychiatric care were *excluded* from the intervention group (p=.036), indicating a greater reduction in the intervention group compared to the control group. However, when these participants were included, the difference was not significant (p=.065). For depression, the difference was significant only when participants from open psychiatric care were *included* (p < .001), again showing a greater reduction in the intervention group, with no significant difference when excluded (p=.169). The between-groups difference in change for anxiety was not significant, regardless of whether participants from open psychiatric care were included (p=.225) or excluded (p =.604).

Main results adjusted for sick leave

The results showed no statistically significant differences in changes over time between the intervention and control groups regarding stress (p =.067), anxiety (p =.684), or depression (p =.577) after adjusting for sick leave.

After adjusting for sick leave, the decrease over time within both groups regarding stress, anxiety, and depression was still statistically significant (p < .001). Effect sizes indicated a greater effect for the intervention group across all CMD variables. The largest differences in effect were observed for stress, where η_p^2 indicated more than double the effect for stress in the intervention group (η_p^2=.126) compared to the control group (η_p^2=.055), whose effect was at the threshold of small η_p^2. For anxiety, η_p^2 was close to a large effect (η_p^2=.137) in the intervention group, compared to a medium effect (η_p^2=.102) in the control group. For depression, the difference in η_p^2 was smaller, with the intervention group (η_p^2=.085) showing a slightly larger effect than the control group (η_p^2=.063).

8.2. Study II

The results in Study II did not show a statistically significant between-group difference in change over time. However, within-group changes revealed a statistically significant increase in both groups for total sense of coherence (SOC) and the sub-dimensions Comprehensibility and Manageability. In contrast, the sub-dimension Meaningfulness did not show any significant change in either group. Notably, the intervention group showed an effect size for the total SOC increase that was double in magnitude compared to the control group, indicating a medium effect in the intervention group (η_p^2=.072) and a small effect in the control group (η_p^2=.033).

A statistically significant difference in changes over time in sense of SOC was observed between participants from open psychiatric care and those from primary care within the intervention group. The change was significantly greater for participants from open psychiatric care (p = .004), who experienced a 19% increase in SOC from baseline to follow-up, compared to a 3.7% increase among those from primary care.

Additionally, significant differences were observed in relation to financial concerns. Participants who reported no worries about their finances exhibited the strongest SOC, with total SOC scores of 53.2 (CI 50.6–55.8) in the intervention group and 66.3 (CI 64.8–67.9) in the control group. In contrast, those who frequently expressed financial concerns had the weakest SOC, scoring 49.1 (CI 48.1–50.1) in the intervention group and 47.0 (CI 45.9–48.2) in the control group. All mean differences between the groups were statistically significant ($p < .001$).

8.2.1. Results adjusted for sick leave in Study II

No statistically significant between-group difference in changes over time for SOC was found after adjusting for sick leave (p =105). However, the within-group changes over time remained statistically significant for both the intervention group (p<.001), and the control group (p= .018).

Effect sizes indicated a greater effect for the intervention group, indicating a medium effect for the intervention group (SOC η_p^2=.093) and a small effect for the control group (SOC η_p^2=.021).P-value and effect sizes for the sub-dimensions were as follows: intervention group, (Comprehensibility p<.001, η_p^2=.081, Manageability p<.001, η_p^2=.094, Meaningfulness p=.949, η_p^2=.001). Control group (Comprehensibility p=.034 η_p^2=.018 Manageability p<.001, η_p^2=.049, Meaningfulness p=.588, η_p^2=.003)

8.3. Study III

In study III participants who had ended their sick leave before conducting the baseline questionnaire was excluded.

The results showed no significant between-group difference in changes in GSE values over time. The effect size for within-group changes in GSE over time was small for both groups, and the within-group changes were not significant for either group. Adjusting for sick leave had a trivial effect.

Further, descriptive statistics revealed significant differences in GSE values between the participants on sick leave and those who had completed their sick

leave. Differences were also noted between those on full-time sick leave and those on part-time sick leave.

8.4. Study IV

In the re-analysis of the five focus groups, four categories were identified: 1. Place of Belonging: This foundational category emphasises the importance of social connectedness in AoP*. Participants experienced AoP as a safe judgment-free space that nurtured joy, understanding, and acceptance of their health challenges. AoP helped reduce isolation and encouraged social interaction beyond the sessions. 2. Respite from demands: AoP was experienced as a sanctuary, offering a stress-free environment with supportive leaders and co-participants. The voluntary nature of activities allowed the participants to challenge themselves at their own pace. 3. Arts activities offering challenge and reward: The participants reported that despite increased symptoms like pain and fatigue, the positive effects, such as renewed energy, pride, and enhanced mental well-being, outweighed the physical discomfort. 4. Contributing to health-promoting changes: AoP transformed the participants' perceptions of their abilities and view of the future. Those on sick leave for CMD experienced lasting reductions in symptoms like anxiety and panic attacks, while some regained motivation and hope for the future.

---

* In Study I, the term Arts on Referral (AoR) was used instead of AoP, as the program was named this in Region Jönköping County. However, since the majority of published studies use AoP, it was deemed beneficial to switch to AoP. As AoP is used throughout this thesis overview, it is also applied in the description of Study IV.

9. Discussion

This Chapter begins with a presentation of the study's aim and the problem under investigation, along with how it was explored and assessed across the four studies. Following this introduction, the main findings are presented, followed by an analysis in which these findings are interpreted and discussed in relation to the ease/dis-ease continuum within the salutogenic theory, additional theories and concepts, and previous research. The Chapter concludes with a section addressing methodological challenges and concerns.

The aim of this thesis is to explore and evaluate the effects of an AoP programme on the mental health and well-being of individuals on sick leave due to CMD and/or non-specific musculoskeletal pain. Evidence shows that these conditions disproportionately affect those facing socioeconomic disadvantages, contributing to health inequalities (Bernard et al., 2023; Håkansson et al., 2003). Therefore, the quantitative studies (Studies I-III) also include analyses to measure the effect of social determinants on the outcomes, operationalised through the variables of educational level and concern about finances.

Study I focused on quantifying changes over time in CMD to determine if participation in AoP could facilitate a transition from ill-health to health on the dis-ease/ease continuum. Studies II and III adopted a resource-focused approach (salutogenesis) to investigate whether participation in AoP could enhance individuals' resistance resources (operationalised through the variables GSE, and SOC), thereby supporting their ability to manage stress and promote movement from states of ill-health and tension towards ease and health along the dis-ease/ease continuum. Studies I-III also analysed the effects of social determinants on the outcomes, operationalised through the variables of educational level and concern about finances. Finally, Study IV sought to explore the participants' experiences within AoP. By using participants' own narratives, this study aimed to enhance the scientific understanding of the intricate processes occurring during the AoP programme.

9.1. Main findings

This section presents the main findings, organised into three areas: the effects of AoP on CMD, the effects of AoP on well-being, and the impact of social determinants on the dependent variables.

9.1.1. AoP's long-term effects on CMD

The results from Study I indicated a significantly greater reduction in depression in the intervention group compared to the control group, but no significant changes were observed for stress and anxiety from baseline to follow-up. However, the significant difference in depression was not sustained after adjusting for sick leave.

Both the intervention and control groups demonstrated significant reductions in within-group changes in stress, anxiety, and depression scores over time. The effect size* for these changes was consistently large (η_p^2=.14) in the intervention group (stress η_p^2=.16, anxiety η_p^2=.20, depression η_p^2=.19) and medium in the control group (stress η_p^2=.09, anxiety η_p^2=.12, depression η_p^2=.09).

Both the intervention and control groups showed significant reductions in within-group change in stress, anxiety, and depression scores over time. The effect size for within-group changes was consistently large (η_p^2=.14) in the intervention group (stress η_p^2=.16, anxiety η_p^2=.20, depression η_p^2=.19) and medium in the control group (stress η_p^2=.09, anxiety η_p^2=.12, depression η_p^2=.09).

---

* η_p^2 ≥.01 indicates a small effect, η_p^2 ≥.06 indicates a medium effect and η_p^2 ≥.14 indicates a large effect.

9.1.2. AoP's long-term effects on well-being

In this thesis, well-being is operationalised using the variables GSE and SOC. The results show not statistically significant between-group differences in changes for SOC (Study II) or GSE values (Study III). However, within-group changes revealed that total SOC, along with the Comprehensibility and Manageability dimensions, improved significantly for both groups from baseline to follow-up while the Meaningfulness dimension remained unchanged.

The effect size η_p^2 demonstrated an increase in SOC strength within the intervention group (η_p^2=.072) that was twice the magnitude (η_p^2 diff=.039) of the effect observed in the control group (η_p^2=.033), indicating a medium effect for the intervention group and a small effect for the control group. The within-group change in mean GSE values was not significant for either the intervention group or the control group. The estimated effect size for changes in mean GSE values over time was small in both groups.

9.1.3. Social determinants, CMD and well-being

In the study sample, differences in concern about finances had an effect on all dependent variables. Participants who were more frequently concerned about their finances reported significantly higher levels of stress, anxiety, and depression (Study I), and significantly lower scores for SOC (Study II) and GSE (Study III). For SOC, this effect was consistent across total SOC and all its dimensions, including meaningfulness, which is generally considered stable (Antonovsky, 1987).

Sub-analyses conducted to assess whether the effect of AoP differed between individuals referred from open psychiatric care and those from primary care revealed notable differences. Participants from open psychiatric care had significantly lower SOC strength at baseline compared to those from primary care, and their SOC strength increased significantly more over time (Study II). None of the baseline mean values for stress, anxiety, depression, or GSE differed significantly between participants from open psychiatric care and those from primary care within the intervention group. However, similar to the pattern observed for SOC, the mean scores for depression and anxiety

decreased significantly more in the group referred from open psychiatric care compared to those from primary care. In contrast, the differences over time for stress and GSE were not significant (Study I). More, significant differences in GSE values were identified between the participants on sick leave and those who had completed their sick leave, as well as between those on full-time sick leave and those on part-time sick leave (Study III). GSE was shown to decrease as the level of sick leave increased.

9.2. Interpretation of the results

In this section, the findings are interpreted and discussed in relation to Antonovsky's salutogenic theory, with a particular focus on movement along the dis-ease (H-) / ease (H+) continuum. The theoretical concepts of self-efficacy, community of practice, and the theory of flow are also applied in the interpretation of the results, alongside existing research.

9.2.1. Movement on the dis-ease/ease continuum

The differences in change over time between the intervention and control groups for stress, anxiety and depression, were not significant after adjusting for sick leave. However, alongside the findings from the focus groups, the effect sizes (η_p^2) for changes in CMD in Study I, showing a large effect in the intervention group compared to a medium effect in the control group, suggest that participation in the AoP programme may facilitate movement from ill-health to health along the dis-ease (H-)/ease (H+) continuum regarding common mental disorders. Furthermore, the change in pain experience over time was not measured in this thesis, so no conclusions can be drawn from its results. However, current research suggests that mental disorders are strongly associated with pain conditions (IsHak et al., 2018; Prego-Domínguez et al., 2021), which allows for reflections about whether those referred for both pain and CMD diagnoses, might also have experienced a reduction in pain through AoP. But as this has not been measured in this thesis, no conclusions can be drawn.

Decreased symptoms of CMD associated with participation in Arts for Health programmes have been identified in previous studies, including those by Sumner et al. (2021), Jensen et al. (2024), Chatterjee et al. (2018), and Martin

et al. (2018). For example, Sumner et al. (2021) showed that participation in arts programmes has a positive impact on mental health disorders, including stress, anxiety and depression, by alleviating symptoms, as evidenced by pre- and post-intervention measurements. The fact that Sumner et al.'s (2021) study was limited to pre- and post-intervention assessments, and also demonstrated an effect on anxiety, differentiates it from Study I. Nevertheless, both studies point in the same direction, suggesting a positive effect on stress, anxiety, and depression.

The difference in effect over time for anxiety and depression, but not for stress, between the sub-groups within the intervention group, open psychiatric care and primary care, is notable, though it cannot be fully explained within the scope of this study. However, one possible explanation could be that participants from open psychiatric care, particularly those suffering from depression, may benefit more from the activities and social engagement provided by the AoP compared to those dealing with stress-related issues, as these conditions differ significantly. Depression is often characterised by persistent sadness, reduced engagement, and a tendency towards isolation, and difficulty in mobilising oneself to perform even basic tasks, such as getting out of bed, showering, or eating. The structure provided by having a schedule and a set time to attend arts activities with others in similar situations, as highlighted by participants in Study IV, might be particularly beneficial for individuals with depression. In contrast, stress-related problems are more frequently associated with over activity.

Furthermore, the results of Study II suggest that SOC can be strengthened in individuals referred from outpatient psychiatric care through a health-promoting intervention such as AoP. Previous research has demonstrated a strong relationship between SOC and mental health (Antonovsky, 1993; Kæmpe & Mortensen, 2021; Ross et al., 2023). This connection may also have influenced the results of Study I, which showed a significantly greater reduction in anxiety and depression over time in the subgroup from open psychiatric care compared to those from primary care. The increase in SOC within this subgroup, alongside the greater reduction in anxiety and depression, supports the findings of both studies, with each set of results reinforcing the other. The sub-findings in Study I suggest that the AoP programme may serve as a health-promoting intervention for individuals from

open psychiatric care. Additionally, the larger effect size for within-group change in the intervention group compared to the control group for CMD and SOC suggests that AoP could potentially have a greater impact than care as usual, particularly for those receiving open psychiatric care. However, the differences in change over time between the intervention and control groups were not statistically significant. Further studies are needed to gain a deeper understanding of the effects of a 10-week AoP programme after 6 and 12 months.

9.2.2. Flow in arts: Influence on Health

In the focus group discussions, relief from anxiety, worry, and pain symptoms during the actual performance of the arts activities was lifted in the participants' narratives. Pain and mental health issues often hinder social interactions and everyday activities, further worsening mental ill-health and well-being (Prego-Domínguez et al., 2021). In study IV participants described how their otherwise persistent pain temporarily disappeared when they became absorbed in painting, engaged in a theater performance, or became immersed in the music during a concert. This corresponds to findings by Redmond et al. (2019), where participants expressed that the arts activities provided a mental distraction that alleviated feelings of depression and helped distract participants from pain. Similarly, Murillo-Garcia et al. (2018) showed in their systematic review that pain management improved through dance in patients with fibromyalgia.

Furthermore, in the focus group discussions participants reported experiencing moments of flow during the arts activities, where time seemed to vanish and their focus shifted away from themselves towards the creative process, allowing anxiety and worry to fade, even if only momentarily, findings which are similar to findings by (Hughes et al., 2019). While most narratives about decreased symptoms in Study IV focused on the present moment during AoP sessions, there were also examples of how AoP participation affected mental health outside the group activities. For instance, one woman shared that although her panic attacks used to prevent her from driving, they no longer stopped her from driving to the AoP meetings.

