



REVIEW ARTICLE



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Welfare systems and mental health in OECD and EEA countries: a scoping review

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The link between socioeconomic position and mental health is well established. On the macro level, one important determinant of this relationship is the welfare state. As such, welfare systems play an important role in mitigating the adverse effects of poor socioeconomic conditions and improving the mental health of the population. Despite their significance, welfare systems and their impact on mental health have rarely been examined. In this scoping review, we set out to synthesise the available evidence on this subject and offer preliminary evidence on how different welfare systems shape the mental health of societies. Eight databases were searched for articles published between January 2000 and March 2022 that focused on mental health and welfare regimes or welfare expenditure and compared OECD and EEA countries. The final review included 30 studies. Findings were summarised using narrative synthesis. Welfare systems were shown to have a significant relationship with the mental health of the population, with Social Democratic regimes and countries with more generous social expenditures demonstrating superior outcomes on most measures. It is suggested that a key factor behind these positive outcomes is the way in which these countries deal with social inequality. However, the overall composition of the included articles was highly heterogeneous and scattered across several domains. Moreover, important confounding factors such as differences in GDP across countries were often not taken into account. Therefore, the quality of the current evidence is considered weak. Further, questions are raised regarding the specific mental health benefits and drawbacks of welfare generosity for different populations and the specific pathways through which these systems may improve mental health in society. The review highlights the need for a more robust evidence base in this area and emphasises the importance of addressing the macro-level determinants of mental health.

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Introduction

The increasing social burden of mentally ill health is well recognised (WHO, 2017). Globally, mental health and substance abuse disorders account for about one-quarter of Years Lived with Disability (Vos et al., 2020). Further, subclinical manifestations of mental distress have also been found to seriously affect the life quality of the population (Murray et al., 2012). Today, most of the efforts to tackle this issue are rooted in medical and psychiatric frameworks of health and are heavily focused on the biology and behaviour of the individual (Macintyre et al., 2018). It is frequently argued that these approaches tend to over-medicalise human suffering and neglect the contribution of fundamental socioeconomic factors to poor mental health (Lynch, 2017; Fridelli, 2016).

Indeed, many studies are pointing to a clear link between socioeconomic disadvantage and mental health (Wilkinson and Pickett, 2017; Pickett and Wilkinson, 2010; Fridelli, 2009). Epidemiological evidence shows that the distribution of poor health follows a well-defined social gradient, shaped by the socioeconomic risk factors the population is exposed to (Commission on Social Determinants of Health, 2008; Marmot Review Team, 2010; WHO, 2013d). These risk factors manifest themselves in daily life as everyday stressors such as poor housing, discrimination, unemployment, debt, and low income (Braveman et al., 2011). As we move towards the lower end of the socioeconomic ladder the effect of these risk factors accumulates, leading to permanent states of stress due to insecure and unpredictable living conditions (Fisher and Baum, 2010; Marmot and Bell, 2016). As such, stress has been identified as the key causal link through which macro-level socioeconomic factors can trigger health problems at the individual level (Allen et al., 2014; Shim et al., 2014).

Hence, macro-level socioeconomic conditions play a key role in the mental health of the population. For instance, it is well known that rising unemployment strongly correlates with increased rates of depression and suicide (Jefferis et al., 2011; Norström and Grönqvist, 2015). One study looking at the relationship between unemployment and suicide between 1970 and 2007 in 26 European countries found that every 1% increase in unemployment was associated with a 0.79% increase in suicide rates (Stuckler et al., 2009). However, strong social protection policies can mitigate this negative effect. A study comparing Spain and Sweden over a 25-year period demonstrated a clear link between unemployment and suicide in the former yet found no association in the latter. Interpretation of these findings points toward the difference between Spain's and Sweden's social protection policies, with Sweden having a stronger social safety net and active labour market policies (Kasl and Jones, 2000).

Similarly, socioeconomic policies have also been shown to exacerbate rather than mitigate mental health problems. After the 2008 crisis, the widespread implementation of austerity across Europe has led to a marked increase in antidepressant prescriptions, male suicide rates and GP appointments due to mental health issues (Spence et al., 2014; Insight Research Group, 2012; Office of National Statistics, 2015). Cross-country comparisons also show increased suicide rates in countries implementing austerity measures (UK, Greece, Spain, and Portugal) but not in others that chose to maintain a strong welfare state after the crisis (e.g. Iceland and Germany) (Karanikolos et al., 2013; McKee et al., 2012).

Such policy decisions also reflect clear divergences in the principles along which countries choose to construct their welfare state and maintain their social safety net. At the heart of these differences lies the long-standing debate about the optimal level of involvement the state should play in the lives of its citizens and their economy (Tanzi and Schuknecht, 1997). The welfare

literature offers us a useful framework to compare the range of approaches different countries have taken toward this issue and their implications for mental health. To examine this question, we will be focusing on two key frameworks found in the welfare literature: Welfare regimes and welfare expenditure.

