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Economic Inequality and Mental Health: Causality, Mechanisms, and Interventions

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Abstract

Almost all countries in the world have witnessed a rapid increase in levels of economic inequality, a measure of the distribution of income and wealth across the population, since the advent of neoliberal economic policies in the 1970s. In this review, we conceptualize inequality as an ecological construct and discuss why it matters for the mental health of populations and for individual clinical outcomes. We then discuss some of the key mechanisms through which economic inequality influences mental health beyond poverty itself: social comparison and social capital. We also consider how the effect might vary across specific vulnerable groups in the population,

such as young people and minoritized communities. Finally, we discuss methodological challenges in studying the relationship between inequality and mental health and conclude by outlining future research directions and possible interventions at the governmental, community, and individual levels to mitigate the negative mental health consequences of economic inequality.

Contents

INTRODUCTION

Economic inequality, the unequal distribution of income and wealth in a society, has been rising steadily in recent decades: The poorest 50% of the world's population has access to only 8% of total income, while the wealthiest 10% controls over 76% of it (Chancel et al. 2022). World leaders have referred to inequality as the "defining challenge of our time" (Obama 2014) and the "root of social ills" (Francis 2013). The growth of inequality is almost ubiquitous, spanning Western nations as well as countries of the Global South. In the United States, the income of the wealthiest 0.01%—comprising approximately 12,000 households—has grown 27 times faster than that of the bottom 20% of earners between 1979 and 2021 (Inst. Policy Stud. 2024). Similarly, India, which is classified as a lower-middle-income country and one of the fastest-growing economies in the world, saw 73% of the wealth generated in 2017 go to the richest 1% (Oxfam Int. 2022). Even Europe, although more egalitarian, has experienced increasing disparities in the share of income between the top 10% and bottom 50% over the last three decades (Neef & Sodano 2022). These widening economic disparities observed globally have profound implications for health outcomes, including life expectancy, obesity, infant mortality, and mental health (Patel et al. 2018, Pickett & Wilkinson 2015).

Economic inequality is interrelated with poverty but remains a distinct construct. Poverty is an individual or household-level condition characterized by multiple monetary, educational, and/or basic service infrastructure deprivations (Alkire et al. 2019). In contrast, economic inequality is a structural characteristic of a society within which individuals and households are embedded and refers to the distribution of wealth or income within that society. Inequality contributes to poverty by concentrating resources among a small proportion of the population. Importantly, inequality and poverty influence mental health through both distinct and overlapping pathways.

In this review, we do not consider the pathways through which poverty may shape mental health; instead, we focus on the construct of economic inequality. However, addressing these interrelated but distinct constructs requires comprehensive policy interventions aimed at promoting equitable distribution of resources and improving access to essential services and opportunities for all.

Greater income inequality is associated with a higher prevalence of several mental health disorders, including depression, psychosis, and substance use–related disorders (Burns et al. 2017, Patel et al. 2018, Pickett & Wilkinson 2010, Ribeiro et al. 2017). Mental disorders rank among the top 10 leading causes of global burden (Arias et al. 2022, Ferrari et al. 2022, Vigo et al. 2016), and this burden has only intensified in recent decades (Ferrari et al. 2022). Further, "deaths of despair"—deaths due to suicide, drug overdoses, and alcoholic liver disease—have been on the rise in recent years (King et al. 2022). Robust associations between income inequality and mental disorders, both of which are on the rise, highlight the urgent need to elucidate the mechanisms underlying these links in order to implement economic policies and interventions that promote equitable outcomes.

The goals of this review are to summarize our conceptual and empirical understanding of the mental health consequences of economic inequality, describe the mechanisms through which these impacts unfold, and provide an overview of potential evidence-based mitigation strategies at the governmental, community, and individual levels. Our review primarily focuses on how economic inequality influences mental health problems, such as depression, because these are the outcomes of the utmost interest within the purview of clinical psychology. However, we recognize that mental health is a dimensional construct, extending beyond conditions such as depression, anxiety, and psychosis to positive psychological states such as a sense of purpose, life satisfaction, and the concept of human flourishing—which reflects a state of complete well-being in which "all aspects of a person's life are good" (VanderWeele 2017, p. 8149). These positive states are not the mere absence of mental health problems and are increasingly becoming the focus of scientific investigation (VanderWeele et al. 2020a). In this review, we also briefly consider these states where relevant.

ECONOMIC INEQUALITY AS AN ECOLOGICAL CONSTRUCT

Economic inequality is a structural feature of a society and can persist even when absolute poverty is eliminated at the individual level. This ecological conceptualization of economic inequality has three key public health implications.