By combining the results from Study I, which measured changes in CMD over time, with insights from participants' narratives in Study IV, this thesis enhances our understanding of the short-term (at most three months after completion) and long-term (6 and 12 months) effects of AoP on CMD symptoms, as well as on pain management during AoP sessions.

9.2.3. Effect on well-being parameters

In the focus groups, social connectedness and interaction with others in similar situations were emphasised as crucial aspects of AoP, which is in line with present research (Jensen et al., 2024; Poulos et al., 2019). Social interaction is also identified in the WHO's scoping review as a component linking arts to health (Fancourt & Finn, 2019), and as an important general resistance resource by Antonovsky (1979). When the participants, in the focus groups, shared their experiences from engaging in the arts activities within AoP (Study IV), they described outcomes that could be interpreted as improvements in their self-efficacy. They described how challenging themselves with arts activities that pushed their limits or took them outside their comfort zones led to a boost in self-confidence, as they realised, they could achieve more than they had initially believed. Several participants expressed pride in facing and succeeding in these challenges, and for some, this newfound confidence extended beyond the AoP setting. One participant noted feeling less anxious about attending a job interview, while another, who had previously thought she could no longer work, now felt hopeful about returning to 'a normal life.' These experiences of increased self-confidence and self-efficacy, reported in Study IV, are consistent with findings from other studies (Golden et al., 2023; Jensen et al., 2024). However, these improvements in perceived self-efficacy were not supported in Study III, which measured changes in GSE over time. The results from Study III showed no statistically significant difference in the change in GSE values over time between the intervention and control groups. Additionally, the within-group changes in GSE values were not significant for either the intervention or control groups. The estimated effect size η_p^2 for the within-group changes in GSE values over time was small in both groups. One explanation for the differing results between Study III (GSE) and the findings based on the focus group discussions could be that the perceived improvements in self-efficacy reported in Study IV, which were observed

shortly after participation in the AoP programme, did not have a long-term effect and therefore could not be detected at the 6- and 12-month follow-ups. Another explanation could be that the reduced effect on CMD and well-being parameters after some time could depend on that the participants did not continue with engagement in arts activities during the time between ending AoP and follow-ups. If so, it would be in line with other studies which demonstrated reduced positive effects of arts participation if the arts engagement does not continue. Given the discussed limitations on continuing participation in arts activities due to strained finances (Study IV), it is noteworthy that several longitudinal population studies suggest a relationship between participation in arts activities and self-reported health (Wilkinson et al., 2007), life satisfaction, and low levels of anxiety and depression (Johansson et al., 2001; Santini et al., 2023). Additionally, in the long-term population study by Johansson et al. (2001) it was noted that changes in arts attendance habits showed to predict self-reported health in both directions (Johansson et al., 2001). Decreased arts participation was associated with deteriorating health, while increased participation appeared to improve health.

Similar to the findings on GSE in Study III, no statistically significant difference in the change in SOC strength over time was observed between the intervention and control groups in Study II. However, within-group analysis revealed a significant improvement in SOC strength from baseline to follow-up in both groups, for total SOC and the dimensions of Comprehensibility and Manageability. The dimension Meaningfulness, however, remained unchanged. The effect size η_p^2 for the within-group increase in SOC strength indicated a medium effect for the intervention group and a small effect for the control group.

Yet, the fact that, unlike the within-group changes over time observed for stress, anxiety, and depression (Study I) and SOC (Study II) for both the intervention and control groups, the non-significant changes within-group changes in GSE over time, indicate that GSE, as measured by the GSES, remains relatively stable. The findings in Study IV should not be dismissed based on the results of Study III. Instead, both studies contribute to knowledge from different perspectives, with data collected through both quantitative and qualitative methods. Further research is needed to gain a better understanding of how participation in AoP can influence GSE.

Additionally, unlike the non-significant difference over time between the intervention and control groups, the analysis of subgroups within the intervention group, (between the participants from open psychiatric care and primary care), revealed a statistically significant difference. Again, as for the result in Study I, this different effect cannot be explained within the scope of this study, but as noted earlier it seems that for depression, anxiety and SOC the participants from open psychiatric care seem to experience greater benefits from the activities and social engagement provided by the AoP, compared to the participants from primary care. These are interesting results that warrant further investigation in future studies.

9.2.4. Social determinants in health

In this section, I will reflect on the intersection of health inequalities and the effects of AoP and social determinants on the dependent variables, drawing on the results and findings from the four studies (Studies I-IV). As previously mentioned, education and financial concerns are used as indicators of social determinants of health and health inequalities in the analyses. In contrast to financial concerns, education did not demonstrate a significant main effect on the dependent variables in Studies I-III. Consequently, the discussion will mainly be about the impact of finances. Additionally, differences between the subgroups within the intervention group, comprising the participants from open psychiatric care and primary care (Studies I-III), as well as identified differences between subgroups with the participants still on sick leave and those who had completed their sick leave (Study III), are discussed.

Social prescribing is increasingly recognised as an alternative within primary care and social welfare to address the challenge of meeting the needs of all individuals with mental health issues. This is partly based on the argument that prescriptions for community activities could play a role in closing health disparities while addressing the social determinants of mental health problems (Chatterjee et al., 2018; Thomson et al., 2020).

The results from the subgroups in the referral bodies within the intervention group (Studies I-II) suggest that AoP is particularly effective for individuals from open psychiatric care, who had worse baseline values compared to those in primary care. These findings could be understood and interpreted in light

of the results from Bernard et al. (2023), who found that socioeconomically disadvantaged individuals perceive social prescription programmes, such as AoP as health-promoting, experiencing increased self-confidence, stronger social connections, and reduced loneliness, all essential for mental health.

The non-judgmental and accepting nature of the programmes were specifically highlighted and particularly appreciated. However, similarly, as discussed in the focus groups (Study IV), financial constraints were raised as a barrier to engaging in societal activities. In the study by Bernard et al. (2023) financial constraints included both the cost of travelling to the activity and the cost of participation. The fact that the AoP programme, explored in this thesis is without charge for the participants, should thus be an advantage for this target group.

As previously mentioned, Studies II and III point in the same direction as the findings from Study IV, indicating that individuals who were frequently concerned about finances had the lowest levels of SOC and GSE while those without financial concerns had the highest levels. Furthermore, the participants who expressed financial concerns also reported higher levels of stress, anxiety, and depression (Study I). The association between financial conditions and health is not new. Previous research on this topic, including studies by Weich and Lewis (1998) and Goldman-Mellor et al. (2010). Goldman-Mellor et al. (2010) showed that negative economic transitions predict increased mental ill health, such as depression, while Weich and Lewis (1998) identified financial strain as a powerful predictor of episodes of CMD. In the report "Social Determinants of Health: Closing the Gap in a Generation" by the WHO Commission, Marmot et al. (2008) state that reducing financial strain through societal efforts is crucial for achieving health equity.

Antonovsky (1979) also argued that money is a crucial general resistance resource, and he emphasised the importance of a community environment that facilitates the participation in sports and cultural activities as a societal general resistance resource. In connection with the findings by Bernard et al. (2023), it is essential that such a community environment is either free or offered at a cost that does not exclude target groups who struggle to access the typically cost-prohibitive activities available in society.

In this thesis AoP is considered a specific resistance resource, as it is designed by the welfare system to meet the needs of specific target groups (Antonovsky, 1979) and is offered at no cost to the participants. The results from the sub-analysis in Studies I and II showed that individuals from outpatient psychiatric care had worse starting conditions both in terms of SOC and CMD at baseline, compared to those prescribed from primary care. The subgroup from outpatient psychiatric care showed a significantly stronger improvement in both SOC strength and anxiety and depression scores from baseline to follow-up compared to the participants prescribed from primary care. Stickley and Hui (2012a) suggest that AoP may serve as a catalyst or stepping stone. This may be particularly true for participants from open psychiatric care, who initially exhibited significantly higher mean depression scores compared to those from primary care. This interesting finding warrants further research but suggests that AoP is well-suited to this population. When Antonovsky authored Health, Stress, and Coping in 1979, he argued that society failed to ensure equitable access to specific resistance resources, often leaving it to chance whether individuals in need could access such resources (Antonovsky, 1979). As we move into 2025, with an emphasis on reducing health disparities by addressing the social determinants of health, there is hope that targeted resistance resources will be more systematically made available to those in need. Current public health initiatives highlight the need to develop effective measures aimed at reducing health inequalities by addressing the social determinants of health (Chelak & Chakole, 2023; Hosseinpoor et al., 2023). Present research (Bernard et al., 2023; Johansson et al., 2001) and the results in this thesis indicate that community investments and planning can benefit individuals with limited financial resources, by offering health-promoting specific resistance resources.

9.3. Methodological considerations

As outlined in the introduction to this thesis, I am employed in Public Health section within Region Jönköping County and am involved in the strategic implementation of AoP. This involvement has provided me with valuable insights into the research field, which has been advantageous throughout the research process. However, it may also present challenges to maintaining neutrality, potentially influencing data collection and analysis. Balancing

these dual roles has been challenging. As a regionally funded doctoral student, my research questions are expected to be both scientifically relevant and practically beneficial for the region concerning the effects of AoP.

Nevertheless, in terms of study design, implementation, and analysis, I have strived to maintain a critical perspective throughout the research process to mitigate any risks arising from my strategic role in AoP. Throughout the thesis, I have remained highly aware of situations where my strategic role in AoP within the region could impact the interpretation of results.

9.3.1. Validity and reliability in studies I-III

Internal validity

The quantitative studies possess several strengths, including the presence of a control group, which strengthens internal validity by allowing for comparison and reducing confounding variables. They also included follow-up assessments at 6 and 12 months, supporting both the reliability and internal validity of the study by examining whether the observed effects are consistent over time. Reliability, which refers to the consistency of a measure, is reinforced by assessing participants at multiple time points. This approach helps to determine whether the results are stable and not due to random fluctuations or temporary changes, thereby enhancing the credibility of the study's findings.

Furthermore, the results reported both p-values and effect sizes, strengthening both internal and external validity. For internal validity, reporting effect sizes provides insight into the strength or magnitude of the observed effects, rather than merely indicating whether they are statistically significant (p-values). This helps in understanding the practical impact of the intervention within the study, enhancing the clarity of the findings.

However, the studies also have potential limitations that warrant discussion. One significant limitation is the imbalance in the dataset. Selection bias poses a threat to internal validity, as it may introduce differences in participants' characteristics that could affect the study outcomes rather than the intervention itself. In Studies I-III, this limitation has been addressed by adjusting for identified main independent variables and control variables that,

as shown through backward elimination, significantly affect the dependent variable, thereby minimising their impact on the analysis and interpretation of the results.

A potential risk for selection bias arises from the varying attitudes of healthcare professionals towards Arts on Prescription (AoP) as a rehabilitation strategy. This disparity may lead to the selective offering of the intervention based on subjective perceptions of patients. Such selective application could result in inconsistencies in the administration of the intervention, further compromising internal validity by allowing staff perceptions to indirectly influence patient outcomes. A different study design, such as a randomised controlled trial, might have mitigated this limitation; however, this approach was not feasible within the scope of this dissertation.

There were differences between the study groups that could potentially affect the study results and threaten the internal validity of the findings. For instance, data collection for the intervention group began earlier than for the control group. As described in the articles, various subset analyses were performed to investigate whether these differences in the study sample would impact the outcome variables when comparing the intervention and control groups. The results of these analyses have also been reported and discussed.

However, the unexpectedly high number of participants from open psychiatric care in the intervention group necessitated additional analyses to determine whether these differences affected the outcome variables. As outlined in the articles and in the sub-analysis presented in Table 9 of the Appendix, the inclusion of the subgroup from open psychiatric care had varying effects. Had we expected that the number of participants from open psychiatric care would be as significant as it turned out to be, we might have made different decisions. Efforts could have been made, with the assistance of the participating regions, to invite individuals from open psychiatric care into the control group as well. If that proved challenging, we could have considered excluding participants from open psychiatric care altogether. However, although the presence of two subgroups within the intervention group required additional work, the subgroup of participants from open psychiatric care yielded interesting results that would have been overlooked had they been excluded from the study.

One difference between the groups and a potential limitation of the study was the variation in levels of sick leave, with many participants in the control group having completed their sick leave by the time they filled out the baseline questionnaire. This variation poses a threat to internal validity, as it may influence the comparability of the groups, and the outcomes measured. The method employed to identify individuals with relevant diagnoses who had been on sick leave in 2017 and 2019, and subsequently invite them to participate, had its weaknesses. Specifically, there was no assurance that these individuals would still be on sick leave when they received the invitation. An alternative approach could have involved using registry data for the control group, which might have provided a more effective means of identifying and recruiting suitable participants.

In the analyses for Study III, which specifically aimed to examine the effects of part- and full-time sick leave, it was revealed that 134 (51%) individuals in the control group had completed their sick leave by the time they were supposed to fill in the baseline questionnaire. The large proportion of individuals in the control group who had already finished their sick leave has implications for the results, as sick leave itself affects the dependent variables. This was addressed by adjusting results also in Study I-II for sick leave.

Furthermore, the significantly greater reduction in depression over time in the group of participants from open psychiatric care in the intervention group compared to the control group could be a consequence of regression to the mean, as the intervention group had higher mean depression values at baseline compared to the control group. However, further analysis would be needed to determine the extent to which regression to the mean might explain the results.

External validity

The relatively large dataset compared to other AoP studies contributes to the external validity of the findings, as a larger sample size increases the likelihood that the results can be applied to a wider population. Additionally, it reduces the impact of random variability, thereby enhancing the study's ability to generalise beyond the specific group studied. Reporting effect sizes further aids external validity by allowing for comparisons between the study's results and those of other studies, thereby clarifying the broader applicability

of the findings. This enables readers to understand how meaningful the results might be in real-world settings, enhancing generalisability.

However, the studies also face potential threats to external validity, particularly in the form of selection bias. Healthcare professionals may unconsciously be influenced by certain characteristics of patients when deciding who should be offered participation in the intervention. For instance, patients diagnosed with the same conditions but perceived as somewhat healthier may be more likely to receive an invitation, whereas those regarded as having more severe ill health or fatigue may be overlooked. If healthcare professionals selectively offer the AoP programme, this could limit the generalisability of the results to only those patients who fit specific characteristics deemed "appropriate" for the intervention. Consequently, if only healthier or less fatigued individuals are included, the findings may not be applicable to a broader range of patients who could benefit from AoP but were excluded due to the subjective biases of the staff. Considering the baseline differences, with generally poorer values in the intervention group and a higher proportion of participants on full-time sick leave in the intervention group, the situation might be somewhat reversed. It could be that those offered AoP have "tried everything else," and AoP is seen as the last available option. This could potentially impact the results. Additionally, biases such as the belief that AoP might be more suitable for women than for men could have contributed to the skewed distribution in the intervention group, with fewer men than in the control group, thus reducing diversity. This limitation could affect the external validity of the study, as it may impact the generalisability of the findings to other populations. Randomisation would alleviate this threat by ensuring a more unbiased selection process. However, randomisation was not employed in this study project due to the limited number of available participants for the intervention group, who are only accessible within two regions. It was deemed insufficient to recruit a sufficient number of participants to achieve adequate power for both the control and intervention groups.