The regime approach, developed by Esping-Andersen, classifies welfare systems based on the extent to which they allow citizens a socially acceptable standard of living independent of job market performance (decommodification), the way they deal with social stratification (universal vs. targeted welfare provision) and the private-public involvement in their welfare provision (Esping-Andersen, 1990). Despite their extensive criticism and revisions (e.g. Ferrera, 1996; Korpi and Palme, 1998; Bamba, 2004) welfare state typologies are still valuable tools in comparative health research (e.g. Brennenstuhl et al., 2012). Specifically, this approach provides researchers with a heuristic tool to compare the underlying principles of welfare institutions (Dahl and van der Wel, 2012). Recent studies commonly cluster countries around five distinct regime types based on their inclusivity, coverage, market involvement, and generosity. See these in more detail in Table 1 (Ekimo and Bamba, 2008).

Beyond welfare typologies, a less common, but relevant approach for this review is the welfare expenditure approach. This method focuses on the cross-national differences in the generosity and allocation of various social spending categories (Castles, 2009). The most prominent critique of this approach was put forth by Esping-Andersen, pointing out that scoring welfare states on spending assumes that all spending counts as equal (Esping-Andersen, 1990). Indeed, aggregate social spending metrics can hide great differences in the allocation of social support, as expenditures favouring privileged classes do not have the same effect as those targeting people in need (Castles, 1994). Since then, it has been argued that the availability of welfare spending data in western countries has made it possible to evaluate the impact of social spending in greater detail (Castles, 2002).

Despite their obvious impact on mental health, welfare state arrangements have rarely been examined from this perspective. (Shim et al., 2014; Wykes et al., 2015; Miller et al., 2012).

To the best of our knowledge, to date, there has been only one systematic review in mental health aimed to synthesise evidence on similar macro-level questions (McAllister et al., 2018). McAllister and colleagues focused on the macro-level structural determinants behind mental health inequalities and concluded that the more comprehensive and gender-inclusive welfare states are associated with better mental health outcomes in their population. However, due to the different scope of their review they did not examine the link between welfare states and mental health in detail.

Given the large gap in the literature, to capture all potentially relevant variables, we define "mental health" broadly, focusing on concepts related to both its positive i.e.: "mental wellbeing" and negative i.e.: "mental illness" aspects. These two categories are often found separately in the academic literature, with "mental wellbeing" rooted in positive psychology that captures concepts such as subjective wellbeing and life satisfaction, while "mental illness" is primarily defined by psychiatry and aims to describe the presence of mentally ill health (e.g. depression) (Ryff, 1989; Keyes, 2005). However, it is widely recognised that the absence of mental illness is not equal to mental well-being and these two concepts are correlated but separate dimensions of psychological functioning (Keyes, 2005; van Agteren et al., 2021). Therefore, in this review, we use the term "mental health" to simultaneously capture these two dimensions.

Our aim is to identify and synthesise the existing literature on the relationship between macro trends in welfare provision and mental health in countries from the European Economic Area (EEA) and the Organisation for Economic Co-operation and

Table 1 Welfare regime and their characteristics (Ekimo and Bambra, 2008).

Welfare regime	Examples	Characteristics
Liberal	UK, US, Australia	Minimal state involvement in welfare provision. Strong reliance on the market. Social transfers are dependent on need and carry strict entitlement criteria. Recipients are means-tested and receive modest support. Stark contrast between those relying on the state and those who can afford private provision
Conservative	Germany, France, Austria	Moderate state involvement in welfare provision. Moderate reliance on the market. Social transfers are often administered through employers. Social transfers are earnings-dependent. Benefits are geared toward maintaining existing social patterns.
Social Democratic	Sweden, Finland, Norway	Strong state involvement in welfare provision. The role of the market is minimised. Social transfers are universal and generous. The benefits system is geared towards social equality.
Southern European	Italy, Spain, Greece	Fragmented welfare provision with a strong reliance on the family and voluntary sector. Social transfer schemes range from minimal to generous. Welfare services often provide only limited or partial coverage.
Eastern European	Poland, Slovakia, Hungary	Increasing reliance on the market. Characterised by the stark transition from universalism of the socialist welfare state to policies associated with the liberal regime type. Decreasing social transfers and service provision.

Development (OECD) regions. These countries have been chosen because they have been studied extensively and they are more likely to be a source of high-quality data both in terms of population health and welfare policies.

More specifically, we are interested in mapping out the evidence on how systematic variations in welfare states and government involvement affect the mental health of the population.

Methods

Search strategy

Sources. We carried out a comprehensive search across eight databases: Medline (Ovid), Embase (Ovid), PsychINFO (Ovid), Social Policy and Practice (Ovid), Web of Science, Applied Social Sciences Indexes and Abstracts (via Proquest), Social Science Database (via Proquest), International Bibliography of the Social Sciences (via Proquest). Search limits were set to English language only and the publication year was restricted to 2000 or later.