First, economic inequality causes structural changes that affect the mental health of everyone embedded in society—across all socioeconomic strata, including the wealthiest. For example, widening inequalities may erode a society's social capital and organization, including strong networks, mutual trust, and norms of reciprocity that mobilize cooperation and civic action for mutual benefit (Pickett & Wilkinson 2015, Putnam 1993). Eroded social capital (discussed in detail below) may lead to less public investment and poor neighborhood safety, which can negatively affect the mental health of all residents regardless of their individual socioeconomic status (SES). Inequality may also affect the richest by increasing stress through economic uncertainty and excessive focus on work (Lamont 2023).

Second, economic inequality can have substantially large impacts on population mental health, even when the effect sizes of changing inequality levels appear trivial at the individual level (Carey et al. 2023). For instance, a meta-analysis by Patel et al. (2018), in which they compared depression levels between communities with fairly large differences in income inequality (e.g., below versus above median levels), yielded a relatively small effect size (risk ratio = 1.19) for the effect of inequality on depression. In the real world, the magnitude of economic inequality typically changes more incrementally in the short term, leading to even smaller effect sizes at the individual level.

However, consider even a risk ratio as small as 1.01. Such a tiny effect size can still substantially increase the absolute number of persons living with depression in a population because inequality affects everyone in society, as noted above. For example, in a population of 10 million with a baseline depression prevalence of 10%, a risk ratio of 1.01 would result in 10,000 more depression cases. Paradoxically, interventions with much greater individual benefits (e.g., tailored clinical interventions) might then provide smaller population health benefits relative to reductions in inequality. In addition, individual-level interventions tend to have low scalability and generally target a smaller number of high-risk individuals (Rose 1985).

Third, economic inequality not only can deteriorate overall population mental health but also can further widen health disparities; evidence suggests that inequality can disproportionately damage the mental health of people from socially marginalized groups, including persons with preexisting mental illness (Ward et al. 2019). For example, income inequality may affect mental health by increasing psychological distress through social comparison—another mechanism that we explore in more detail below. However, stress may have differential impacts on mental health across individuals based on the available resources for coping (Lazarus & Folkman 1984). Such resources may include material resources, emotional support from family and peers, education, and familiarity with therapeutic/wellness culture, all of which tend to be limited among socially marginalized groups.

The discussions above highlight the fact that economic inequality as an ecological concept can have far-reaching, large, and unequal impacts on population mental health. Next, we provide a brief review of empirical evidence linking economic inequality with mental health.

THE INFLUENCE OF ECONOMIC INEQUALITY ON MENTAL HEALTH

While a vast number of studies have linked inequalities to mortality and physical health (Pickett & Wilkinson 2015, Subramanian & Kawachi 2004), research also suggests associations with mental health outcomes. A review of 27 articles examining a broad range of mental health outcomes reported mixed findings, with 9 studies finding that greater income inequalities were associated with worse mental health outcomes (Ribeiro et al. 2017). The meta-analysis of these 9 studies demonstrated heterogeneous but overall negative associations between income inequality and mental health/well-being. A more focused review on the effects of inequality on depression reported that 5 out of 6 longitudinal studies showed a positive association between inequality and the risk of depression, and this trend was observed in the meta-analysis of 12 studies (Patel et al. 2018). A more recent systematic review included 42 papers representing nearly 8 million participants and over 110,000 geographic units (Tibber et al. 2022). The review found that 54.76% of studies reported that higher inequality was associated with poorer mental health, while only 11.9% reported that higher inequality was associated with better mental health. The authors noted that these patterns persisted regardless of the adjustment for individual income (i.e., absolute deprivation) and across different types of mental health outcomes (general mental health, depression, psychosis) and geographic scales. The detrimental effects of income inequality on mental health may also contribute to increased rates of suicide, particularly among younger adults (Miller et al. 2005).

The adverse effects of income inequality extend beyond mental health outcomes to include substance use and related behaviors. A study by Karriker-Jaffe (2013) found that individuals living in areas with higher income inequality were more likely to report alcohol dependence. Similarly, Galea et al. (2007) reported that higher neighborhood-level income inequality in New York City was associated with an increased likelihood of smoking, alcohol use, and marijuana use. In recent years, the opioid epidemic has become a major public health concern, and research suggests

that income inequality may play a role in this crisis. Yang et al. (2021) found that higher income inequality was associated with increased opioid prescriptions, potentially contributing to the risk of opioid misuse and addiction. Studies have further highlighted the link between income inequality and deaths of despair, which include deaths from drug overdose, alcohol-related liver disease, and suicide. For example, Galea et al. (2003) also observed that drug overdose deaths were more prevalent in New York City neighborhoods with higher income inequality. Kuo & Kawachi (2023a) found evidence of this association in the United States, while Loverock et al. (2024) reported similar findings in Canada.