9.3.2. Trustworthiness Study IV

A reflexive process was consistently maintained throughout the research. A clear example of this is that an experienced qualitative researcher moderated

the focus groups instead of me, thereby minimising the risk I might influence the data. Reflexivity in qualitative research involves the researcher continually reflecting on their own role, influence, and biases throughout the research process. It entails a conscious and critical self-examination aimed at identifying and managing how the researcher's background, perspectives, and interactions with the participants might impact the study. This process is particularly crucial in my case, as I was also involved in the AoP at a strategic level.

The focus groups were conducted before I began my doctoral studies, and it was decided at that time to avoid influencing the data I, in my role as a strategist, would not conduct the focus groups. However, I took primary responsibility for the data analysis in Study IV. To increase the confirmability, the focus group discussions were recorded and transcribed verbatim. To enhance the study's credibility, numerous quotes were used to support the conclusions drawn from the results. The quotes represented all focus groups and provided examples of both individual narratives and co-narrated stories. By incorporating a wide range of participant excerpts, the study's credibility was further strengthened. Additionally, the process of conducting the focus groups and the analysis is clearly outlined in the text, with a table providing examples of the analysis process.

A potential limitation of the focus group methodology is that the participants may influence one another, and those with differing opinions might refrain from expressing them. The decision to form the focus groups from the same individuals who had participated in AoP together could have strengthened this influence if the group had hierarchical structures or contained individuals that others tended to follow. However, none of the focus groups seemed to reveal problems with any single participant dominating the conversation. On the contrary, everyone actively engaged in the discussions, and there were rarely any periods of silence, suggesting that the participants felt free to share their personal experiences openly. Forming the focus groups from previous AoP participants also provided a shared platform for storytelling, which was evident during the discussions. This approach yielded rich content with varied statements about experiences, and while the participants expressed different views, they often contributed to each other's stories. There were no notable negative or extreme cases, i.e. individuals expressing significantly divergent

opinions from the majority. However, some narratives did include examples where certain activities were not fully tailored to the participants' needs. For example, individuals with pain sometimes found it difficult to perform certain dance movements or experienced discomfort while working with clay, or felt an activity was belittling. All the same, the decision to invite only the participants who attended the final AoP session to participate in the focus groups raises concerns about selection bias. This bias could occur if those who were absent did not enjoy or felt uncomfortable with AoP or the group itself. To address this potential source of bias, the researcher could reach out to participants who did not attend the final session and offer them the option of individual interviews, should they prefer not to engage in group discussions with others.

Although I conducted the primary analysis, all authors were employed during the analysis process, and involved in discussions at each step, one of whom moderated the focus groups. To increase credibility various forms of triangulation could have been employed, such as conducting individual interviews to explore whether different responses might emerge when the participants were asked about their experiences in a one-on-one setting. Furthermore, the participants could have been asked to keep diaries during the study period to capture their thoughts and feelings in connection with the sessions. Another approach to strengthen credibility would have been to return to the participants and present the main themes and conclusions that emerged from the discussions. This process, known as member-checking (Birt et al., 2016), allows the participants to review, discuss, and confirm the proposed themes or provide further insights. While no formal member-checking was conducted, the moderator continuously confirmed her understanding of the discussions with the participants, particularly through a summary at the end of each focus group session.

Transferability

Transferability refers to the potential to apply the findings and conclusions from one study to other contexts or populations. Rather than striving for generalisability, transferability emphasises that research results may be useful or relevant to different situations, even if they are not directly transferable. Despite the limitation of a lack of male participants, the sample included

variations in terms of age, country of origin, diagnosis, and length of sick leave. Insights from male perspectives could have further enriched the findings. However, since the majority of the participants in the AoP project were women and given that the Swedish Social Insurance Agency (Försäkringskassan, 2019) reports that more women than men are on sick leave due to health issues such as CMD in Sweden, our results and conclusions are considered to have high transferability to women aged 18-66 with mental health issues and/or pain in Sweden. Since unemployed individuals often face similar challenges to those on sick leave, the results might be applicable to this group as well. Furthermore, as the study's results align with findings from other countries (Jensen et al., 2024), we consider the results to be valid in these and other similar European countries.

This thesis sought to answer three overarching research questions: What is the effect of a 10-week AoP programme on well-being and mental ill-health after 6 and 12 months? Do education level and financial concerns affect mental health and well-being? How do the participants describe their experiences of engaging in AoP? Building on these research questions, this thesis contributes to the field of AoP with three studies that offer results on the programme's effects, not only before and immediately after the programme's completion, but also on whether the effects of a 10-week AoP programme are sustained at 6 and 12 months. This is a valuable contribution, as long-term effects are sought after in the field.

After adjusting for sick leave, Studies I-III showed no statistically significant difference in changes over time between the intervention and control groups. The results of the studies also presented effect sizes measured using Partial Eta Square η_p^2, indicating a greater effect in changes over time for the intervention group in Studies I and II. This underscores the importance of presenting both p-values and effect sizes to gain a deeper understanding of the programme's impact. In contrast to financial concerns, education did not demonstrate a significant main effect on the dependent variables in Studies I-III. A valuable contribution to the field of research is the finding that the group from open psychiatric care demonstrated significantly greater improvements over time compared to participants from primary care.

10. Conclusions

Based on the focus group findings, participation in AoP positively promotes well-being, social connectedness, and alleviates symptoms of CMD, as well as reducing pain experiences. After 6 and 12 months, the intervention group demonstrated a significantly greater decrease in depression compared to the control group. However, this significant between-group difference was not maintained after adjusting for sick leave. No significant differences were found for stress, anxiety, SOC, and GSE. The effect size for within-group changes over time was consistently greater in the intervention group compared to the control group, except for self-efficacy, where the effect was similar in both groups.

Financial concern and educational level were used in the analyses as indicators of social determinants of health and health inequalities. Descriptive statistics from Studies I-III revealed differences across varying levels of financial concern. Participants who stated that they were frequently concerned about their finances reported higher levels of stress, anxiety, and depression (Study I), as well as the weakest SOC (Study II) and the lowest levels of GSE (III). In contrast, those who reported never being concerned about their finances showed the lowest levels of stress, anxiety, and depression, the strongest SOC, and the highest levels of GSE. Notably, this difference included all SOC sub-dimensions: Comprehensibility, Manageability, and Meaningfulness, with Meaningfulness remaining stable in other analyses within Studies I-III. In contrast to financial concern, educational level showed no significant effect. These findings suggest that financial concern can be a critical factor influencing mental health and well-being among individuals.

11. Implications

The larger effect size, combined with the findings from the focus groups, suggests that participating in AoP yields positive effects in the period following the programme and, for some, serves as a stepping stone to further progress Furthermore, effect sizes in Studies I-II (CMD and SOC) indicated a greater effect for the intervention group compared to the control group over time. For depression, the difference was significant before adjusting for sick leave. However, after adjusting for sick leave, Studies I-III found no statistically significant differences in changes after participating in a 10-week AoP programme at the 6- and 12-month follow-ups for CMD, SOC, or GSE. Similar to physical activity, the benefits of engaging in the arts may be short-lived and require regular renewal, which is an area for future research. To sustain the positive effects of arts participation, public health and healthcare professionals should explore alternative pathways to prolong these benefits. Collaboration across sectors is essential to identify long-term solutions, while ensuring financial access to guarantee inclusivity for all.

The results showed greater improvements in stress, anxiety, depression, and SOC for participants referred from open psychiatric care compared to those referred from primary care. This provides a clear indication that this target group is well-suited to a group activity such as AoP. Although this finding was incidental and requires more structured investigation in future studies, it strengthens the case for professionals in open psychiatric care to continue referring their clients to AoP when deemed appropriate.

After adjusting for sick leave, the results showed no significant difference in changes between baseline and follow-up between the intervention and control groups. However, the health-promoting effects highlighted in participants' narratives during the focus groups, along with the larger effect size of AoP on stress, anxiety, depression, and SOC (but not GSE) compared to usual care, suggest that AoP should continue to be offered to individuals in primary care. The growing challenge for health and social care in managing the increasing number of individuals with mental health issues also underscores the need for collaboration with other societal actors to provide community-based programmes and activities where appropriate.

12. Future research

There remain numerous unanswered questions and unexplored areas within AoP research that warrant further attention. Below, I provide examples of some that have become apparent during the progression of this thesis.

An important area for further exploration is why individuals referred from open psychiatric care experience greater improvements in stress, anxiety, depression, and SOC compared to those referred from primary care. One possible explanation is that individuals in open psychiatric care who exhibited higher symptom levels at baseline in our study may find it more challenging to initiate new activities. The referral may act as a bridge to a specific resistance resource, helping them engage in a health-promoting context. Additionally, several studies suggest that activities within social prescribing, such as AoP, facilitate social connections, reduce loneliness, foster increased agency, and are perceived as non-judgmental, which may be particularly valued by this group and contribute to the greater effect compared to those referred from primary care. Further research is needed with designs focused on comparing these groups and gaining a deeper understanding of their experiences.

More long-term studies with control groups are needed to deepen the understanding of AoP's effects and evaluate its outcomes. Within this field, it would be beneficial to employ similar study designs and measurement instruments to facilitate comparisons across different study findings.

It would also be valuable to explore different strategies in long-term studies to maintain the positive short-term effects of arts participation, as it appears that the benefits of engaging in the arts are temporary and require regular replenishment, similar to physical activity. Additionally, there is a need for studies that investigate the effects of extended arts programmes. Based on knowledge from existing population studies, regular arts participation has been shown to improve health and well-being. Research exploring collaborative models involving different societal actors aimed at increasing regular arts engagement would be highly valuable. Furthermore, based on the

findings of this thesis, it is important to consider the financial circumstances of groups when designing future programmes or interventions.

There is also a need for studies that examine different types of AoP programmes to build knowledge on how to best design them in terms of content, length, and duration. It would also be beneficial to conduct studies that include other target groups, such as young people who are not attending compulsory education, and individuals experiencing unemployment.

Furthermore, there is a need for AoP studies that adopt a gender perspective. Given the disproportionate representation of women compared to men in the study sample of this thesis and other AoP studies, it is warranted to investigate the underlying reasons for this discrepancy. Are men with the same diagnoses offered participation in AoP programmes less frequently than women, or do they decline the offer at a higher rate? Additionally, does the content of the AoP programme resonate more with women than with men?

Finally, health economic studies are needed to assess the effectiveness of AoP in comparison to the interventions typically provided as care as usual. While AoP has been shown to have positive short-term effects, it also offers a group-based experience, unlike the majority of interventions within care as usual. In addition to the documented social benefits of group participation, the fact that AoP is a collective activity may further enhance its cost-effectiveness as an intervention. However, further investigation into this aspect is necessary through future well-designed studies.

13. Svensk sammanfattning

13.1. Bakgrund

Psykisk ohälsa och ospecifik smärta påverkar individens välbefinnande och leder ofta till kroniska hälsoproblem vilket innebär en stor belastning för samhället. Dessa tillstånd utgör en av de mest akuta globala hälsoutmaningarna, särskilt för kvinnor som i högre utsträckning drabbas av psykisk ohälsa.

Forskning visar att deltagande i kulturaktiviteter kan bidra till ökat välbefinnande och minskad psykisk ohälsa. Dessutom indikerar forskning att deltagande i kulturaktiviteter kan hjälpa till att hantera ospecifik smärta. Inom hälso- och sjukvården erkänns alltmer användningen av kulturaktiviteter, såsom musik, dans, och litteratur, som en viktig komponent för att främja hälsa hos individer med stressrelaterade problem, ångest och depression.

13.2. Syfte

Denna avhandling syftar till att utforska och utvärdera effekterna av Kultur på recept (KUR) på psykisk ohälsa och välbefinnande hos individer som är sjukskrivna på grund av psykisk ohälsa och/eller ospecifik långvarig smärta. Avhandlingen omfattar fyra empiriska studier. Dessa studier analyserar hur deltagande i KUR påverkar psykisk ohälsa, genom att mäta nivåer av stress, ångest och depression, samt hur deltagandet påverkar välbefinnande och individuella resurser, mätt genom förändringar i känslan av sammanhang (KASAM) och självtillit. Tillsammans undersöker studierna effekterna av KUR högst 3 månader efter avslut samt efter sex och tolv månader. Vidare syftar studierna till att analysera hur oro för sin ekonomi och utbildningsnivå inverkar på dessa faktorer.

13.3. Metod

Deltagarna rekryterades huvudsakligen från primärvården. Eftersom KUR även erbjuds till personer inom den psykiatriska öppenvårdsmottagningen, omfattade interventionsgruppen även ett antal deltagare från denna verksamhet. Interventionsgruppen rekryterades från två regioner, medan kontrollgruppen rekryterades från fyra ytterligare regioner, totalt sex regioner.

Avhandlingen består av tre kvantitativa studier, Studie I-III och en kvalitativ studie (Studie IV). De kvantitativa studierna använder en kvasi-experimentell prospektiv design med en kontrollgrupp, och samlar in data genom enkäter som fylls i vid tre tillfällen vid start, efter 6 och 12 månader.

Studie I undersöker förändring av stress, ångest och depression genom validerade instrument. Den andra och tredje studien undersöker förändringar gällande individens resurser genom att studera förändring av deltagarnas KASAM och självtillit (self-efficacy). Den fjärde studien utforskar deltagarnas erfarenheter av AoP och dess effekter på deras hälsa och dagliga aktiviteter, genom fem fokusgrupper.

13.4. Resultat

Resultaten i studie I visar en statistiskt signifikant större minskning av depression över tid inom interventionsgruppen jämfört med kontrollgruppen (p=.03), men vid justering för sjukskrivning var skillnaden inte längre signifikant. Skillnaden i förändring över tid för stress (p=.15) och ångest (p=.24) var inte statistiskt signifikant mellan grupperna. Inom respektive grupp var minskningen av stress, ångest och depression statistiskt signifikant över tid för båda grupperna. Effektstorleken, Partial Eta Squared (η_p^2)* visade en stor effekt för interventionsgruppen och en medium effekt för kontrollgruppen (interventionsgrupp: stress η_p^2=.16, ångest η_p^2=.20, och depression η_p^2=.19; kontrollgrupp: stress η_p^2=.09, ångest η_p^2=.12, och depression η_p^2=.09).

* η_p^2=.01 indikerar en liten effekt, η_p^2=.06 indikerar en medium effekt och η_p^2=.14 indikerar en stor effekt.

Förändring över tid inom respektive grupp var fortfarande signifikant efter justering för sjukskrivrivning. Även efter justering för sjukskrivning var effekten för förändring större i interventionsgruppen.