Search strategy. The search strategy was conducted and reported in line with the PRISMA guidelines (Liberati et al., 2009), and consists of the combination of three main categories: 1. *Mental Health*; 2. *Welfare*, 3. *Countries*. Search terms were based on the combination of thesaurus terms and relevant subject headings. For a detailed description of our search strategy see Supplementary file 1.

Eligibility criteria. For the transparent and reproducible selection of the final papers, eligibility criteria were defined according to the PICOS framework.

Population to be included: We included studies focusing on populations from member countries of the OECD and the EEA. No other restrictions were set.

Domain being studied: We focused on country-level welfare systems and changes in these systems over time.

Comparator groups: We set no restrictions on eligible comparator groups

Outcomes measures to be included: Studies were eligible for inclusion if they included outcomes measures on at least one of the following concepts:

- Life satisfaction and related measures
- Psychological wellbeing and related measures
- Mental health and related measures

Studies exploring the above in the context of neurodevelopmental disorders, neurodegenerative disorders and learning disabilities were excluded.

Study types: We included quantitative primary studies utilising naturalistic or experimental designs. Studies had to measure the impact of already implemented welfare systems.

Studies reporting on the outcome of pilot projects, health interventions and service evaluations have been excluded. We also excluded all non-primary studies such as systematic reviews, and all non-empirical references such as protocols, books, and methodological papers.

Study selection process. Databases were searched using the defined search strategy. Results were exported and pooled together using Mendeley by the Main Reviewer (MR). After removing duplicates, the remaining references were independently screened by the MR and a Co-Reviewer (CR) for eligible articles in three stages. The CR only screened a sample of 25% of the reference list in the first stage:

1. Titles were screened for potential inclusion.
2. Abstracts of the eligible references were also screened and based on the results, full texts for eligible papers were retrieved.
3. All of the final papers were selected independently in line with the full eligibility criteria by both reviewers. Inclusion was determined through discussion and mutual agreement by the two reviewers. Discrepancies between the selected references of both reviewers have been compared in each stage.

Data extraction. The data extraction process was carried out based on a charting form, developed for this study. The initial

version of this form was developed with the study protocol by the Main Reviewer (MR) and was refined later by the MR and the Co-Reviewer (CR) as all eligible studies became available. Data were extracted along with the following domains: 1. General study characteristics: title, author, time period, data source, 2. Study aims and questions, 3. Study population: Min/Max age of the sample, Countries included, 4. Exposure: Welfare regimes included or social expenditure and its measures, 5. Additional country/individual level control variables: Inequality, GDP, Unemployment, 6. Outcome measures: Life satisfaction, Mental health conditions, Suicide, etc., 7. Main findings per welfare regime/social expenditure, and 8. Study conclusion.

Guided by the charting form, data were extracted independently by the MR and CR and were compiled into a Microsoft Excel spreadsheet. Regular meetings between the two reviewers and the last author to discuss emerging issues ensured ongoing consistency. Before the final synthesis, the extracted data was finalised by the research team.

Data synthesis. Because of the number and heterogeneity of the included studies, we considered narrative synthesis to be the best method to summarise our findings. Narrative synthesis describes the scope of existing research and summarises data using structured narratives and tables (Popay et al., 2006). Since the goal of this scoping review was to map out and synthesise the existing evidence concerning mental health and welfare system generosity, we primarily focused on two key steps of the narrative synthesis process: 1. Preliminary synthesis and 2. Evidence mapping and exploring relationships (Popay et al., 2006).

1. *Preliminary synthesis:* Key themes and variables were highlighted independently by the MR and CT and were agreed upon during discussions with the research team. Based on the emerging themes studies were grouped into nested clusters depending on A, main exposure, B, secondary/control variables, C, main outcome measures. Once groups were finalised all relevant outcomes were sorted accordingly. Given that studies often investigated multiple questions beyond our primary focus, only relevant outcomes were selected for the final synthesis where comparisons between studies could be drawn.
2. *Evidence mapping and exploring relationships:* Once clusters and relevant outcomes were mapped out results were tabulated within each cluster for each study and per each welfare regime studied. In the case of social expenditure, results were tabulated for each study and per outcome measure used. Our final synthesis was carried out based on this table where conclusions for each welfare regime/outcome per cluster were drawn independently by the MR and the CR. Discrepancies between reviewers were resolved during a series of discussions with the broader research team.

Results

Study selection. Our search strategy resulted in 13,948 records that were assessed for eligibility. After screening titles and abstracts, 94 full-text articles were considered for inclusion. Out of these, 28 papers met our inclusion criteria. The bibliographic search of the included papers yielded two additional eligible references. Final data was extracted from 30 papers (see in more detail in Fig. 1).