To effectively address this public health concern, it is critical to understand why these effects may occur and to develop interventions that mitigate the health-damaging processes. In the following section, we review potential mechanisms underlying the adverse associations between economic inequality and mental health.

THE MECHANISMS THROUGH WHICH ECONOMIC INEQUALITY INFLUENCES MENTAL HEALTH

Economic inequality influences mental health through multiple mechanisms. While structural changes through policy are key to mitigating inequality and its negative sequelae, understanding the proximal mechanisms through which its effects on mental health are transmitted is crucial for designing effective individual- and community-level interventions. One obvious mechanism through which inequality influences mental health is an increase in absolute poverty at the individual level. Poverty often involves material deprivation, characterized by a lack of access to basic necessities such as food, shelter, and health care and difficulty affording bills, housing insecurity, and food insecurity. These challenges all contribute to heightened stress levels, which can ultimately increase mental health symptoms. However, inequality influences mental health through pathways that are distinct from material deprivation and absolute poverty. This review primarily focuses on two mechanisms unique to inequality as an ecological concept: social comparison and social capital (**Figure 1**).

Social Comparison and Status Anxiety

Social comparison is a fundamental process through which individuals evaluate themselves by comparing their attributes, abilities, and achievements to those of others (Wilkinson & Pickett 2017). It is theorized that in societies with significant disparities in income and wealth distribution, status becomes more salient, and individuals are more likely to engage in upward social comparison, where they compare themselves to those perceived as higher in SES. This increased social comparison contributes to greater status anxiety, defined as "a broad syndrome comprising status-related worries and status-related negative experiences" (Delhey et al. 2017, p. 216). This idea is referred to as the status anxiety hypothesis, which suggests that in societies with high levels of structural income inequality, individuals experience greater levels of anxiety related to their social status, in part due to the stigma associated with lower social standing (Inglis et al. 2019), which contributes to greater mental health problems even in those not directly struggling financially.

There is now substantial evidence suggesting that social status based on relative income levels, as opposed to absolute income, is a key driver of mental health. Studies have shown that lower social standing (e.g., income rank) is more predictive of psychological distress (Wood et al. 2012), depression (Osafo Hounkpatin et al. 2015), overall satisfaction (Boyce et al. 2010), and suicidal ideation and attempts (Osafo Hounkpatin et al. 2015) than absolute income. In addition, the association of relative income with life satisfaction is more significant in areas with higher income inequality compared to those with lower income inequality (Cheung & Lucas 2016,