Deskriptiv statistik gällande sociala determinanters påverkan visade tydliga skillnader i stress, ångest och depression mellan personer som ofta oroade sig för sin ekonomi och de som aldrig gjorde det. Deltagare som ofta oroade sig för sin ekonomi rapporterade signifikant högre nivåer av stress, ångest och depression, jämfört med de utan ekonomiska bekymmer. Inga signifikanta skillnader observerades mellan deltagare med olika utbildningsnivåer.

Resultatet i studie II visade ingen statistiskt signifikant skillnad mellan gruppernas förändring över tid gällande KASAM styrka (total KASAM p=.136, Begriplighet p=.095, Hanterbarhet p=.273 Meningsfullhet p=.880). Inom respektive grupp var ökningen av KASAM styrka statistiskt signifikant över tid för båda grupperna (p <.001). Effektstorleken visade en dubbelt så stor effekt för interventionsgruppen (η_p^2=.072) jämfört med kontrollgruppen (η_p^2=.033), oberoende av justering för sjukskrivning. Vidare rapporterade personer som ofta upplevde oro för sin ekonomi signifikant (p <.001) svagare KASAM styrka jämfört med de som uppgav att de aldrig oroade sig för sin ekonomi. Den statistiskt signifikanta skillnaden gällde för total KASAM och samtliga tre dimensioner, även Meningsfullhet som annars brukar vara stabil. Utbildningsnivå visade ingen signifikant effekt på KASAM.

Resultatet i studie III visar ingen statistiskt signifikant skillnad i förändring av självtillit över tid mellan grupperna (p=.253). Resultatet i studie III visar ingen statistiskt signifikant skillnad i förändring av självtillit över tid mellan grupperna (p=.253), och ingen av grupperna uppvisade en signifikant förändring över tid. Effektstorleken η_p^2 indikerade en liten effekt för både interventionsgruppen (η_p^2=.019) och kontrollgruppen (η_p^2= .031). Justering för sjukskrivning hade en obetydlig effekt.

Deskriptiv statistik gällande sjukskrivning och självtillitstyrka identifierade signifikanta skillnader (p=.<.001), mellan deltagare som var sjukskrivna på heltid 22.4 (CI 22.1–22.8) och de som hade avslutat sin sjukskrivning (26.9 (CI 26.5–27.2). Självtillitstyrka skilde sig även mellan dem som var

sjukskrivna på heltid och dem som var sjukskrivna på deltid. Utbildningsnivå visade ingen signifikant effekt på självtillitstyrka.

I studie IV resulterade analysen av fokusgruppsdiskussionerna i fyra kategorier, baserade på deltagarnas beskrivningar av sina erfarenheter och effekterna av att delta i KUR: 1. Känsla av tillhörighet: som beskriver social samhörighet och ömsesidig förståelse; 2. KUR som respit från vardagens krav; 3. Kulturaktiviteter som erbjuder både utmaning och belöning; samt 4. Hälsofrämjande förändringar: Tillsammans bidrog upplevelserna i kategori 1-3 till positiva effekter hos individen, såsom en ny syn på den egna förmågan, ökad självrespekt samt återfunnen motivation:

13.5. Konklusion

I fokusgrupperna framkommer att KUR har en positiv effekt som främjar välbefinnande, social samhörighet samt lindrar symtom på psykisk ohälsa och minskar upplevd smärta i stunden (Studie IV). Resultatet i Studie I. visar en statistiskt signifikant större minskning för depression i interventionsgruppen jämfört med kontrollgruppen, vid uppföljning efter 6 och 12 månader. Däremot var det inte någon signifikant skillnad i förändring över tid mellan grupperna för stress, ångest (Studie I), känsla av sammanhang (KASAM) (Studie II) och självtillit (GSE) (Studie III). Efter justering för sjukskrivning kvarstår inte den statistiskt signifikanta skillnaden för depression. Effektstorleken var genomgående större i interventionsgruppen jämfört med kontrollgruppen, förutom för självtillit där effekten var likvärdig i båda grupperna. Oro för sin ekonomi och utbildningsnivå användes i analyserna som indikatorer på sociala bestämningsfaktorer för hälsa och hälsoskillnader. Deskriptiv statistik från Studierna I-III visade att deltagare som angav att de ofta var oroade över sin ekonomi rapporterade högre nivåer av stress, ångest och depression (Studie I), samt den svagaste KASAM (Studie II) och lägsta nivån av självtillit (GSE) (Studie III). De deltagare som rapporterade att de aldrig var oroade rapporterade de lägsta nivåerna av stress, ångest och depression, starkast KASAM och högst nivå av GSE. Tillskillnad mot ekonomisk oro visade utbildningsnivå ingen signifikant effekt. Dessa resultat pekar mot att ekonomisk oro kan vara en kritisk faktor som påverkar mental hälsa och välbefinnande hos individer.

Acknowledgements

I have now reached the moment where it is time for me to extend a huge THANK YOU to everyone who has contributed to making it possible for me to hold this book in my hands today … and there have been many of you who have contributed in different ways!

First and foremost, I would like to extend my sincere thanks to all of you who took the time to complete the long questionnaire and share your experiences in the focus groups. Without your contributions, this thesis would not have been possible. I hope I have done justice to your answers and narratives, ensuring that your voices are heard in the way you intended.

Thanks to all the staff and decision-makers at various levels within the Region Blekinge, Region Jönköping County, Region Kalmar, Region Uppsala, Region Västra Götaland and Region Östergötland that participated in the study. Your time and commitment have made this research possible, and I hope you find value in the insights that have emerged.

I would like to express my sincere gratitude to Birgitta Ekeberg at the Department of Public Health and Healthcare, Region Jönköping County, for her essential role in distributing and collecting the questionnaires from all participants in the AoP in Region Jönköping County. I would also like to thank Jenny Melin at The Coordination Association Älv & Kust for her assistance in administering the questionnaires for the intervention group in the Västra Götaland region. Your invaluable contributions are greatly appreciated.

Pia Bülow, you have been the perfect main supervisor! You have always been there with your wisdom when I needed support. Thank you for your patience! You have guided and supported me, helping me find a slightly straighter path than I would have managed on my own, and yet I still managed to create many U-turns and ups and downs along the way. But you have always been there by my side. Thank you!

Inger Jansson, co-supervisor. You have always been the quickest to read and provide thoughtful comments on my work, offering valuable feedback that has improved my writing. Your expertise, especially in the ever-evolving field of

social insurance, has been an invaluable resource, helping me to navigate it correctly. Thank you for your support and patience throughout this process.

Mikael Skillmark, co-supervisor. You joined at the halfway point when I needed a new co-supervisor. Thank you for that! You have challenged and inspired me in refining the theoretical framework for the thesis. With subtle comments, you have pointed out what needed to be developed, and just as often, what needed to be reduced. You also took on the responsibility of pushing me to view AoP from a critical perspective, which was much needed.

David Rusaw, co-supervisor. You joined the research group at a late stage when we needed someone to review my statistical work. Thank you for taking on the role despite your busy schedule. You have been a great support and a valuable advisor in the area of statistics, and your sharp comments on my writing have been an invaluable asset.

Olle Eriksson, my co-author, you have been a lifeline in helping me resolve complex statistical challenges, which I struggled to solve until you provided an excellent solution. I am deeply grateful for your patience and for your clear and pedagogical explanations of intricate calculations. It has always been a pleasure to share a moment of humour when we meet.

Thanks to Bo Rolander at Futurum Academy for Health and Care, Region Jönköping County, for your invaluable support my first years in assisting me with making my data analysable.

Thank you, Jesper Ekberg, my former manager and friend, and Annette Frisk, my current manager, for making my doctoral project possible.

Thank to my friends and colleagues in the Public Health section for your encouragement and belief in me. The book is now complete, and I look forward to spending all my working time with you again.

Thanks to Jönköping University and the Research School of Health and Welfare. My appreciation goes to Bent Fridlund, former director, and Jan Mårtensson, current director, for their advice and support throughout the years. I also wish to thank Kajsa, Karolina, Minna, and Cecilia, the research coordinators, for their excellent support.

To my dear fellow PhD students and friends, both past and present, at the Research School for Health and Welfare, thank you for the inspiring conversations about research, politics, gardening, and dating, and for your support during the ups and downs of life. The research school has been a fantastic place to be, filled with enduring support, friendship, and laughter. I will miss you all and the time spent together!

To my friends, with whom I have spent far too little time over these years. I am looking forward to changing that now. Thank you for all the encouragement and motivating conversations.

My heartfelt thanks to my family and relatives who have supported and believed in me throughout this journey, providing me with invaluable encouragement. A special thank you to my dearest sister, Sonja, who has provided me with meals during my working retreats at your home in Ängelholm and at the summer house on Gotland. Thank you for always being there for me. I would also like to thank you, Fredrik, for taking on significant responsibilities at home during the majority of my doctoral studies. Without your support, it would not have been possible for me to complete my doctoral research.

Cajsa and Frida, my lovely daughters. I am so proud and grateful for you both. You are the best! I love you!

This work was supported by grants from Futurum the Academy for Health Care, Jönköping County Council, Jönköping, Sweden.

References

Acheson, D. (1988). *Public health in England: the report of the Committee of Inquiry into the Future Development of the Public Health Function.* The Stationary Office, 23-34.

AFA. (2023). *Sjukfrånvaro med psykisk diagnos [Sick leave with mental diagnosis]*. . https://www.afaforsakring.se/dokument/mm0x0dirabo5996si0ze/F6345_sjukfr-nvaro-psykisk-diagnos.pdf.

Aggar, C., Thomas, T., Gordon, C., Bloomfield, J., & Baker, J. (2021). Social prescribing for individuals living with mental illness in an Australian community setting: a pilot study. *Community mental health journal*, *57*, 189-195. https://doi.org/10.1007/s10597-020-00631-6

Ahlborg, J., Bergenheim, A., Eriksson, M., Jivegård, L., Sundell, G., Svanberg, T., Svensson, M., & Bernhardsson, S. (2020). *Nature-Based Rehabilitation for Patients with Longstanding Stress-Related Disorders: Updated Report*. G. Sahlgrenska University Hospital.

Alderwick, H. A., Gottlieb, L. M., Fichtenberg, C. M., & Adler, N. E. (2018). Social prescribing in the US and England: emerging interventions to address patients' social needs. *American journal of preventive medicine*, *54*(5), 715-718. https://doi.org/10.1016/j.amepre.2018.01.039

Allen, J., Balfour, R., Bell, R., & Marmot, M. (2014). Social determinants of mental health. *International review of psychiatry*, *26*(4). https://doi.org/10.3109/09540261.2014.928270

Alvesson, M., & Sandberg, J. (2022). Pre-understanding: An interpretation-enhancer and horizon-expander in research. *Organization Studies*, *43*(3), 395-412. https://doi.org/10.1177/01708406219945

Alvesson, M., & Sköldberg, K. (2018). *Reflexive Methodology: New Insights and its Importance in Qualitative Studies*. London: SAGE publications Ltd.

Anell, A., Glenngård, A. H., & Merkur, S. (2012). Sweden: Health system review. *Health Systems in Transition 14*(5), 1-159. https://eurohealthobservatory.who.int/publications/i/sweden-health-system-review-2023

Annerstedt, M., & Währborg, P. (2011). Nature-assisted therapy: Systematic review of controlled and observational studies. *Scandinavian Journal of Public Health 39*(4), 371-388. https://doi.org/10.1177/1403494810396400

Antonovsky, A. (1979). *Health, stress, and coping* (1. ed.). Jossey-Bass.

Antonovsky, A. (1987). *Unraveling the mystery of health: How people manage stress and stay well*. Jossey-bass.

Antonovsky, A. (1993). The structure and properties of the sense of coherence scale. *Social science & medicine*, *36*(6), 725-733. https://doi.org/https://doi.org/10.1016/0277-9536(93)90033-z

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American psychologist*, *37*(2), 122. https://doi.org/10.1037/0003-066X.37.2.122

Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Macmillan.

Bauer, G., Davies, J. K., Pelikan, J., Group, E. T. W., & Consortium, T. E. (2006a). The EUHPID Health Development Model for the classification of public health indicators. *Health Promot Int*, *21*(2), 153-159. https://doi.org/10.1093/heapro/dak002

Bauer, G., Davies, J. K., Pelikan, J., Group, E. T. W., & Consortium, T. E. (2006b). The EUHPID Health Development Model for the classification of public health indicators. *Health Promotion International 21*(2), 153-159. https://doi.org/10.1093/heapro/dak002

Bekkering, G. E., Corremans, M., Gemignani, M., Gerber, N., Godderis, L., Kaewma, S., Khammathit, A., Steel, J., & Hannes, K. (2023). Culture-based prescribing to improve mental health: a scoping review protocol. *JBI evidence synthesis*, *21*(8), 1679-1686. https://doi.org/10.11124/JBIES-22-00211

Berg, K. (2011). *Rapport från pilotprojektet Kultur på recept i Region Skåne [Report from the pilot project Arts on prescription in Region Skåne]*. Region Skåne.