Study characteristics. Included studies were published between January 2010 and March 2022 and used data from 14 different data sources covering the period between 1960 and 2016. Except

for 4 studies, however, the majority used data collected after the year 2000. 22 of 30 articles investigated European countries. The 8 remaining studies also focused mainly on Europe, with only 2 studies expanding into non-western regime types, such as Latin America and Southeast Asia. The other 6 papers included non-European countries only from the Liberal regime type such as Australia, Canada, New Zealand, the USA, Israel, and Japan. Overall, all EEA and OECD countries were covered.

In terms of sampling and study design, 25 articles focused on the general or working-age population while 5 studies examined a population 50 and above. 23 studies used longitudinal designs and 6 cross-sectional designs, while 1 study used a mixed-method approach.

We allocated the selected studies into one of two categories depending on their approach toward welfare systems: welfare regimes and social expenditure. In the regime category, all relevant welfare regimes were present but to a different extents. Specific regimes generally referred to similar sets of countries with minimal overlap, only labels showed considerable variation (depending on the typology used by the authors) however, since the underlying countries in each category were similar, for simplicity of reporting from here on out we will only refer to each category as follows: Liberal, Conservative, Social Democratic, Southern European and Eastern European. One study also examined Southeast Asian and Latin American regimes, but these were not included in the final synthesis.

In terms of outcomes measures, in the regime category, we extracted 7 key mental health-related metrics: The most common measure was Life satisfaction followed by Depression, Suicide, Mental Wellbeing, Happiness, Subjective Wellbeing, Any Mental Disorder, and Wellbeing.

Within the welfare regime and government expenditure groups, we further divided our findings based on exposure. In the welfare regime group, 7 studies looked at the direct relationship between welfare regimes and 1. *Mental health-related variables* while the remaining studies examined the interaction between the welfare state mental health and: 2. *Work-related factors* such as employment quality, work stress and unemployment; 3. *Socioeconomic status* such as economic hardship, and inequality; 4. *Education*; 5. *Disability* and 6. *Lone vs. Cohabiting motherhood* and mental health. In the social expenditure group, all studies used social expenditure as their main exposure, however, authors used different labels for this concept such as Social expenditure (Dumbraveanu, 2015; Yur'yev, 2012; Knoll and Pitlik, 2016; Ono and Lee, 2013), Social spending (Baumbach and Gulis, 2014), Welfare generosity (Clench-Aas and Holte, 2018), Government expenditure (Flavin et al., 2011) and Government size (Composed of various public/social expenditure categories: defence, education, health, public order and safety, economic, general public services, social protection, other; Hessami, 2010). Hence, we grouped studies based on their primary outcome measures: 1. *Mental Wellbeing*, 2. *Suicide and Mental Illness*.

For a detailed description of study, characteristics see Appendix 1, 2 and 3.

Mental health across welfare regimes

Mental health. Six studies examined the direct relationship between welfare regimes and various mental health outcomes. Out of the 6 articles, 2 explored Depression (Chung, 2013; Verropoulou, 2019), 1 article investigated Suicide (Wu, 2013), 1 Mental Well Being (Dreger, 2016), 1 Any Mental Disorder (Vandeveld, 2018) and 1 article used Happiness (Deeming, 2011) as their primary outcome. Since only 3 studies included all relevant regimes, only weak conclusions can be drawn. The