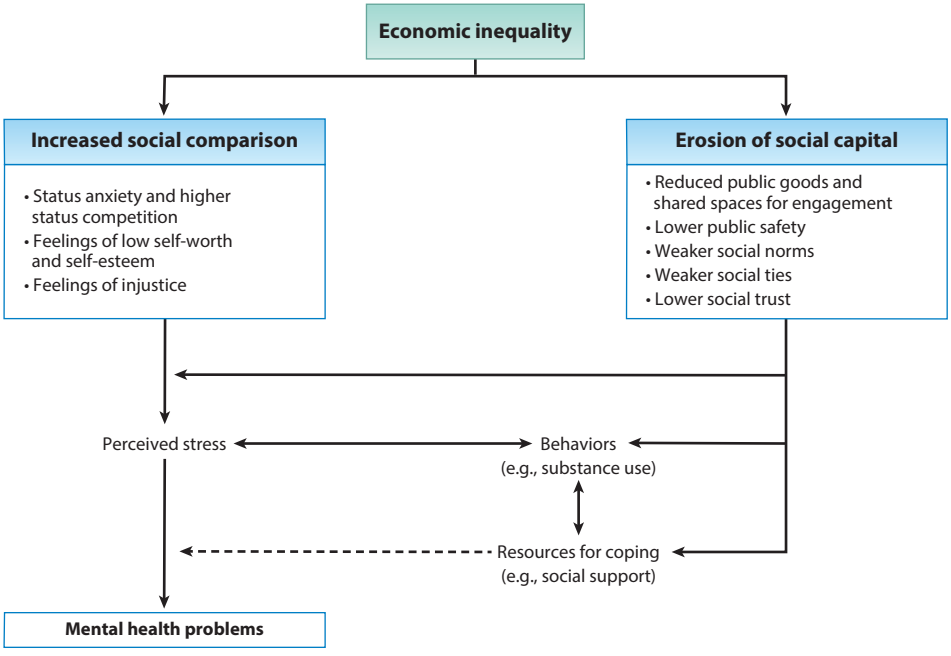

Figure 1

Mechanisms underlying the link between economic inequality and mental health. Arrows indicate the presence of direct effects; for example, economic inequality may increase social comparison, which leads to mental health problems via increased perceived stress. Double-edged arrows indicate bidirectional effects; for instance, some behaviors (e.g., substance use) may affect perceived stress while perceived stress may also shape such behaviors. The dashed arrow indicates the presence of effect modification; resources for coping would affect mental health problems by changing responses to perceived stress (i.e., the effect of perceived stress on mental health) rather than by altering the magnitude of perceived stress itself.

Macchia et al. 2020), suggesting that income rank plays a more salient role in well-being in more unequal societies. It has also been shown that individuals who pursue high-status goals, such as accumulating wealth, are at an increased risk of experiencing depressive symptoms (Johnson et al. 2012).

Reinforcing the idea that greater income disparities amplify the significance of social status, some evidence indicates that more unequal societies have greater inclination toward conspicuous consumption as a means to highlight one's social status and rank (Pybus et al. 2022). Research by Walasek et al. (2018), using extensive data from unsolicited online communication on Twitter, demonstrated a strong association between income inequality and conspicuous consumption tendencies in the United States. Their analysis revealed that high-status brands (e.g., Louis Vuitton) are mentioned more frequently on Twitter in US regions with greater income inequality. Conversely, mentions of low-status brands are less common in these areas. This trend was evident in two large tweet samples and across states, counties, and metropolitan areas. Similarly, other work using cross-national data on Internet search terms showed that search terms related to well-known luxury brands and positional goods (e.g., designer brands, expensive jewelry) were more prevalent in countries with greater income inequality (Walasek & Brown 2016). Income inequality is also associated with a greater proportion of high-status cars bought at the county level in the United States (Bricker et al. 2021). Experimental evidence supports the findings from these correlational studies. Velandia-Morales et al. (2022) used an experimental setting to show that higher perceived

economic inequality is associated with higher status consumption, status anxiety, status seeking, and materialism. Collectively, the evidence indicates that larger income differences in a society increase the importance of status.

A few studies have tested the association between inequality and status anxiety directly. For example, in two studies Layte and colleagues analyzed data from over 35,000 adults across 31 countries who participated in the 2007 European Quality of Life Survey. Participants agreed or disagreed with the following statement: "Some people look down on me because of my job situation or income." While results varied across countries in Layte & Whelan's (2014) analysis, a consistent trend emerged: As individuals ranked lower in income, their sense of status anxiety rose. Unsurprisingly, those situated higher on the income hierarchy tended to worry less about their status compared to those at the bottom. However, notably, status anxiety was higher at all levels of income in more unequal countries. Layte's (2012) earlier work using the same data also validated the status anxiety hypothesis. These findings—of inequality adversely affecting mental health across the income distribution—clearly demonstrate how it is a distinct construct from poverty. However, at least one longitudinal study has shown that increases in inequality may be associated with lower levels of status anxiety for high-income individuals (Bartram 2022), once again indicating that these associations are likely to be influenced by unmeasured contextual factors.

Biological evidence supports the notion that inequality leads to increased stress. Data from a study involving over 18,000 individuals across four European countries revealed notable differences in inflammation levels, as assessed by C-reactive protein measurements (Layte et al. 2019). Switzerland, characterized by greater equality, exhibited the lowest levels of inflammation, while Portugal, with the highest levels of inequality among the four countries, showed the highest inflammation levels. Experimental evidence is aligned with this notion. Shapiro et al. (2017) showed that playing an unfair game, regardless of problem difficulty, was associated with higher cortisol levels and heart rate variability. Their findings suggest that even short-term exposure to inequality triggers physiological stress responses, even when participants benefit from the inequality (Shapiro et al. 2017). Consistent with the notion that inequality increases physiological stress through status anxiety is evidence showing that status anxiety mediates the association of income inequality with diabetes (Crielaard et al. 2023), a disease well-known to be associated with chronic stress (Kelly & Ismail 2015). Findings on the dominance behavioral system, which regulates hierarchical social behaviors, are also consistent with the idea that hierarchies influence mental health and that these associations have biological underpinnings. Indeed, Johnson et al. (2012) demonstrated that the dominance behavioral system is closely linked to various forms of psychopathology. In sum, a vast literature underscores the profound influence of income inequality on status anxiety and mental well-being.