Bergenheim, A., Ahlborg Jr, G., & Bernhardsson, S. (2021). Nature-based rehabilitation for patients with long-standing stress-related mental disorders: a qualitative evidence synthesis of patients' experiences. *International Journal of Environmental Research and Public Health*, *18*(13). https://doi.org/10.3390/ijerph18136897

Berkman, L. F., & Glass, T. (2000). Social integration, social networks, social support, and health. *Social epidemiology*, *1*(6). https://doi.org/10.1093/oso/9780195083316.003.0007

Bernard, K., Wildman, J. M., Tanner, L. M., Stoniute, A., Still, M., Green, R., Eastaugh, C., Sowden, S., & Thomson, K. H. (2023). Experiences of non-pharmaceutical primary care interventions for common mental health disorders in socioeconomically disadvantaged groups: a systematic review of qualitative studies. *International Journal of Environmental Research and Public Health*, *20*(7). https://doi.org/doi.org/10.3390/ijerph20075237

Bickerdike, L., Booth, A., Wilson, P. M., Farley, K., & Wright, K. (2017). Social prescribing: less rhetoric and more reality. A systematic review of the evidence. *BMJ Open*, *7*(4). https://doi.org/10.1136/bmjopen-2016-013384

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: a tool to enhance trustworthiness or merely a nod to validation? *Qualitative health research 26*(13). https://doi.org/10.1177/1049732316654870

Bjelland, I., Dahl, A. A., Haug, T. T., & Neckelmann, D. (2002). The validity of the Hospital Anxiety and Depression Scale. An updated literature review. *Journal of psychosomatic research*, *52*(2). https://doi.org/10.1016/S0022-3999(01)00296-3

Brodén, A. M. (2013). *Kultur på recept i hela landet. Motion till riksdagen [Culture on prescription throughout the country. Motion to the Swedish parliament]*. Sveriges riksdag Retrieved from https://data.riksdagen.se/fil/6F9D97C7-5CB5-459F-8F59-16091F05A278

Bryant, A. L., Walton, A. L., Pergolotti, M., Phillips, B., Bailey, C., Mayer, D. K., & Battaglini, C. (2017). Perceived benefits and barriers to exercise for recently treated adults with acute leukemia. *Oncology nursing forum*, *44*(4). https://doi.org/10.1188/17.onf.413-420

Bull, F. C., Al-Ansari, S. S., Biddle, S., Borodulin, K., Buman, M. P., Cardon, G., Carty, C., Chaput, J.-P., Chastin, S., & Chou, R. (2020). World Health Organization 2020 guidelines on physical activity and sedentary behaviour. *British journal of sports medicine*, *54*(24). https://doi.org/10.1136/bjsports-2020-102955

Bungay, H., & Clift, S. (2010). Arts on prescription: a review of practice in the UK. *Perspectives in Public Health 130*(6). https://doi.org/10.1177/1757913910384050

Bungay, H., Jensen, A., & Holt, N. (2023). Critical perspectives on Arts on Prescription. *Perspect Public Health*. https://doi.org/https://doi.10.1177/17579139231170776

Bygren, L. O., Johansson, S.-E., Konlaan, B. B., Grjibovski, A. M., Wilkinson, A. V., & Sjöström, M. (2009). Attending cultural events and cancer mortality: A Swedish cohort study. *Arts & Health*, *1*(1). https://doi.org/10.1080/17533010802528058

Bygren, L. O., Konlaan, B. B., & Johansson, S.-E. (1996). Attendance at cultural events, reading books or periodicals, and making music or singing in a choir as determinants for survival: Swedish interview survey of living conditions. *BMJ 313*. https://doi.org/10.1136/bmj.313.7072.1577

Bygren, L. O., Weissglas, G., Wikström, B.-M., Konlaan, B. B., Grjibovski, A., Karlsson, A.-B., Andersson, S.-O., & Sjöström, M. (2009). Cultural participation and health: a randomized controlled trial among medical care staff. *Psychosomatic Medicine 71*(4). https://doi.org/10.1097/psy.0b013e31819e47d4

Calderón-Larrañaga, S., Greenhalgh, T., Finer, S., & Clinch, M. (2022). What does the literature mean by social prescribing? A critical review using discourse analysis. *Sociology of Health & Illness 44*(4-5). https://doi.org/10.1111/1467-9566.13468

Chatterjee, Camic, Lockyer, & Thomson. (2018). Non-clinical community interventions: a systematised review of social prescribing schemes. *Arts & Health*, *10*(2), 97-123. https://doi.org/https://doi.org/10.1080/17533015.2017.1334002

Chelak, K., & Chakole, S. (2023). The role of social determinants of health in promoting health equality: A narrative review. *Cureus*, *15*(1). https://doi.org/https://doi.10.7759/cureus.33425

Clark, L. V., Pesola, F., Thomas, J. M., Vergara-Williamson, M., Beynon, M., & White, P. D. (2017). Guided graded exercise self-help plus specialist medical care versus specialist medical care alone for chronic fatigue syndrome (GETSET): a pragmatic randomised controlled trial. *The Lancet*, *390*. https://doi.org/10.1016/s0140-6736(16)32589-2

Clift, S., & Camic, P. M. (2016). *Oxford textbook of creative arts, health, and wellbeing: International perspectives on practice, policy and research*. Oxford University Press, USA.

Clift, S., Phillips, K., & Pritchard, S. (2021). The need for robust critique of research on social and health impacts of the arts. *Cultural Trends*, *30*(5). https://doi.org/10.1080/09548963.2021.1910492

Corazon, S. S., Sidenius, U., Poulsen, D. V., Gramkow, M. C., & Stigsdotter, U. K. (2019). Psycho-physiological stress recovery in outdoor nature-based interventions: A systematic review of the past eight years of research. *International Journal of Environmental Research and Public Health*, *16*(10). https://doi.org/10.3390/ijerph16101711

Csikszentmihalyi, M. (1990). *Flow: the psychology of optimal experience*. Harper & Row.

Csikszentmihalyi, M., & Figurski, T. J. (1982). Self-awareness and aversive experience in everyday life. *Journal of personality*, *50*(1), 15-19. https://doi.org/10.1111/j.1467-6494.1982.tb00742.x

Cuypers, K., Krokstad, S., Holmen, T. L., Skjei Knudtsen, M., Bygren, L. O., & Holmen, J. (2012). Patterns of receptive and creative cultural activities and their association with perceived health, anxiety, depression and satisfaction with life among adults: the HUNT study,

Norway. *J Epidemiol Community Health*, *66*(8), 698-703. https://doi.org/10.1136/jech.2010.113571

Davies, C. R., Rosenberg, M., Knuiman, M., Ferguson, R., Pikora, T., & Slatter, N. (2012). Defining arts engagement for population-based health research: art forms, activities and level of engagement. *Arts & Health*, *4*(3). https://doi.org/10.1080/17533015.2012.656201

Daykin, N., de Viggiani, N., Moriarty, Y., & Pilkington, P. (2017). Music-making for health and wellbeing in youth justice settings: Mediated affordances and the impact of context and social relations. *Sociology of Health & Illness 39*(6). https://doi.org/10.1111/1467-9566.12549

de Vries, H., Fishta, A., Weikert, B., Rodriguez Sanchez, A., & Wegewitz, U. (2018). Determinants of sickness absence and return to work among employees with common mental disorders: a scoping review. *Journal of Occupational Rehabilitation*, *28*. https://doi.org/10.1007/s10926-017-9730-1

Dowrick, C., Billington, J., Robinson, J., Hamer, A., & Williams, C. (2012). Get into Reading as an intervention for common mental health problems: exploring catalysts for change. *Medical Humanities*, *38*(1), 15-20. https://doi.org/10.1136/medhum-2011-010083

Drinkwater, C., Wildman, J., & Moffatt, S. (2019). Social prescribing. *Bmj, 364*. https://doi.org/https://doi.10.1136/bmj.l1285

Duberg, A., Jutengren, G., Hagberg, L., & Möller, M. (2020). The effects of a dance intervention on somatic symptoms and emotional distress in adolescent girls: A randomized controlled trial. *Journal of international medical research*, *48*(2). https://doi.org/https://doi.org/10.1177/0300060520902610

Dunphy, K., Baker, F. A., Dumaresq, E., Carroll-Haskins, K., Eickholt, J., Ercole, M., Kaimal, G., Meyer, K., Sajnani, N., & Shamir, O. Y. (2019). Creative arts interventions to address depression in older adults: A systematic review of outcomes, processes, and mechanisms. *Frontiers in psychology 9*, 2655. https://doi.org/https://doi.10.3389/fpsyg.2018.02655

Eades, G., & Ager, J. (2008). Time being: Difficulties in integrating arts in health. *Journal of the Royal Society for the Promotion of Health*, *128*(2), 62-67. https://doi.org/10.1177/1466424007087809

Ekelund, U., Steene-Johannessen, J., Brown, W. J., Fagerland, M. W., Owen, N., Powell, K. E., Bauman, A., & Lee, I.-M. (2016). Does physical activity attenuate, or even eliminate, the detrimental association of sitting time with mortality? A harmonised meta-analysis of data from more than 1 million men and women. *The Lancet*, *388*(10051). https://doi.org/10.1016/s0140-6736(16)30370-1

Ericsson, A., Nyström, C., & Mannerkorpi, K. (2015). Psychometric properties of the Stress and Crisis Inventory (SCI-93) in females with fibromyalgia and chronic widespread pain. *Nordic journal of psychiatry*, *69*(1), 28-34. https://doi.org/https://doi.org/10.3109/08039488.2014.915580

Eriksson, M. (2022). The sence of coherence: The concept and its relationship to health In B. G. Mittelmark MB, Vaandreger L, Pelikan JM, Sagy S, Eriksson M, Lindström B, Meier Magistretti C, Barry MM, (Ed.), *The handbook of salutogenesis* (2nd ed., pp. 61-68). Springer Nature. https://doi.org/10.1007/978-3-030-79515-3

Eriksson, M., & Contu, P. (2022). The sence of coherence: Mesurement Issues. In B. G. Mittelmark MB, Vaandreger L, Pelikan JM, Sagy S, Eriksson M, Lindström B, Meier Magistretti C, Barry MM, (Ed.), *The Handbook of Salutogenesis* (2nd ed., pp. 79-91). Springer Nature. https://doi.org/10.1007/978-3-030-79515-3

Eriksson, M., & Lindström, B. (2005). Validity of Antonovsky's sense of coherence scale: a systematic review. *Journal of Epidemiology & Community Health*, *59*(6), 460-466. https://doi.org/https://doi.org/10.1136/jech.2003.018085

Eriksson, M., & Lindström, B. (2008). A salutogenic interpretation of the Ottawa Charter. *Health promotion international 23*(2), 190-199. https://doi.org/10.1093/heapro/dan014

Eryılmaz, G., Unur, K., & Akgündüz, Y. (2021). How do flow experiences and emotional states of individuals participating in recreational activities affect their self-efficacy perceptions and life satisfaction? *Journal of multidisciplinary academic tourism*, *6*(2). https://doi.org/10.31822/jomat.2021-6-2-127

Esping-Andersen, G. (1990). The three worlds of welfare capitalism. *Polity*.

Fancourt, D., & Finn, S. (2019). *What is the evidence on the role of the arts in improving health and well-being? A scoping review*. World Health Organization. Regional Office for Europe. https://doi.org/10.18261/issn.2535-7913-2020-01-08

Fancourt, D., Finn, S., Warran, K., & Wiseman, T. (2022). Group singing in bereavement: effects on mental health, self-efficacy, self-esteem and well-being. *BMJ Supportive & Palliative Care*, *12*(e4), e607-e615.

Fancourt, D., & Steptoe, A. (2019). The art of life and death: 14 year follow-up analyses of associations between arts engagement and mortality in the English Longitudinal Study of Ageing. *Bmj*, *367*. https://doi.org/https://doi.org/10.1136/bmj.l6377

Fancourt, D., & Tymoszuk, U. (2019). Cultural engagement and incident depression in older adults: evidence from the English Longitudinal Study of Ageing. *The British journal of psychiatry*, *214*(4), 225-229.

Forbech Vinje, H., Langeland, E., & Bull, T. (2022). Aaron Antonovsky's Development of Salutogeneses, 1979–1994. In G. F. B. B. Mittelmark, L. Vaandreger, J.M. Pelikan, S. Sagy, M. Eriksson, B. Lindström and C.M. Magitretti (Ed.), *The Handbook of Salutogenisis* (2nd ed., pp. 29-44). Springer Nature. https://doi.org/10.1007/978-3-030-79515-3

Friedberg, M. W., Schneider, E. C., Rosenthal, M. B., Volpp, K. G., & Werner, R. M. (2014). Association between participation in a multipayer medical home intervention and changes in quality, utilization, and costs of care. *JAMA 311*(8). https://doi.org/10.1001/jama.2014.353

Fritz, C. O., Morris, P. E., & Richler, J. J. (2012). Effect size estimates: current use, calculations, and interpretation. *Journal of experimental psychology: General*, *141*(1), 2. https://doi.org/https://doi.org/10.1037/a0024338

Furrer, A., Michel, G., Terrill, A. L., Jensen, M. P., & Müller, R. (2019). Modeling subjective well-being in individuals with chronic pain and a physical disability: the role of pain control and pain catastrophizing. *Disability and Rehabilitation 41*(5), 498-507. https://doi.org/10.1080/09638288.2017.1390614

Försäkringskassan. (2020). *Sjukfrånvaro i psykiska diagnoser. En studie av Sveriges befolkning 16–64 år[Sick Leave Due to Mental Health Diagnoses: A Study of the Swedish Population Aged 16–64 Years]*. https://www.forsakringskassan.se/download/18.7fc616c01814e179a9f329/1656660446139/sjukfranvaro-i-psykiatriska-diagnoser-socialforsakringsrapport-2020-8.pdf

Försäkringskassan. (2023a). *Försäkringskassans lägesrapport: Psykisk ohälsa i dagens arbetsliv[The Swedish Social Insurance Agency's Status Report: Mental Health in Today's Working Life]*. https://www.forsakringskassan.se/download/18.81129cb18ae7de7897208/1700234042956/psykisk-ohalsa-i-dagens-arbetsliv-lagesrapport-2023.pdf

Försäkringskassan. (2023b). *Socialförsäkringen i siffror 2023 [Social Insurance in Figures 2023]*. https://www.forsakringskassan.se/download/18.2af5a1181888fbe751eaf/1687877749315/socialforsakringen-i-siffror-2023.pdf

Försäkringskassan. (2024a). *Rehabiliteringskedjan [The Rehabilitation Chain]*. Retrieved September 16, 2024 from https://www.forsakringskassan.se/privatperson/sjuk/rehabiliteringskedjan

Försäkringskassan. (2024b). *Sjukpenning för anställda [Sickness Benefit for Employees]*. Retrieved September 6, 2024 from

https://www.forsakringskassan.se/privatperson/sjuk/anstalld/sjukpenning-for-anstallda

GBD Collaborators. (2018). Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017.

GBD Collaborators. (2020). Global burden of 369 diseases and injuries in 204 countries and territories, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet*, *396*(10258), 1204-1222. https://doi.org/10.1016/s0140-6736(20)30925-9

Gedeborg-Nilsson, C. (2015). *Metodrapport Kultur på recept Skånemodellen i Helsingborg [Method Report: Culture on Prescription - The Skåne Model in Helsingborg]*. https://www.skane.se/siteassets/kultur/dokument/15-0220_kultur-pa-recept.pdf

Golden, T. L., Maier Lokuta, A., Mohanty, A., Tiedemann, A., Ng, T. C., Mendu, M., Morgan, N., Kuge, M. N., & Brinza, T. (2023). Social prescription in the US: a pilot evaluation of mass cultural council's "CultureRx". *Frontiers in Public Health*, *10*, 1016136.

Goldman-Mellor, S. J., Saxton, K. B., & Catalano, R. C. (2010). Economic Contraction and Mental Health: A Review of the Evidence, 1990-2009. *International journal of mental health*, *39*(2), 6-31. https://doi.org/10.2753/IMH0020-7411390201

Gómez, C. A., Kleinman, D. V., Pronk, N., Gordon, G. L. W., Ochiai, E., Blakey, C., Johnson, A., & Brewer, K. H. (2021). Addressing health equity and social determinants of health through healthy people 2030. *Journal of public health management and practice*, *27*(6). https://doi.org/10.1097/phh.0000000000001297

Grahn, P., Pálsdóttir, A. M., Ottosson, J., & Jonsdottir, I. H. (2017). Longer nature-based rehabilitation may contribute to a faster return to work in patients with reactions to severe stress and/or depression. *International Journal of Environmental Research and Public Health*, *14*(11), 1310. https://doi.org/10.3390/ijerph14111310

Gupta, S. K. (2011). Intention-to-treat concept: A review. *Perspectives in Clinical Research*, *2*(3), 109-112. https://doi.org/10.4103/2229-3485.83221

Gustafsson, B., Hermerén, G., & Petersson, B. (2005). *Vad är god forskningssed? : synpunkter, riktlinjer och exempel*. Vetenskapsrådet. http://www.du.se/PageFiles/3894/vr2005_1.pdf

Heath, G. W., Parra, D. C., Sarmiento, O. L., Andersen, L. B., Owen, N., Goenka, S., Montes, F., & Brownson, R. C. (2012). Evidence-based

intervention in physical activity: lessons from around the world. *The Lancet*, *380*(9838), 272-281.