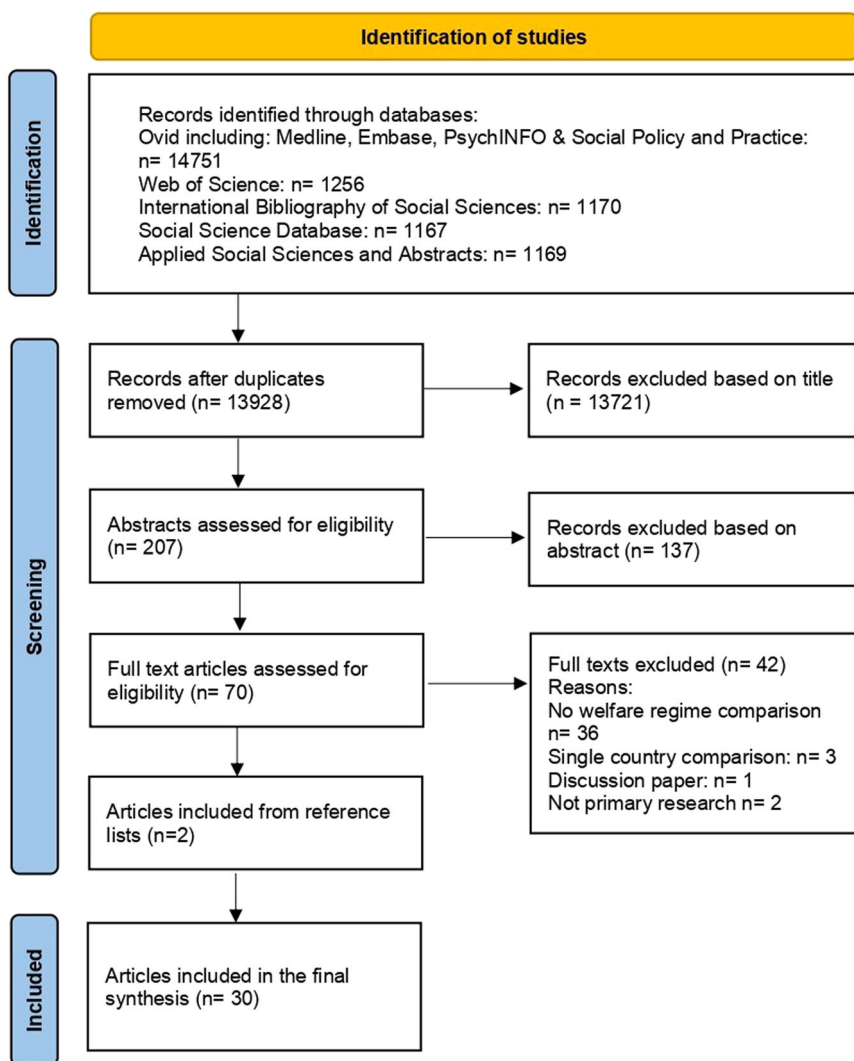


Fig. 1 PRISMA 2020 flow diagram illustrating study selection and review strategy.

overall evidence points towards the superiority of the Social Democratic regime on all measured outcomes except suicide, where the Liberal regime was associated with lower suicide rates (Wu, 2013). In this study, authors reported higher suicide rates in the Social Democratic than in the Liberal regime despite people reporting the highest life satisfaction, the most comfortable income level, and relatively better general health in the Social Democratic countries (Wu, 2013). On the other end of the spectrum, results were much more heterogeneous. Liberal regimes, for instance, showed the highest rates of any mental disorders (Vandeveld, 2018) and also scored just as poorly on depression as Southern European regimes (Chung, 2013). However, two of the authors came to the conclusion that it is the Eastern European regime that showed the highest depression rates and lowest mental wellbeing (Verropoulou, 2019; Dreger, 2016). Hence, while the overall evidence seems to support the superiority of the Social Democratic regime, results on other regimes are inconsistent.

Authors also measured mental health inequalities between genders across welfare regimes, which persisted across all but the Eastern European Regime—where scores were low for both genders with no significant difference (Dreger, 2016).

Work. Six studies examined the interaction between welfare regimes and the impact of work-related factors, such as long

working hours (Artazcoz et al., 2016), bad employment quality (De Moortel et al., 2014), neo-Marxian social class (De Moortel et al., 2015), work-related stress (Dragano et al., 2011) and unemployment (Gajewski and Zhukovska, 2017; Norström and Grönqvist, 2015) on mental health. Outcome measures included: Subjective wellbeing (Artazcoz et al., 2016), mental wellbeing (De Moortel, 2014, 2015), depression (Dragano et al., 2011) and suicide (Gajewski and Zhukovska, 2017; Norström and Grönqvist, 2015). Across all included studies, evidence is consistent in showing a clear relationship between welfare regimes and the impact of work-related factors on mental health. Moreover, welfare states also showed a significant relationship with the differential vulnerability of men and women to poor and stressful working conditions and work-related mental health inequalities (Artazcoz et al., 2016; De Moortel et al., 2014, 2015). However, the specific extent to which welfare regimes may interact with the negative effects of poor or stressful working conditions and in what type of employment is inconclusive. Overall, the Social Democratic regime was shown to be the most protective against adverse working conditions (De Moortel et al., 2014; Dragano et al., 2011), while work-related gender inequalities in mental health were shown to be narrowest in both Liberal and Social Democratic regimes (De Moortel et al., 2015).

While only two studies measured the link between unemployment and suicide, they showed a consistent relationship in all

except the Social Democratic regime where the unemployment–suicide link was not significant. The evidence seems to indicate that the less generous the unemployment protection, the stronger the unemployment suicide correlation. This is also supported by the poor performance of Liberal, Eastern European and Southern European regimes with a strong relationship between negative mental health outcomes and work-related stressors and unemployment (Norström and Grönqvist, 2015, Dragano et al., 2011, Gajewski and Zhukovska, 2017).