Beyond status anxiety, inequality also promotes feelings of low self-worth and self-esteem. When there is a greater disparity in economic circumstances, the significance of one's own rank in it can become more pronounced in shaping our sense of self-worth and well-being compared to other values and factors (Walasek & Brown 2019), although this relationship may vary under certain circumstances. Living in an unequal society that is also excessively meritocratic (i.e., defines self-worth only through achievement and success) can demoralize those left behind (Sandel 2021), contributing to low self-worth and mental health problems in contexts where lower-status individuals do not develop alternative criteria of evaluation through a culture of resistance that may emphasize solidarity over socioeconomic success (Lamont 2000). A relatively less well-studied topic is the idea of injustice in the context of inequality. Given that economic inequality is detrimental to civil and political equality (Cole 2018), it likely contributes to feelings of injustice among individuals, specifically those of low-income rank, ultimately contributing to mental health problems. In line with this idea, some work has shown that associations of perceived relative SES with

paranoia and poor well-being are mediated by personalized beliefs of injustice in youth (Wickham et al. 2014).

Social Capital

Social capital is a community-level characteristic that refers to features of a social organization, such as strong networks, mutual trust, and norms of reciprocity, that facilitate cooperation and collective action for mutual benefit (Putnam 1993)—notions closely related to what is sometimes also conceived of as the common good (Catholic Church 2004, Keys 2006, Maritain 1946). Although some schools of thought use the term social capital as an individual-level construct, such as an individual's ability to access resources through one's social connections (Lin 2001), this review focuses on its community-level conceptualization and views individual-level social ties as one of the mechanisms through which community social capital affects mental health. Economic inequality may deteriorate social capital within communities. As income disparities widen, societies become more fragmented (e.g., through residential segregation; Reardon & Bischoff 2011) with fewer social ties across socioeconomic strata. This fragmentation decreases trust among residents of more unequal societies and reduces civic participation (Kawachi et al. 1997). The analysis of data from 26 European countries showed that people are less willing to take action to improve the welfare of other people (Paskov et al. 2013). Experimental studies using public goods games have demonstrated that inequality can foster selfish behavior and mistrust, ultimately leading to the disintegration of social ties and leaving everyone worse off (Nishi et al. 2015).

Evidence from longitudinal studies indicates that the erosion of social capital can potentially harm population mental health outcomes, such as depression, anxiety disorders, posttraumatic symptoms, and suicide (Ehsan et al. 2019). Social capital can affect mental health through at least three key pathways. First, communities with higher levels of social capital are more likely to engage in collective action, which can lead to structural changes through more spending on public goods, including better services and resources to support mental health (this is known as collective efficacy). For example, communities with strong social networks and trust may be more effective in advocating for mental health services, securing funding for community mental health programs, and ensuring access to quality care. They may also advocate for improving neighborhood safety, which can affect mental health directly through perceived stress (Booth et al. 2012) and indirectly through reduced physical activity—a risk factor of mental health problems (Paluska & Schwenk 2000). Second, social capital can also shape social norms that influence mental health–related behaviors (Kawachi et al. 2008). In communities with strong social ties and shared values, people may check in with their community members and step in to intervene when observing someone's undesirable behavior, such as substance use and self-harm. This pathway may be particularly important in the context of the increasing concern over deaths of despair. Third, social capital improves access to resources for maintaining mental health through individual-level social ties. Social capital facilitates reciprocity and mutual exchange of emotional and instrumental social support during times of stress or hardship. Residents of communities with high levels of social capital may benefit from having a greater number of weak ties—relationships with acquaintances or individuals outside one's immediate social circle (Granovetter 1973). Weak ties can serve as bridges for information exchange, providing individuals with more access to valuable resources, such as job opportunities or health-related information, which can indirectly support mental well-being.

These pathways operate collectively to build communities that protect their members by reducing stress and health-damaging behaviors while improving coping mechanisms. This beneficial effect of social capital can manifest both under normal circumstances and during mass traumatic events, such as disasters, that can have serious mental health consequences (Aldrich & Meyer 2015,

Goldmann & Galea 2014, Okuzono et al. 2024). Notably, the first two mechanisms—collective efficacy and social norms—operate at the structural/macro level through personal networks. As a result, they can provide benefits for all members of society, including the wealthiest individuals and those who are socially isolated and often belong to marginalized groups. Moreover, the social capital hypothesis is intertwined with the status anxiety hypothesis described above because perceived low social status and feelings of inferiority can lead to negative emotions like shame and distrust, which in turn erode social capital (Layte 2012).