Heinrich, L. M., & Gullone, E. (2006). The clinical significance of loneliness: A literature review. *Clinical Psychology Review 26*(6), 695-718. https://doi.org/10.1016/j.cpr.2006.04.002

Holmgren, K., & Dahlin Ivanoff, S. (2004). Women on sickness absence--views of possibilities and obstacles for returning to work. A focus group study. *Disability and Rehabilitation,*, *26*(4). https://doi.org/10.1080/09638280310001644898

Holt-Lunstad, J. (2022). Social connection as a public health issue: The evidence and a systemic framework for prioritizing the "social" in social determinants of health. *Annual Review of Public Health*, *43*. https://doi.org/10.1146/annurev-publhealth-052020-110732

Hosseinpoor, A. R., Bergen, N., Kirkby, K., & Schlotheuber, A. (2023). Strengthening and expanding health inequality monitoring for the advancement of health equity: a review of WHO resources and contributions. *International Journal for Equity in Health*, *22*(1), 49. https://doi.org/10.1186/s12939-022-01811-4

Howden-Chapman, P., Bennett, J., Edwards, R., Jacobs, D., Nathan, K., & Ormandy, D. (2023). Review of the impact of housing quality on inequalities in health and well-being. *Annual Review of Public Health*, *44*(1), 233-254. https://doi.org/10.1146/annurev-publhealth-071521-111836

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research,*, *15*(9), 1277-1288. https://doi.org/10.1177/1049732305276687

Hughes, S., Crone, D. M., Sumner, R. C., & Redmond, M. (2019). Understanding well-being outcomes in primary care arts on referral interventions: a mixed method study. *European Journal for Person Centered Healthcare*, *7*(3). https://doi.org/10.5750/ejpch.v7i3.1768

Håkansson, C., Svartvik, L., Lidfeldt, J., Nerbrand, C., Samsioe, G., Scherstén, B., & Nilsson, P. M. (2003). Self-rated health in middle-aged women: Associations with sense of coherence and socioeconomic and health-related factors. *Scandinavian Journal of Occupational Therapy*, *10*(3), 99-106. https://doi.org/https://doi.org/10.1080/11038120310009425

IsHak, W. W., Wen, R. Y., Naghdechi, L., Vanle, B., Dang, J., Knosp, M., Dascal, J., Marcia, L., Gohar, Y., & Eskander, L. (2018). Pain and depression: a systematic review. *Harvard review of psychiatry*, *26*(6). https://doi.org/10.1097/hrp.0000000000000198

Janlert, U., & Littbrand, A. H. (2011). *Kultur på recept, Projektet Med mina händer, Region Västerbotten [Culture on Prescription: The Project*

With My Hands]. Region Västerbotten. https://www.regionvasterbotten.se/VLL/Filer/Kultur%20p%C3%A5%20recept.pdf

Jansson, I., Perseius, K.-I., Gunnarsson, A. B., & Björklund, A. (2014). Work and everyday activities: Experiences from two interventions addressing people with common mental disorders. *Scandinavian Journal of Occupational Therapy*, *21*(4), 295-304. https://doi.org/10.3109/11038128.2014.894572

Jansson, I., Thörne, K., & Masterson, D. (2024). Beyond conventional healthcare for mental health problems: Experiences of existential group conversations. *Scandinavian Journal of Occupational Therapy*, *31*(1). https://doi.org/10.1080/11038128.2023.2244547

Jensen, A. (2019). Culture vitamins–An arts on prescription project in Denmark. *Perspect Public Health*, *139*(3), 131-136. https://doi.org/10.1177/1757913919836145

Jensen, A., Folker, A. P., Lindström, M., & Ekholm, O. (2023). Arts and culture engagement for health: a Danish population-based study. *Public Health*, *225*, 120-126.

Jensen, A., Holt, N., Honda, S., & Bungay, H. (2024). The impact of arts on prescription on individual health and wellbeing: a systematic review with meta-analysis. *Frontiers in Public Health*, *12*.

Jensen, A., & Torrissen, W. (2019). Aesthetic engagement as health and wellbeing promotion. *Journal of Public Mental Health*, *18*(4), 240-247.

Johansson, S. E., Konlaan, B. B., & Bygren, L. O. (2001). Sustaining habits of attending cultural events and maintenance of health: a longitudinal study. *Health promotion international,*, *16*(3), 229-234.

Johnson, J. K., Stewart, A. L., Acree, M., Nápoles, A. M., Flatt, J. D., Max, W. B., & Gregorich, S. E. (2020). A community choir intervention to promote well-being among diverse older adults: results from the community of voices trial. *The Journals of Gerontology: Series B*, *75*(3), 549-559.

Kæmpe, K. R., & Mortensen, O. S. (2021). The distribution of diagnoses in a population of individuals on long-term sick leave. *Danish Medical Journal*, *68*(2), A06200429.

Kamioka, H., Tsutani, K., Yamada, M., Park, H., Okuizumi, H., Honda, T., Okada, S., Park, S.-J., Kitayuguchi, J., & Abe, T. (2014). Effectiveness of horticultural therapy: a systematic review of randomized controlled trials. *Complementary therapies in medicine*, *22*(5), 930-943.

Kellezi, B., Wakefield, J. R. H., Stevenson, C., McNamara, N., Mair, E., Bowe, M., Wilson, I., & Halder, M. M. (2019). The social cure of

social prescribing: a mixed-methods study on the benefits of social connectedness on quality and effectiveness of care provision. *BMJ Open*, *9*(11), e033137.

Kennedy, E., Binder, G., Humphries-Waa, K., Tidhar, T., Cini, K., Comrie-Thomson, L., Vaughan, C., Francis, K., Scott, N., & Wulan, N. (2020). Gender inequalities in health and wellbeing across the first two decades of life: an analysis of 40 low-income and middle-income countries in the Asia-Pacific region. *The Lancet Global Health*, *8*(12), e1473-e1488.

Kenny, M., Gilmartin, J., & Thompson, C. (2022). Video-guided exercise after stroke: a feasibility randomised controlled trial. *Physiotherapy Theory and Practice*, *38*(5), 609-620.

Kickbusch, I. (2003). The contribution of the World Health Organization to a new public health and health promotion. *American journal of public health,*, *93*(3), 383-388.

Kirkbride, J. B., Anglin, D. M., Colman, I., Dykxhoorn, J., Jones, P. B., Patalay, P., Pitman, A., Soneson, E., Steare, T., & Wright, T. (2024). The social determinants of mental health and disorder: evidence, prevention and recommendations. *World Psychiatry*, *23*(1), 58.

Kivimäki, M., Batty, G. D., Pentti, J., Shipley, M. J., Sipilä, P. N., Nyberg, S. T., Suominen, S. B., Oksanen, T., Stenholm, S., & Virtanen, M. (2020). Association between socioeconomic status and the development of mental and physical health conditions in adulthood: a multi-cohort study. *The Lancet Public Health*, *5*(3), e140-e149.

Konlaan, B. B., Bygren, L. O., & Johansson, S. E. (2000). Visiting the cinema, concerts, museums or art exhibitions as determinant of survival: a Swedish fourteen-year cohort follow-up. *Scandinavian Journal of Public Health,*, *28*(3), 174-178.

Krafft, B., & Nyström, C. (2002). High level of stress and immature defense make for a vicious circle in chronic pain. Patients with pain syndromes caught in unresolved crisis as a study shows. *Läkartidningen*, *99*(41), 4040-4043.

Kristensen, M. M., Simonsen, P., Holm, M.-E. L., Steenberg, M., Andersen, J. R., Hvidberg, S. E., & Folker, A. P. (2020). Shared reading as mental health promotion among newly retired men: Design of a feasibility study. *Nordic Journal of Arts, Culture and Health*, *2*(2), 107-121.

Kutner, M. H., Nachtsheim, C. J., Neter, J., & Li, W. (2005). *Applied linear statistical models*. McGraw-hill.

Lalonde, M. (1974). A new perspective on the health of Canadians. *Retrieved from Public Health Agency of Canada website: http://www.phac-aspc.gc.ca/ph-sp/pdf/perspect-eng.pdf*.

Levula, A., Harré, M., & Wilson, A. (2017). Social network factors as mediators of mental health and psychological distress. *International Journal of Social Psychiatry*, *63*(3), 235-243.

Linder, A., Gerdtham, U. G., Trygg, N., Fritzell, S., & Saha, S. (2020). Inequalities in the economic consequences of depression and anxiety in Europe: a systematic scoping review. *European Journal of Public Health*, *30*(4), 767-777.

Linder, A., & Leyoch, U. G. (2020). Socioekonomisk ojämlikhet i psykisk ohälsa i Sverige–hur stora är skillnad-erna och vad driver utvecklingen? In: Ekonomisk debatt.

Lindström, B., & Eriksson, M. (2010). *The hitchhiker's Guide to salutogenesis: Salutogenic Pathways to Health Promotion*. The IUHPE and Folkhälsan.

Liu, J., Feng, W., Zhou, J., Huang, F., Long, L., Wang, Y., Liu, P., Huang, X., Yang, M., & Wang, K. (2020). Effects of sling exercise therapy on balance, mobility, activities of daily living, quality of life and shoulder pain in stroke patients: a randomized controlled trial. *European Journal of Integrative Medicine*, *35*. https://doi.org/10.1016/j.eujim.2020.101077

Lord, J., & Green, F. (1995). Exercise on prescription: does it work? *Health Education Journal*, *54*(4), 453-464.

Lucini, D., Malacarne, M., Gatzemeier, W., & Pagani, M. (2020). A simple home-based lifestyle intervention program to improve cardiac autonomic regulation in patients with increased cardiometabolic risk. *Sustainability*, *12*(18), 7671.

Löve, J., Moore, C. D., & Hensing, G. (2012). Validation of the Swedish translation of the general self-efficacy scale. *Quality of life Research*, *21*, 1249-1253. https://doi.org/10.1007/s11136-011-0030-5

Mak, H. W., Coulter, R., & Fancourt, D. (2021). Associations between neighbourhood deprivation and engagement in arts, culture and heritage: evidence from two nationally-representative samples. *BMC Public Health 21*(1), 1-10. https://doi.org/10.1186/s12889-021-11740-6

Makin, S., & Gask, L. (2012). 'Getting back to normal': the added value of an art-based programme in promoting 'recovery' for common but chronic mental health problems. *Chronic Illn*, *8*(1), 64-75. https://doi.org/10.1177/1742395311422613

Marmot, M., Allen, J., Bell, R., Bloomer, E., & Goldblatt, P. (2012). WHO European review of social determinants of health and the health divide. *The Lancet*, *380*(9846), 1011-1029.

Marmot, M., Friel, S., Bell, R., Houweling, T. A., & Taylor, S. (2008). Closing the gap in a generation: health equity through action on the social determinants of health. *The Lancet*, *372*(9650), 1661-1669.

Martin, Oepen, R., Bauer, K., Nottensteiner, A., Mergheim, K., Gruber, H., & Koch, S. C. (2018). Creative arts interventions for stress management and prevention—a systematic review. *Behavioral Sciences*, *8*(2), 28. https://doi.org/https://doi.org/10.3390/bs8020028

McCrary, J. M., Redding, E., & Altenmüller, E. (2021). Performing arts as a health resource? An umbrella review of the health impacts of music and dance participation. *PLoS ONE*, *16*(6), e0252956.

Mikkelsen, M. K., Michelsen, H., Nielsen, D. L., Vinther, A., Lund, C. M., & Jarden, M. (2022). "Doing what only I can do": experiences from participating in a multimodal exercise-based intervention in older patients with advanced cancer—a qualitative explorative study. *Cancer Nursing*, *45*(2), E514-E523.

Milani, R. V., & Lavie, C. J. (2015). Health care 2020: reengineering health care delivery to combat chronic disease. *The American journal of medicine*, *128*(4), 337-343.

Mills, S. E., Nicolson, K. P., & Smith, B. H. (2019). Chronic pain: a review of its epidemiology and associated factors in population-based studies. *British journal of anaesthesia*, *123*(2), e273-e283.

Moneta, G. B., & Csikszentmihalyi, M. (1996). The effect of perceived challenges and skills on the quality of subjective experience. *Journal of personality*, *64*(2), 275-310.

Morse, D. F., Sandhu, S., Mulligan, K., Tierney, S., Polley, M., Giurca, B. C., Slade, S., Dias, S., Mahtani, K. R., & Wells, L. (2022). Global developments in social prescribing. *BMJ Global Health*, *7*(5), e008524.

Murillo-Garcia, A., Villafaina, S., Adsuar, J. C., Gusi, N., & Collado-Mateo, D. (2018). Effects of dance on pain in patients with fibromyalgia: a systematic review and meta-analysis. *Evidence-Based Complementary and Alternative Medicine*, *2018*. https://doi.org/10.1155/2018/709748

Murray, J., Craigs, C. L., Hill, K. M., Honey, S., & House, A. (2012). A systematic review of patient reported factors associated with uptake and completion of cardiovascular lifestyle behaviour change. *BMC Cardiovascular Disorders 12*, 1-12. https://doi.org/10.1186/1471-2261-12-120

Nielsen, M. B. D., Rugulies, R., Hjortkjaer, C., Bültmann, U., & Christensen, U. (2013). Healing a vulnerable self: exploring return to work for women with mental health problems. *Qualitative Health Research 23*(3), 302-312. https://doi.org/10.1177/1049732312468252

Nordenfelt, L. (2004). *Livskvalitet och hälsa: Teori och kritik*. Institutionen för hälsa och samhälle, Linköpings Universitet

Nordenfelt, L. (2013). Standard circumstances and vital goals: Comments on Venkatapuram's Critique. *Bioethics*, *27*(5), 280-284.

Nussbaum, M. C. (2000). *Women and human development: The capabilities approach* (Vol. 3). Cambridge university press.

Nyström, C., & Nyström, O. (1996). Skattad stress verifierar autonom dysfunktion. [Estimated stress verifies autonomic dysfunction.] *Läkartidningen*, 2583-2584.