Socioeconomic status. Four studies examined the interaction between welfare states, socioeconomic factors and mental health using depression (Levecque et al., 2011), life satisfaction (Niedzwiedz et al., 2014, 2015) and subjective wellbeing (Samuel and Hadjar, 2016) as their main outcomes. While two of the four studies did not include the Liberal regime in their comparison (Niedzwiedz et al., 2014, 2015), all four papers showed that welfare regimes have a significant relationship with the link between socioeconomic factors, such as economic hardship (Levecque et al., 2011), socioeconomic inequalities (Niedzwiedz et al., 2014) and socioeconomic position (Niedzwiedz et al., 2015; Samuel and Hadjar, 2016) and mental health. The economic disadvantage and poor mental health link were shown to be the weakest in the Social Democratic regime in all four studies. The Social Democratic regime was followed by the Conservative regime where this relationship was also relatively weak. On the other hand, the evidence also seemed to be consistent that Southern and Eastern European regimes exhibited the highest socioeconomic inequalities in mental health (Niedzwiedz et al., 2014, 2015; Samuel and Hadjar, 2016; Levecque et al., 2011).

Education, disability and lone motherhood. Three studies examined the interaction between welfare regimes and three distinct determinants of mental health: education (Jongbloed, 2016), lone motherhood (Vandeveld, 2014) and disability (Penner, 2013). Since each paper stands for a different set of variables, meaningful comparisons cannot be made between the relationship between welfare regimes and specific determinants. However, the results are in line with the trends reported in the previous categories: The negative effects of disability (compared to healthy individuals), lone motherhood (compared to cohabiting mothers) and less than post-secondary education on mental health are the lowest in Social Democratic countries.

Categories are summarised in Table 2.

(For the detailed results of the welfare regime category see Appendix 4.)

Mental health by social expenditure

Mental wellbeing. Concerning the positive aspects of mental health, studies examined the relationship between social expenditure and life satisfaction (Clench-Aas and Holte, 2018; Nordheim and Martinussen, 2019; Dumbraveanu, 2015; Flavin et al., 2011; Hessami, 2010; Knoll and Pitlik, 2016) happiness (Ono and Lee, 2013) and wellbeing (Cresswell-Smith, 2022). Overall, the evidence offers support for the positive link between higher social expenditure and mental well-being, with positive relationships reported in six studies (Clench-Aas and Holte, 2018; Cresswell-Smith, 2022; Dumbraveanu, 2015; Flavin et al., 2011; Hessami, 2010; Nordheim and Martinussen, 2019), negative effects were reported in one paper (Knoll and Pitlik, 2016) and one study described a more controversial picture (Ono and Lee, 2013).

Although six studies described an overall positive relationship between social expenditure and mental wellbeing, only two studies showed that this was a generalisable effect (Dumbraveanu, 2015; Flavin et al., 2011). Clench-Aas and Holte (2018) for

Table 2 Comparison of welfare regimes by category.

Category	Subcategory	Social democratic n = 18 studies	Liberal n = 16 studies	Conservative n = 17 studies	Southern EU n = 15 studies	Eastern EU n = 15 studies
Mental health n = 6 studies	Mental health	Best MH outcomes	Lowest suicide rates Mixed MH outcomes	Mixed	Mixed	Worse mental health outcomes
Work n = 6 studies	Mitigating the negative effects of work-related stress on MH Work-related gender inequalities in MH Unemployment and suicide	Most successful	Poor performance	Mixed	Poor performance	Poor performance
Socioeconomic status n = 4 studies	Mitigating the negative effects of socioeconomic disadvantage on MH Education Disability Lone motherhood	Narrowest No relationship Most successful	Narrowest Significant positive relationship Mixed	Mixed Significant positive relationship Fairly efficient	Mixed Significant positive relationship Very poor performance	Mixed Significant positive relationship Very poor performance
Education Disability Lone motherhood n = 3 studies		Most successful in compensating for differences in all three areas	Inconclusive	Inconclusive	Inconclusive	Inconclusive

instance, showed that the positive effects of increased spending are only significant in the post-2008 (crisis) economy. While Hessami (2010) described an inverse U-shaped relationship between government size and life satisfaction pointing to a threshold beyond which government spending will reduce overall life satisfaction. In their paper, they observed that additional education and social protection expenditures had a significant positive impact, while health expenditure increases had significant negative effects on life satisfaction. Overall, positive mental health effects seem to be primarily linked to spending categories that can effectively reduce socioeconomic disadvantages or its negative effects.

A negative relationship between social expenditure and life satisfaction was established by Knoll and Pitlik (2016). Throughout the socioeconomic spectrum, the authors concluded that higher expenditures for social protection show negative marginal wellbeing effects across all income groups, although effects were not statistically significant at the bottom of the socioeconomic ladder. Stratified expenditure categories showed similar results with the marginal happiness effects of social protection, health and education spending increases all being negative for the highest-income groups while not showing positive wellbeing effects for low-income groups.

Finally, Ono and Lee (2013) found that aggregate happiness did not vary with the size of the welfare state. While they observed positive effects, showing the benefits of social expenditures among the demographic groups targeted by welfare policies, they also point out that these benefits come at the expense of higher-income groups, leading to their lower overall happiness.