Importantly, these pathways are interlinked and can reinforce both each other and inequality, and further increase risk for negative mental health outcomes. As described, research suggests a link between income inequality and a societal emphasis on income rank. People in more unequal countries may be more motivated to pursue higher-income positions and move up the income ladder. This focus on relative income among those at the highest end of the income spectrum could contribute to the persistence of income inequality (Macchia et al. 2020). For example, even day-to-day consumption related to food and leisure activities is higher in the context of inequality because of the desire to "keep up with the Joneses," which further burdens households that are already struggling (Charles & Lundy 2013). Evidence indicating that household debt increases with increased inequality is also aligned with this notion (Iacoviello 2008). Further, greater anxiety about one's social standing can diminish social cohesion within societies and increase the likelihood of individuals participating in selfish and competitive behaviors (Paskov et al. 2013), ultimately contributing to negative mental health outcomes.

VULNERABLE GROUPS WHOSE MENTAL HEALTH IS MORE AFFECTED BY INEQUALITY

While statistical evidence often assesses population average relationships, the adverse effects of economic inequality on mental health may vary across different subgroups, such as those defined by SES, race and ethnicity, gender, and age. This variation in the effect of inequality across different subgroups is known as effect heterogeneity (VanderWeele & Knol 2014).

Assessing effect heterogeneity can serve several key purposes. First, it can provide insight into the potential implications of economic inequality on health disparities. For example, if the negative impact of inequality on mental health is more pronounced among lower-income individuals or certain racial and ethnic minoritized groups, it may contribute to widening or perpetuating existing disparities in mental health outcomes (Ward et al. 2019). Assessing effect heterogeneity can help identify such subgroups that are disproportionately affected by economic inequality. This information can guide the development of targeted interventions and policies aimed at mitigating the adverse effects of inequality on these vulnerable groups. Second, assessing effect heterogeneity can help identify potential ways to mitigate the adverse effects of economic inequality on mental health. For example, if the negative impact of inequality is found to be weaker among individuals with higher levels of social support or better coping resources, this may suggest that these factors play a role in protecting against the harmful consequences of inequality. These factors may be treated as either effect modifiers that are not on the causal pathway or mediators linking inequality with mental health. However, it is important to note that making such a claim based on empirical analysis requires careful consideration of potential confounding variables, not only for economic inequality but also for these potential protective factors (VanderWeele 2015). Finally, examining effect heterogeneity can provide insights into the generalizability of research findings and help explain inconsistencies across studies based on different populations (Hernán & VanderWeele 2011). If the effect of inequality on mental health varies substantially across different contexts or subgroups, this may account for divergent findings in the literature.

The heterogeneity in the effect of economic inequality on mental health is plausible as the intermediate mechanisms likely operate differently across subgroups. For example, upward social comparison may be more distressing for individuals with lower SES, who may lack coping resources. One such resource is the presence of strong social ties with family and community members, which can provide emotional support and lead to a more benign appraisal of, or reaction to, stressful situations (Kawachi & Berkman 2001). Moreover, while the erosion of social capital can cause structural changes that harm everyone, including the wealthiest, it can harm minorities more severely as they may be more reliant on public spending and the surrounding environment compared to those who have individual resources. In line with these theoretical predictions, many empirical studies suggest that the adverse effect of inequality on mental health is more pronounced among those with lower-SES backgrounds (Buttrick & Oishi 2017, Patel et al. 2018, Sommet et al. 2018). In contrast, Subramanian & Kawachi (2006) examined self-rated health, rather than more specific mental health outcomes, and found a constant effect across socioeconomic strata, or if anything, somewhat stronger adverse effects among more advantaged individuals (e.g., higher income). While this discrepancy suggests that there may be outcome-specific trends in the SES-based effect heterogeneity, it is important to consider the role of effect modifiers at broader ecological and contextual levels. For example, while community social capital can act as an intermediate factor linking inequality and mental health, inherent levels of community social capital can also act as an effect modifier. Individuals with lower-SES backgrounds may be less affected by inequality if they are members of a community with strong social cohesion that provides rich emotional social support. Consistent with this notion, research shows that living in communities with a higher number of African American residents is associated with fewer symptoms of depression and anxiety among African American adolescents through greater levels of social support and perceived neighborhood cohesion (Hurd et al. 2013).