O'Donnell, S., Lohan, M., Oliffe, J. L., Grant, D., & Galway, K. (2022). The acceptability, effectiveness and gender responsiveness of participatory arts interventions in promoting mental health and Wellbeing: a systematic review. *Arts & Health*, *14*(2), 186-203. https://doi.org/10.1080/17533015.2021.1894463

Olafsson, Å. M. (2024). *Existential issues and existential conversations in old age: A diaconal approach* [Doctoral thesis, VID vitenskapelige høgskole]. VID:Open. Oslo. https://hdl.handle.net/11250/3123553

Organization, W. H. (2004). *International statistical classification of diseases and health related problems (The) ICD-10*. Retrieved October 11, 2024 from https://www.who.int/standards/classifications/classification-of-diseases

Pálsdóttir, A. M., Spendrup, S., Mårtensson, L., & Wendin, K. (2021). Garden smellscape–experiences of plant scents in a nature-based intervention. *Frontiers in psychology 12*, 667957. https://doi.org/10.3389/fpsyg.2021.667957

Parkinson, S., Lowe, C., & Vecsey, T. (2011). The therapeutic benefits of horticulture in a mental health service. *British Journal of Occupational Therapy*, *74*(11), 525-534.

Pérez-Wilson, P., Marcos-Marcos, J., Morgan, A., Eriksson, M., Lindström, B., & Álvarez-Dardet, C. (2021). 'A synergy model of health': an integration of salutogenesis and the health assets model. *Health Promotion International 36*(3), 884-894. https://doi.org/10.1093/heapro/daaa084

Picton, C., Fernandez, R., Moxham, L., & Patterson, C. F. (2020). Experiences of outdoor nature-based therapeutic recreation programs for persons with a mental illness: a qualitative systematic review. *JBI evidence synthesis*, *18*(9), 1820-1869.

Poulos, R. G., Marwood, S., Harkin, D., Opher, S., Clift, S., Cole, A. M., Rhee, J., Beilharz, K., & Poulos, C. J. (2019). Arts on prescription for community-dwelling older people with a range of health and wellness needs. *Health & social care in the community*, *27*(2), 483-492.

Prego-Domínguez, J., Khazaeipour, Z., Mallah, N., & Takkouche, B. (2021). Socioeconomic status and occurrence of chronic pain: a meta-analysis. *Rheumatology*, *60*(3), 1091-1105.

Pugh, S. L., Brown, P. D., & Enserro, D. (2022). Missing repeated measures data in clinical trials. *Neuro-Oncology Practice*, *9*(1), 35-42. https://doi.org/https://doi.org/10.1093/nop/npab043

R Core Team. (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org/.

Raudenská, J., Šteinerová, V., Vodičková, Š., Raudenský, M., Fulková, M., Urits, I., Viswanath, O., Varrassi, G., & Javůrková, A. (2023). Arts therapy and its implications in chronic pain management: A narrative review. *Pain and Therapy*, *12*(6), 1309-1337.

Redmond, M., Sumner, R. C., Crone, D. M., & Hughes, S. (2019). 'Light in dark places': exploring qualitative data from a longitudinal study using creative arts as a form of social prescribing. *Arts & Health*, *11*(3), 232-245.

Regan, M., Elliott, I., & Goldie, I. (2016). Better mental health for all: a public health approach to mental health improvement. *Mental Health Foundation*. https://www.fph.org.uk/media/1644/better-mental-health-for-all-final-low-res.pdf

Region Jönköpings län. (2024). *Kulturunderstödd rehabilitering (KUR)*. Region Jönköpings län, . Retrieved 2024021 from

Reis, R. S., Salvo, D., Ogilvie, D., Lambert, E. V., Goenka, S., & Brownson, R. C. (2016). Scaling up physical activity interventions worldwide: stepping up to larger and smarter approaches to get people moving. *The Lancet*, *388*(10051), 1337-1348.

Rempel, E. S., Wilson, E. N., Durrant, H., & Barnett, J. (2017). Preparing the prescription: a review of the aim and measurement of social referral programmes. *BMJ Open*, *7*(10), e017734.

Ross, L. T., Heming, B., & Lane, A. (2023). Family unpredictability and sense of coherence: relationships with anxiety and depression in two samples. *Psychological Reports*, *126*(4), 1701-1724. https://doi.org/https://doi.org/10.1177/00332941221080409

Saboonchi, F., Wennman-Larsen, A., Alexanderson, K., & Petersson, L. M. (2013). Examination of the construct validity of the Swedish version of Hospital Anxiety and Depression Scale in breast cancer patients. *Quality of Life Research 22*(10), 2849-2856. https://doi.org/10.1007/s11136-013-0407-8

Sahlin, E., Ahlborg Jr, G., Tenenbaum, A., & Grahn, P. (2015). *Using nature-based rehabilitation to restart a stalled process of rehabilitation in individuals with stress-related mental illness* (1660-4601).

(International Journal of Environmental Research and Public Health, Issue.

Sandberg, E., Möller, M., Särnblad, S., Appelros, P., & Duberg, A. (2021). Dance intervention for adolescent girls: Effects on daytime tiredness, alertness and school satisfaction. A randomized controlled trial. *Journal of Bodywork and Movement Therapies*, *26*, 505-514.

Santini, Z. I., Ekholm, O., Koyanagi, A., Stewart-Brown, S., Meilstrup, C., Nielsen, L., Fusar-Poli, P., Koushede, V., & Thygesen, L. C. (2022). Higher levels of mental wellbeing predict lower risk of common mental disorders in the Danish general population. *Mental Health & Prevention*, *26*, 200233.

Scherbaum, C. A., Cohen-Charash, Y., & Kern, M. J. (2006). Measuring General Self-Efficacy: A Comparison of Three Measures Using Item Response Theory. *Educational and psychological measurement*, *66*(6), 1047-1063. https://doi.org/10.1177/0013164406288171

Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. *J. Weinman, S. Wright, & M. Johnston, Measures in health psychology: A user's portfolio. Causal and control beliefs*, *35*(37), 82-003.

Sen, A. (1985). Well-Being, Agency and Freedom: The Dewey Lectures 1984. *The Journal of philosophy*, *82*(4), 169-221. https://doi.org/10.2307/2026184

SFS. (2003). Lag om etikprövning av forskning som avser människor.[The Act Concerning the Ethical Review of Research Involving Humans.](in Swedish). In: Riksdagen Stockholm.

Sharon-David, H., & Tenenbaum, G. (2017). The effectiveness of exercise interventions on coping with stress: Research synthesis. *Studies in Sport Humanities*, *22*, 19-29.

Silventoinen, K., Vuoksimaa, E., Volanen, S.-M., Palviainen, T., Rose, R. J., Suominen, S., & Kaprio, J. (2022). The genetic background of the associations between sense of coherence and mental health, self-esteem and personality. *Social psychiatry and psychiatric epidemiology* *57*(2), 423-433 https://doi.org/https://doi.org/10.1007/s00127-021-02098-6

Singh, A., Daniel, L., Baker, E., & Bentley, R. (2019). Housing disadvantage and poor mental health: a systematic review. *American journal of preventive medicine*, *57*(2), 262-272.

Siu, A. M., Kam, M., & Mok, I. (2020). Horticultural therapy program for people with mental illness: A mixed-method evaluation. *International Journal of Environmental Research and Public Health*, *17*(3), 711.

Song, Z., & Baicker, K. (2019). Effect of a workplace wellness program on employee health and economic outcomes: a randomized clinical trial. *Jama*, *321*(15), 1491-1501.

South, J., Higgins, T. J., Woodall, J., & White, S. M. (2008). Can social prescribing provide the missing link? *Primary Health Care Research & Development*, *9*(4), 310-318.

Spreafico, F., Barretta, F., Murelli, M., Chisari, M., Gattuso, G., Terenziani, M., Ferrari, A., Veneroni, L., Meazza, C., & Massimino, M. (2021). Positive impact of organized physical exercise on quality of life and fatigue in children and adolescents with cancer. *Frontiers in Pediatrics*, *9*, 627876.

Statistiska centralbyrån. (2023). *Arbetsmiljö [Work Environment] 1980–2022*. https://www.scb.se/contentassets/0f7f529d30fe4b49a69deae27d0683f6/le0101_1980i20_br_lebr2103.pdf

Steel, Z., Marnane, C., Iranpour, C., Chey, T., Jackson, J. W., Patel, V., & Silove, D. (2014). The global prevalence of common mental disorders: a systematic review and meta-analysis 1980–2013. *International journal of epidemiology*, *43*(2), 476-493.

Stickley, T., & Eades, M. (2013). Arts on prescription: a qualitative outcomes study. *Public Health*, *127*(8), 727-734. https://doi.org/10.1016/j.puhe.2013.05.001

Stickley, T., & Hui, A. (2012a). Social prescribing through arts on prescription in a UK city: Participants' perspectives (Part 1). *Public Health*, *126*(7), 574-579.

Stickley, T., & Hui, A. (2012b). Social prescribing through arts on prescription in a UK city: referrers' perspectives (part 2). *Public Health*, *126*(7), 580-586.

Stigmar, K., Åström, M., Sarbast, S., & Petersson, I. (2016). Kultur på recept 2.0, Region Skåne [Arts on prescription 2.0, Region Skåne]. In: Skåne.

Sumner, R. C., Crone, D., Hughes, S., & James, D. V. (2021). Arts on prescription: observed changes in anxiety, depression, and well-being across referral cycles. *Public Health*, *192*, 49-55.

Sumner, R. C., Crone, D. M., Baker, C., Hughes, S., Loughren, E. A., & James, D. V. (2020). Factors associated with attendance, engagement and wellbeing change in an arts on prescription intervention. *Journal of Public Health*, *42*(1), e88-e95.

Sundberg, K., Nilsson, M., Petersson, L. M., Kenne Sarenmalm, E., & Langius-Eklöf, A. (2022). The sense of coherence scale in a clinical nursing perspective: A scoping review. *Journal of clinical nursing*, *31*(11-12), 1428-1439.

Sveriges kommuner och regioner. (2024). *Överenskommelser om sjukskrivning och rehabilitering [Agreements on sick leave and rehabilitation]*. Retrieved October 6, 2024 from

https://skr.se/skr/halsasjukvard/forsakringsmedicin/overenskommelsersjukskrivning.31179.html
Tao, D., Awan-Scully, R., Cole, A., Gao, Y., Ash, G. I., Gu, Y., Dutheil, F., Sun, Y., & Baker, J. S. (2023). Integration of exercise prescription into medical provision as a treatment for non-communicable diseases: A scoping review. *Frontiers in Public Health*, *11*, 1126244.
Theorell, T. (2021). Links Between Arts and Health, Examples From Quantitative Intervention Evaluations. *Front Psychol*, *12*.
Theorell, T., & Nyberg, A. (2019). Cultural activity at work: reciprocal associations with depressive symptoms in employees. *International archives of occupational and environmental health*, *92*, 1131-1137.
Theorell, T., Osika, W., Leineweber, C., Magnusson Hanson, L. L., Bojner Horwitz, E., & Westerlund, H. (2013). Is cultural activity at work related to mental health in employees? *International archives of occupational and environmental health*, *86*, 281-288.
Thomson, L., Camic, P., & Chatterjee, H. (2015). *Social prescribing: a review of community referral schemes*. L. U. C. London. https://repository.canterbury.ac.uk/download/b4200c5d0d0b31dfd441b8efedffae2865b13569e44cb4a662898a3ed20c1092/3729872/Social_Prescribing_Review_2015.pdf
Thomson, L. J., Morse, N., Elsden, E., & Chatterjee, H. J. (2020). Art, nature and mental health: assessing the biopsychosocial effects of a 'creative green prescription'museum programme involving horticulture, artmaking and collections. *Perspectives in public health 140*(5), 277-285. https://doi.org/10.1177/1757913920910443
Tichenor, M., & Sridhar, D. (2020). Metric partnerships: global burden of disease estimates within the World Bank, the World Health Organisation and the Institute. *Wellcome Open research* https://doi.org/10.12688/wellcomeopenres.15011.2
Timp, S., van Foreest, N., & Roelen, C. (2024). Gender differences in long term sickness absence. *BMC public health*, *24*(1), 178. https://doi.org/10.1186/s12889-024-17679-8
Tomlinson, A., Lane, J., Julier, G., Grigsby-Duffy, L., Payne, A., Mansfield, L., Kay, T., John, A., Meads, C., & Daykin, N. (2020). Qualitative findings from a systematic review: Visual arts engagement for adults with mental health conditions1. *Journal of Applied Arts & Health*, *11*(3), 281-297.
Tymoszuk, U., Perkins, R., Spiro, N., Williamon, A., & Fancourt, D. (2020). Longitudinal associations between short-term, repeated, and sustained arts engagement and well-being outcomes in older adults. *The Journals of Gerontology: Series B*, *75*(7), 1609-1619.

Tyson, M. (2007). *M. The Healing Landscape, Therapeutic Outdoor Environments, University of Wisconsin-Madison*. Libraries Parallel Press. https://digital.library.wisc.edu/1711.dl/IUC7OLI665PCW8R

Umberson, D., & Karas Montez, J. (2010). Social relationships and health: A flashpoint for health policy. *Journal of health and social behavior*, *51*(1_suppl), S54-S66.

United Nations General Assembly. (1948). *Universal declaration of human rights*. https://www.un.org/en/about-us/universal-declaration-of-human-rights

Vaag, J., Saksvik, P. Ø., Theorell, T., Skillingstad, T., & Bjerkeset, O. (2013). Sound of well-being–choir singing as an intervention to improve well-being among employees in two Norwegian county hospitals. *Arts & Health*, *5*(2), 93-102.

Vastamäki, J., Moser, K., & Paul, K. I. (2009). How stable is sense of coherence? Changes following an intervention for unemployed individuals. *Scandinavian Journal of Psychology*, *50*(2), 161-171. https://doi.org/https://doi.org/10.1111/j.1467-9450.2008.00695.x

Venkatapuram, S. (2013). Health, vital goals, and central human capabilities. *Bioethics*, *27*(5), 271-279.

Venkatapuram, S. (2023). What do we want from a theory of global health justice? In *Justice in Global Health* (pp. 289-304). Routledge.

Venkatapuram, S., & Marmot, M. (2023). From health inequalities to health justice in 50 years. *Community dentistry and oral epidemiology*, *51*(4), 590-594.

Verdonk, P., de Rijk, A., Klinge, I., & de Vries, A. (2008). Sickness absence as an interactive process: gendered experiences of young, highly educated women with mental health problems. *Patient education and counseling*, *73*(2), 300-306. https://doi.org/https://doi.org/10.1016/j.pec.2008.06.003

Vingård, E., Alexanderson, K., & Norlund, A. (2004). Chapter 9. Consequences of being on sick leave. *Scand J Public Health*, *32*(63_suppl), 207-215.

Vukčević Marković, M., Bjekić, J., & Priebe, S. (2020). Effectiveness of expressive writing in the reduction of psychological distress during the COVID-19 pandemic: A randomized controlled trial. *Front Psychol*, *11*, 587282.