Suicide and mental illness. Two studies that examined the impact of social expenditure on the unemployment suicide link showed an inverse association between higher social expenditure and suicide rates (Baumbach and Gulis, 2014; Yur'yev, 2012). Specifically, Baumbach and Gulis (2014) reported that 4 out of the 8 examined countries showed a significantly positive correlation between unemployment rates and suicide mortality and this association was stronger in countries with lower social protection. A similar link was found in Yur'yev (2012) study in the majority of European countries. Yur'yev (2012) also showed that confidence in the successful anti-poverty role of welfare provision and the supportive role of social services in helping people to combine their work and family roles successfully were both significant predictors of lower suicide mortality among males.

Park et al., (2020) was the only study that looked at the link between social spending and mental health-related deaths, using “mental and behavioural disorders”, including substance abuse and alcoholism as the primary recorded cause of death. By this measure higher levels of social spending were also associated with better outcomes including better general mental health in the population. Park et al., (2020) also showed that higher healthcare spending alone could not explain their findings.

(For the detailed results in social expenditure category see Appendix 5.)

Discussion

The aim of this scoping review was to synthesise the existing literature on the relationship between macro-level welfare arrangements and mental health in OECD and EEA countries. We focused on two key classifications of welfare provision: welfare regimes and social expenditure. We included 30 articles, the largest number to date on the subject. Due to the heterogeneity of the included studies, we had to rely on narrative synthesis to summarise our findings. Overall, our results echo the conclusions of other researchers in the field (e.g. McAllister et al., 2018;

Chung and Muntaner, 2007), pointing toward the significant role of welfare states in shaping the mental health of the population, with Social Democratic regimes and countries with higher social expenditures showing superior outcomes on most measures. However, the existing evidence is far from conclusive.

Firstly, the literature on the relationship between different welfare regimes and mental health is still in its early stages. Evidence is thin and scattered across a range of subjects, which makes it challenging to draw solid conclusions. Only five articles examined the direct relationship between welfare regimes and mental health and the rest of the studies looked at the relationship between welfare states, mental health and a third variable (e.g. working conditions). Studies also used different designs, and measures and included/excluded welfare regimes on a seemingly ad hoc basis which makes direct comparison difficult. While the evidence on social expenditure and mental health was more homogeneous, the number of studies was still low. Moreover, of the 30 papers included only 12 controlled for GDP in their models. GDP levels show a strong association with overall happiness across countries (Easterlin et al., 2010) and given that Social Democratic countries have higher GDPs than Eastern European or Southern European ones, it can potentially confound the relationship between welfare states and mental health. Hence, we cannot assume a direct causal relationship at this stage. Overall, the composition of the current literature highlights the absence of mental health research in this area.

Although our findings were limited, the review offers several potentially fruitful avenues for future exploration. The available evidence seems to revolve around one major strand of the ongoing debate concerning well-being and socioeconomic policy: the role of social inequality. While only four of the included studies addressed this question directly (Levecque et al., 2011; Niedzwiedz et al., 2014, 2015; Samuel and Hadjar, 2016) almost all studies touched on this issue to some degree. Several authors concluded that the positive outcomes observed in Social Democratic regimes and in countries with higher social expenditures are the result of the way in which these states deal with social inequality (Clench-Aas and Holte, 2018; Flavin et al., 2011; Levecque et al., 2011; Niedzwiedz et al., 2014, 2015; Samuel and Hadjar, 2016; Ono and Lee, 2013). More specifically, a key mechanism through which welfare systems could mitigate the negative effects of social inequality on mental health may be their ability to prevent the least advantaged in the population to fall under a critical socioeconomic threshold (Levecque et al., 2011; Niedzwiedz et al., 2014, 2015; Samuel and Hadjar, 2016). This is also supported by the evidence that higher social expenditure also seems to be linked to better mental health when targeting the least advantaged and when they are successful in reducing social inequalities (Baumbach and Gulis, 2014; Hessami, 2010; Nordheim and Martinussen, 2019; Yur'yev, 2012).

Moreover, the authors also reported notable secondary effects pointing to important additional factors that may contribute to the overall impact of specific welfare arrangements. For instance, Yur'yev (2012) showed that beyond the successful anti-poverty role of welfare provision, positive attitudes towards the welfare state and greater confidence in the supportive role of these services in themselves had a significant suicide-preventative effect. Similarly, Gajewski and Zhukovska (2017) also found significant differences between the short and long-run impact of unemployment in Liberal and Social Democratic regimes not directly related to specific welfare policies. In the short term, unemployment shock initially raised suicide rates in social democratic regimes, whereas this effect was not observed in Liberal regimes. However, when unemployment levels remained high, the number of suicides in liberal countries increased, while the relationship disappeared in social democratic regimes. According to the

authors, in Social Democratic countries people develop less psychological tolerance for sudden negative changes in their professional life. Whereas in Liberal regimes these changes are expected but over time the precarious position of unemployment puts a much greater psychological burden on the individual (Gajewski and Zhukovska, 2017).