In addition to one's own levels of SES, other individual characteristics may modify the effects of inequalities on mental health. For example, the effect of inequality seems to be stronger among women (Pabayo et al. 2014, Patel et al. 2018). Studies have also examined whether the adverse mental health effects of inequality differ by race and ethnicity—a social construct correlated with but distinct from SES. Evidence generally suggests little effect heterogeneity by race and ethnicity (Pabayo et al. 2014, Patel et al. 2018, Zimmerman & Bell 2006). While limited studies compare different age groups (Patel et al. 2018), social comparison exacerbated by economic inequalities may have stronger adverse effects on mental health among younger individuals. One study of young women reported higher rates of nonresponse specifically for an item asking about subjective social status, indicating that this notion imposes substantial stress (Moss et al. 2023). Younger people are increasingly feeling lonely, making them likely more susceptible to the adverse mental health effects of inequalities (Luhmann et al. 2023).

Further, adolescence is a critical period for the emergence of mental health problems (Solmi et al. 2022). This developmental stage coincides with rapid brain maturation, particularly within socioaffective circuits, rendering individuals more susceptible to their social environment (Rakesh & Whittle 2021, Rakesh et al. 2024, Whittle et al. 2024). In the age of social media, social comparison has expanded beyond our immediate social circles to include carefully curated content from individuals and social media influencers from across the world. This rapidly evolving digital landscape and increased social media use have rendered adolescents even more vulnerable to mental health problems (Haidt 2024, Twenge 2020, Twenge et al. 2022). Notably, social media use does not appear to be linked to poorer mental health in older adults (Fu & Xie 2021, Sharifian et al. 2021). Chou & Edge (2012) found that young adults with longer exposure to Facebook tended to perceive others as happier and were less likely to believe in life's fairness. Moreover, those who spent more time on the platform each week tended to agree that others were happier and had better

lives. Social media platforms may foster an environment for constant social comparison, thereby amplifying the impact of economic inequality on mental well-being among adolescents (Jiang & Ngien 2020, Samra et al. 2022). This is therefore an important area for both individual/micro and policy/macro interventions (Case et al. 2023, Murthy 2023).

Associations between inequality and mental health may also be modified by the overall level of wealth of a society. A recent systematic review also showed that the relationship between greater income inequalities and poorer mental health is more pronounced in low- and middle-income countries than in high-income countries (Ribeiro et al. 2017). Using a survey instrument covering 30 European nations, Delhey & Dragolov (2014) found that the erosion of social capital seems to explain the association between inequality and unhappiness in more affluent countries. In contrast, in less affluent countries, inequality seems to affect unhappiness primarily through the stress of increased status competition.

Finally, the association between inequality and individual mental health is a vicious cycle. Inequality disproportionately affects the mental health of persons who are already at the lower end of the income ladder, who also face other risk factors associated with low absolute levels of income. In turn, these individuals become less likely to participate in the labor force, enhancing the odds of social drift farther down the income ladder, eventually leading to widening inequality.

IMPLICATIONS FOR FUTURE RESEARCH, POLICY, AND PRACTICE

Future Research Directions

The importance of using longitudinal (versus cross-sectional) data and controlling for absolute deprivation at the individual level to tease out the effect of inequality as an ecological concept has already been acknowledged (Subramanian & Kawachi 2004). Some longitudinal studies with multilevel analysis controlling for individual income have supported the link between income inequality and mental health (Patel et al. 2018, Ribeiro et al. 2017, Tibber et al. 2022). Beyond these, there are a few methodological considerations that future research should address.

First, it is challenging to define and operationalize economic inequality. While a vast majority of existing studies have looked at income distributions when assessing economic inequality, other forms of economic inequality should be studied as well. For example, wealth is even more unequally distributed than income and may create different patterns of social comparison across age groups because wealth is more pertinent among older adults (Cubbin et al. 2011). Moreover, defining the appropriate scale of economic inequality and the communities of interest is challenging. We do not know which spatial unit (e.g., country versus state versus county versus census tract) is the most relevant for the contextual effects of income inequality (this is known as the uncertain geographic context problem) (Kwan 2012). Although evidence suggests that inequality conceptualized at the larger geographic scale tends to show stronger associations with mental health (e.g., Tibber et al. 2022), more thorough investigation is needed on how inequality–mental health relationships differ by choice of geographic scale. One emerging challenge is that, with the rise of social media, social comparison may no longer be tied to a specific geographic area. Consequently, when comparing two geographic areas (e.g., counties) with different levels of inequality, there may be little contrast in the levels of stress arising from social comparison if these areas are nested within the same larger communities with shared social networks (e.g., country).