Wainberg, M. L., Scorza, P., Shultz, J. M., Helpman, L., Mootz, J. J., Johnson, K. A., Neria, Y., Bradford, J.-M. E., Oquendo, M. A., & Arbuckle, M. R. (2017). Challenges and opportunities in global mental health: a research-to-practice perspective. *Current psychiatry reports*, *19*, 1-10.

Weich, S., & Lewis, G. (1998). Poverty, unemployment, and common mental disorders: population based cohort study. *Bmj*, *317*(7151), 115-119.

Weinstein, A. A., Chin, L. M., Keyser, R. E., Kennedy, M., Nathan, S. D., Woolstenhulme, J. G., Connors, G., & Chan, L. (2013). Effect of aerobic exercise training on fatigue and physical activity in patients with pulmonary arterial hypertension. *Respiratory medicine 107*(5), 778-784. https://doi.org/10.1016/j.rmed.2013.02.006

Wenger, E. (1999). *Communities of practice: Learning, meaning, and identity*. Cambridge university press.

Whitehead, M. (1992). The concepts and principles of equity and health. *International journal of health services*, *22*(3), 429-445.

Williams, E., Dingle, G. A., & Clift, S. (2018). A systematic review of mental health and wellbeing outcomes of group singing for adults with a mental health condition. *European Journal of Public Health*, *28*(6), 1035-1042.

Winslow, C.-E. (1920). The untilled fields of public health. *Science*, *51*(1306), 23-33.

Woiwode, C., Schäpke, N., Bina, O., Veciana, S., Kunze, I., Parodi, O., Schweizer-Ries, P., & Wamsler, C. (2021). Inner transformation to sustainability as a deep leverage point: fostering new avenues for change through dialogue and reflection. *Sustainability Science*, *16*, 841-858.

World Health Organisation. (1948). *Constitution of the World Health Organization*. https://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf?ua=1

World Health Organisation. (1977). Health for All in the 21st Centrury. https://apps.who.int/gb/ebwha/pdf_files/EB101/pdfangl/ang8.pdf

World Health Organisation. (1978). *Declaration of Alma-Ata*. https://iris.who.int/handle/10665/347879

World Health Organization. (1986). *Ottawa Charter for Health Promotion, .* https://www.phac-aspc.gc.ca/ph-sp/docs/charter-chartre/pdf/charter.pdf

World Health Organization. (1995). *Constitution of the World Health Organization*. https://www.who.int/about/governance/constitution

World Health Organization. (2020). *COVID-19 Disrupting Mental Health Services in Most Countries: WHO Survey. 2020. .* https://www.who.int/news/item/05-10-2020-covid-19-disrupting-mental-health-services-in-most-countries-who-survey

World Health Organization. Regional Office for Europe. (1993). *Health for all targets: the health policy for Europe, updated edition, September 1991*. https://iris.who.int/handle/10665/341920

Zhang, Y. W., Wang, J., & Fang, T. H. (2022). The effect of horticultural therapy on depressive symptoms among the elderly: a systematic review and meta-analysis. *Frontiers in Public Health*, *10*, 953363.

Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta psychiatrica scandinavica*, *67*(6), 361-370. https://doi.org/https://doi.org/10.1111/j.1600-0447.1983.tb09716.x

Appendices

Question areas in the focus groups

How have you experienced Arts on Prescription?
What has been good?
What has been less good?
What expectations did you have beforehand?
How have you experienced the different activities?
Has the Arts on Prescription period affected your physical/mental health?
If so, how?
What has been health-promoting?
Has Arts on Prescription had an impact on your ability to manage daily life?
Manage work? If so, how?
What aspects of Arts on Prescription have had an impact on this?

Table 8. Analysis of model validity using ANOVA in Study I, results for adjusted means without and with imputed values. Presented with adjusted mean and 95% Confidence Intervals (CI).

Study I	*Intervention group n=247*		*Control group n=232*	
	No imputed values n= 676 observations [b]	*With imputed values* [a] *n= 852 observations* [b]	*No imputed values n= 664 observations* [b]	*With imputed values* [a] *n=707 observations* [b]
Stress				
Baseline	68.5 (76.0-70.0)	69.1 (57.9-70.2)	54.5 (52.9-56.0)	54.7 (53.3-56.2)
6 months	61.6 (59.8-63.4)	61.3 (59.7-63.0)	49.4 (47.7-51.2)	49.8 (48.2-51.4)
12 months	58.5 (56.8-60.3)	59.4 (57.7-61.0)	47.7 (55.0-49.3)	48.3 (46.7-49.9)
Anxiety				
Baseline	11.8 (11.5-12.1)	11.8 (11.5-12.0)	10.5 (10.2-10.9)	10.5 (10.2-10.8)
6 months	10.0 (9.6-10.3)	9.9 (9.6-10.2)	9.0 (8.7-9.4)	9.0 (8.7-9.3)
12 months	9.6 (9.3-10.0)	9.6 (9.3-9.9)	8.9 (8.6-9.2)	9.0 (8.6-9.2)
Depression				
Baseline	9.4 (9.1-9.8)	9.4 (9.1-9.8)	7.6 (7.3-7.9)	7.6 (7.3-7.9)
6 months	7.4 (7.1-7.8)	7.4 (7.1-7.8)	6.3 (5.9-6.7)	6.3 (6.0-6.6)
12 months	7.3 (6.9-7.7)	7.3 (7.0-7.6)	6.3 (5.9-6.6)	6.3 (6.0-6.6)

[a] Missing value at six months were imputed with 12-month values if they were accessible, and vice versa. Baseline values were not carried forward or imputed.

[b] Analyses are based on observations (responds) at baseline, six- and 12 months.

Table 9. Subset-analyses Study I: Depression (HADS-D), anxiety (HADS-A) and stress (SCI-93). Presented with number (n) and per cent. Adjusted mean and 95% Confidence Intervals (CI), p-value for main effect and for difference in change between groups over time

SCI-93			
Referral body N=343	Subsets within intervention group Primary care n=291 (85)	Open psychiatric care n=52 (15)	
[b] Main effect Group			.464
[c] Change over time	10.3	13.0	.693
SCI-93 BL	69.8 (68.3-71.2)	68.2 (64.8-71.5)	
SCI-93 6 months	62.3 (60.2-64.5)	58.6 (53.5-63.7)	
SCI-93 12 months	59.5 (57.3-61.7)	55.2 (48.9-60.5)	
Without open psychiatric care N=537	Intervention group n=291	Control group n=246	
[b] Main effect Group			<.001
[c] Change over time	10.3	5.8	.036
SCI-93 BL	69.8 (68.3-71.2)	54.0 (52.4-55.6)	
SCI-93 6 months	62.3 (60.2-64.5)	49.7 (47.9-51.5)	
SCI-93 12 months	59.5 (57.3-61.7)	48.2 (46.5-49.9)	
With open psychiatric care N=589	Intervention group n=343	Control group n=246	
[b] Main effect Group			.001
[c] Change over time	10.1	6.4	.065
SCI-93 BL	69.0 (67.8-70.2)	54.9 (53.4-56.4)	
SCI-93 6 months	61.8 (60.0-63.7)	50.1 (48.4-51.9)	
SCI-93 12 months	58.9 (56.9-60.8)	48.5 (46.8-50.1)	
AoP-period N=343	Subsets within intervention group before 2017 n=91 (27)	2017 or later n= 252 (73)	
[b] Main effect Group			.381
[c] Change over time	8.5	11.6	.480
SCI-93 BL	66.8 (64.3-69.3)	70.5 (69.0-72.1)	
SCI-93 6 months	59.8 (56.2-63.4)	62.4 (60.1-64.8)	
SCI-93 12 months	58.3 (54.8-61.9)	58.9 (56.4-61.3)	
Responded /<3 vs 3 occasions N=589	Subsets including both the intervention and control group 1-2 occasions n=248 (42)	3 occasions n=341 (58)	
Main effect Group			.781
[c] Change over time	6.8	8.1	.244
SCI-93 BL	65.8 (64.2-67.4)	61.0 (59.7-62.4)	
SCI-93 6 months	56.4 (52.2-60.6)	55.4 (54.1-56.7)	
SCI-93 12 months	59.0 (55.2-62.8)	52.9 (51.5-54.2)	

ANXIETY			
Referral body N=366	Subsets within intervention group Primary care n=311(85)	Open psychiatric care	
b Main effect Group			.356
c Change over time	1.9	3.5	.008
HADS A BL	11.6 (11.4-11.9)	13.9 (13.3-14.5)	
HADS A 6 months	10.1 (9.7-10.5)	10.6 (9.7-11.6)	
HADS A 12 months	9.7 (9.3-10.1)	10.4 (9.5-11.4)	
Without open psychiatric care N=560	Intervention group n=311	Control group n=249	
b Main effect Group			.181
c Change over time	1.9	1.6	.604
HADS A BL	11.6 (11.4-11.9)	10.5 (10.2-10.8)	
HADS A 6 months	10.1 (9.7-10.5)	9.0 (8.7-9.4)	
HADS A 12 months	9.7 (9.3-10.2)	8.9 (8.6-9.3)	
With open psychiatric care N=615	Intervention group n=366	Control group n=249	
b Main effect Group			.091
c Change over time	1.9	1.6	.225
HADS A BL	12.0 (11.7-12.2)	10.5 (10.2-10.8)	
HADS A 6 months	10.2 (9.8-10.6)	9.0 (8.7-9.4)	
HADS A 12 months	9.8 (9.5-10.2)	8.9 (8.6-9.3)	
AoP-period N=239	Subsets within intervention group Before 2017 n=69 (29)	2017 or later n= 170 (71)	
[b] Main effect Group			.181
[c] Change over time	2.0	2.2	.449
HADS A BL	11.2 (10.6-11.7)	12.0 (11.7-12.3)	
HADS A 6 months	9.0 (8.4-9.7)	10.3 (9.9-10.6)	
HADS A 12 months	9.2 (8.6-9.8)	9.8 (9.4-10.2)	
Responded <3 vs 3 N=466	Subsets including both the intervention and control group 1-2 occasions n=116 (25)	3 occasions n=350 (75)	
b Main effect Group			.808
c Change over time	2.0	1.9	.889
HADS A BL	11.4 (10.9-11.8)	11.1 (10.8-11.3)	
HADS A 6 months	9.5 (8.6-10.4)	9.5 (9.2-9.7)	
HADS A 12 months	9.4 (8.8-10.1)	9.2 (9.0-9.5)	

DEPRESSION	Adjusted mean (CI)	Adjusted mean(CI)	p^a
Referral body	Subsets within intervention group		
N=366	Primary care	Open psychiatric care	
	n (%) n=311 (85)	n (%) n=55 (15)	
[b] Main effect Group			.653
[c] Change over time	1.6	3.7	<.001
HADS D BL	8.6 (8.4-8.9)	10.8 (10.2-11.5)	
HADS D 6 months	7.1 (6.8-7.4)	7.1 (6.1-8.1)	
HADS D 12 months	7.0 (6.7-7.3)	7.1 (6.1-8.2)	
Without open	Intervention group	Control group	
psychiatric care N=560	n=311	n=249	
[b] Main effect Group			.005
[c] Change over time	1.9	1.3	.169
HADS D BL	9.3 (9.0-9.6)	7.6 (7.3-7.9)	
HADS D 6 months	7.7 (7.2-8.1)	6.4 (6.0-6.7)	
HADS D 12 months	7.4 (7.0-7.8)	6.3 (6.0-6.7)	
With open psychiatric	Intervention group	Control group	
care N=615	n=366	n=249	
[b] Main effect Group			.003
[c] Change over time	2.2	1.3	.022
HADS D BL	9.5 (9.3-9.8)	7.6 (7.3-7.9)	
HADS D 6 months	7.6.1 (7.2-8.0)	6.3 (6.0-6.7)	
HADS D 12 months	7.3 (7.0-7.8)	6.3 (6.0-6.7)	
AoP-period	Subsets within intervention group		
N=239	before 2017	2017 or later	
	n=69 (29)	n= 170 (71)	
[b] Main effect Group			.018
[c] Change over time	2.3	2.1	.383
HADS D BL	8.7 (8.2-9.3)	9.7 (9.3-10.1)	
HADS D 6 months	6.2 (5.6-6.9)	8.0 (7.5-8.4)	
HADS D 12 months	6.4 (5.8-7.0)	7.6 (7.1-8.1)	
	Including intervention and control group		
Responded /<3 vs 3	1-2 occasions	3 occasions	
N=466	n=116 (25)	n=350 (75)	
Main effect Group			.808
[c] Change over time	2.0	1.9	.889
HADS D BL	11.4 (10.9-11.8)	11.1 (10.8-11.3)	
HADS D 6 months	9.5 (8.6-10.4)	9.5 (9.2-9.7)	
HADS D 12 months	9.4 (8.8-10.1)	9.2 (9.0-9.5)	

[a] Significant value in bold text. [b] If significant, groups differ in value on average over the three measure points. [c] If significant, groups develop differently from baseline to follow-ups. Rounded difference in change

Health promoting potential of Arts on prescription

– Studies of people on sick leave for common mental disorders and/or non-specific musculoskeletal pain

This thesis examines whether, and if so, how and to what extent Arts on Prescription (AoP) can serve as a health-promoting programme for individuals on sick leave due to common mental disorders (CMD) and/or non-specific musculoskeletal pain. It comprises three quantitative studies employing a quasi-experimental prospective design, with baseline assessments and follow-ups at 6 and 12 months, alongside one qualitative study based on focus groups.

The quantitative studies measure the effects of AoP on stress, anxiety, and depression, while also assessing well-being through changes in sense of coherence and self-efficacy. Additionally, they examine the influence of financial concerns and educational levels on mental health and well-being. The qualitative study explores participants' experiences of AoP, based on data from focus groups.

Findings from the focus group study indicate that participating in a 10-week AoP programme positively impacts mental health, well-being, and social connectedness, alleviating symptoms of common mental disorders and reducing perceived pain during the arts activities. Effect sizes consistently show a greater impact for the intervention group compared to the control group, except for self-efficacy, where the effect was the same in both groups. The difference in effect between the groups over time was only statistically significant for depression. Financial concern and educational level served as indicators of social determinants of health and health inequalities in the analyses. Financial concerns were associated with higher levels of stress, anxiety, and depression, as well as lower levels of sense of coherence and self-efficacy, particularly among those frequently worried about finances. Conversely, educational level showed no significant effect.

PAULA BERGMAN holds a Master's degree in Public Health and works within the Region Jönköping County in public health, where collaboration with the county's municipalities is a natural part of her role. She has experience in both national and international work related to research and practice in the field of Arts for Health. In her research and practice, she has a particular interest in health promotion and strategies to reduce health inequalities.

ISSN 1654-3602
ISBN 978-91-88669-55-1 (printed version)
ISBN 978-91-88669-56-8 (online version)