Both studies point towards secondary, protective effects of more cohesive societies that may not be directly linked to specific spending policies but to the overall impact of these systems. These results fit well with the broader literature demonstrating the benefits of higher interpersonal and institutional trust levels on happiness in societies, especially in adverse situations such as ill-health, low income, unemployment, and discrimination (e.g. Helliwell et al., 2021; Uslaner, 2002). Trust also seems to be inversely correlated with the level of social inequality within countries (Kanitsar, 2022) which would also emphasise not just the cohesive effects of more inclusive welfare systems but would offer a potential pathway through which they lead to better overall wellbeing.

Included studies also raised important questions regarding the impact of more generous welfare systems on different populations and the specific circumstances under which they can be effectively implemented. While studies controlled for several factors including age, gender, socioeconomic status etc., they did not do this consistently and other variables such as race and the urban/rural divide were absent. Hence these aggregate results may obscure important differences in the distribution of wellbeing across these domains. There is also a potential interaction between different demographic groups and how resources are allocated in more generous welfare systems. The most immediate question here is how the burden of more generous welfare systems is distributed (e.g. increased tax) and how that affects the wellbeing of specific populations in the society.

Niedzwiedz et al., (2014), for instance, showed that the benefits of more generous welfare states were most apparent at the lower end of the socioeconomic spectrum and diminished towards the top of the ladder. As opposed to this, Ono and Lee (2013) states that the redistributive role of the Social Democratic welfare state may result in lower happiness for the more affluent classes, with happiness being merely redistributed from higher socioeconomic classes to the bottom, mirroring the redistribution of resources in these societies. Furthermore, according to Knoll and Pitlik (2016), increased social spending across all categories had a negative effect on wellbeing for the top and middle classes and had no effect at the bottom of the ladder. These results are in sharp contrast with findings from other authors (e.g., Flavin et al., 2011; Norström and Grönqvist, 2015; Clench-Aas and Holte, 2018) who concluded that greater welfare generosity had an overall positive effect across society. One possible explanation for the ambiguity of these findings might be the differences in the time period and countries examined in these studies. As Clench-Aas and Holte (2018) showed, the effect of welfare generosity on wellbeing might depend on other macroeconomic events such as the 2008 financial crisis. Hessami (2010) also argued that the relationship between social spending and wellbeing is not linear and beyond a certain point marginal spending benefits may turn negative, however, this point may differ between countries and specific spending categories.

Strengths and limitations. Overall, this scoping review is the first systematic attempt to map out and summarise the current evidence base on the relationship between welfare systems and mental health, and as such, it is also the first step in filling in a major gap in the literature. We also expanded on previous works in the field (e.g. McAllister et al., 2018). By explicitly focusing on welfare systems, we synthesised 30 relevant articles and broadened the discussion regarding the potential pathways through which mental health problems in the population may be addressed.

The review also has its limitations. Firstly, included studies were highly heterogeneous with regard to their focus, methodology and conclusions which only allowed a very generic synthesis of the included findings. Since our aim was to offer a broad macro perspective on the relationship between mental health and welfare systems, we had to heavily filter what to highlight from each study and what to include in our narrative. This process naturally leaves out potentially important fine-grained information and obscures the complexities discussed in the included papers. Further, our definition of mental health was intentionally broad to cover the full spectrum of relevant measures and provide an overview of the subject. However, brushing together relatively separate concepts, e.g. mental illness and life satisfaction in our analysis does not take into account important distinctions between psychiatric categories of mental illness and general psychological well-being. Moreover, when examined separately these categories may also show different relationships with different welfare arrangements. Finally, while welfare regimes are a widely used framework to compare macro-level policy arrangements, they also obscure important economic, political, and cultural differences between the included countries and also do not take into account other contextual factors such as macro-economic trends, the impact of migration and changes in the political landscape.

Conclusion

In this scoping review, our goal was to map out the existing evidence on the relationship between welfare systems and mental health. Overall, there seems to be good evidence supporting a relationship between welfare systems and mental health in society. Moreover, most of the included studies indicate a positive association between welfare generosity and good mental health. This relationship might be explained by the capacity of these systems to compensate for the negative effects of social inequality. However, beyond this point, no far-reaching conclusions can be drawn. The available evidence on mental health and welfare systems is greatly limited and characterised by a high level of heterogeneity. This highlights the need for further research in the area, but also the difficulties of studying such high-dimensional concepts as they often escape clear definitions and testing them poses great challenges. However, this also echoes the need emphasised by other authors (e.g., Macintyre et al., 2018; Friedli, 2016), for mental health researchers and policymakers to focus more closely on such macro-level determinants of mental health.

Data availability

All data generated or analysed during this study are included in this published article and its supplementary information files.

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Competing interests

The authors declare no competing interests.

Ethical approval

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Informed consent

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Additional information

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