Second, although past observational studies have typically adjusted for other contextual factors (e.g., population density, urbanicity) and individual-level factors (e.g., education, income), observational evidence suffers the risk of bias due to unadjusted confounders (Ribeiro et al. 2017). One way to strengthen causal inference is to control for past levels of inequality and outcome variables of interest to address reverse causation and confounding due to factors that operate only through

past levels of inequality, including unobserved ones (VanderWeele et al. 2020b). However, such adjustment may not always be feasible because there may be limited temporal variation in inequality and mental health outcomes within short time intervals. Alternatively, one can use an experimental approach that manipulates levels of economic inequality. For instance, Nishi et al. (2023) conducted an online experiment where they randomly assigned participants to be either rich or poor. They then manipulated the visibility of other participants' wealth conditions and observed that the economic gradient in subjective well-being emerged only when the information was made visible, supporting the social comparison pathway. Natural experiments and quasi-experimental studies may also provide insights regarding causal inference on the effects of inequality; for example, one might leverage changes in levels of inequality due to a tax policy or quasi-random variations in residential locations with differential levels of economic inequality (e.g., via a refugee resettlement policy), but such evidence is currently limited particularly for mental health outcomes.

Third, more research is needed to assess how the effects of economic inequality differ across subgroups. Although studies have shown little evidence of effect heterogeneity by race, it is worth noting that these studies generally lack statistical power, and there is a need for larger studies with racially and ethnically diverse samples or meta-analyses pooling across studies. Moreover, current analytical practices often ignore the nuance of intersectionality, where the combination of race and ethnicity with other social identities (e.g., gender, social class) may create high vulnerability to the mental health effects of income inequality (Harari & Lee 2021). While applying intersectionality perspectives in the analysis of effect heterogeneity can uncover the complex interplay of various social identities and their influence on the relationship between economic inequality and mental health, the interaction analysis typically assesses each potential modifier individually (e.g., by race and by gender) rather than their combinations (e.g., race*gender). To this end, exploratory analyses using machine learning techniques for estimating heterogeneous effects may be helpful in identifying the unknown, nonlinear, high-dimensional patterns in differential effects of inequality (Shiba & Inoue 2024), though examining interactions required to evaluate such intersectionality requires even larger sample sizes to have adequate power (Jackson & VanderWeele 2019).

Fourth, self-reported mental health outcomes could be susceptible to measurement errors due to self-enhancement: people's tendency to perceive themselves as better than the average person. This self-enhancement is greater in societies with more income inequality (Loughnan et al. 2011). When the measurement error in the outcome depends on the value of the exposure (i.e., economic inequality), the observed associations between inequality and mental health can be biased and noncausal (Rothman et al. 2008). Future studies should consider using quantitative sensitivity analysis techniques to assess the potential impact of such measurement error bias (Fox et al. 2021, VanderWeele & Li 2019).

While it is crucial to address the methodological concerns outlined above, there are also promising conceptual directions for future studies investigating the association between economic inequalities and mental health outcomes. It is crucial to adopt a broader definition of mental health that goes beyond the mere absence of mental illness. Psychology has long focused on positive mental well-being, which encompasses concepts such as happiness, life satisfaction, and purpose in life (Ryff 2013). Recently, public health researchers have also begun to study positive mental well-being (VanderWeele et al. 2020a), aligning with the concept of human flourishing, which views human well-being as inherently multidimensional (VanderWeele 2017). Some studies have already reported negative correlations between economic inequalities and happiness (e.g., Buttrick & Oishi 2017, Ferrer-i-Carbonell & Ramos 2021, Kuo & Kawachi 2023b). However, more research is needed to explore the relationship between economic inequality and other aspects of broadly defined mental well-being. In addition, inequality is thought to provoke

various responses: succumbing to stress and increased risk of depression; combating low status, potentially leading to self-enhancement, narcissism, and psychosis; and avoidance behaviors, such as substance use, gambling, and comfort eating (Wilkinson & Pickett 2017, 2018). However, the diverse effects and mechanisms of inequality on mental health outcomes are not well-understood. Future research should focus on identifying specific pathways and mechanisms linking inequality to different mental health outcomes. In particular, we should consider how and how much those experiencing economic inequality develop hope (e.g., through exposure to narratives promoting agency) as well as how they develop alternative criteria for defining their worth and reference groups in response to inequality (e.g., Bell 2019, Singh 2015).

Finally, there is a notable lack of research that directly tests the causal pathways linking economic inequality to mental health outcomes as well as a lack of research on identifying factors that may protect against the development of mental health problems in the context of inequality. Experimental or quasi-experimental trials can serve as powerful tools to unpack causal mechanisms. For example, by manipulating levels of inequality in controlled settings, researchers can explore how variations in inequality affect psychological processes such as social comparison, status anxiety, solidarity, and trust. Such experimental trials can also help test the role of and identify protective factors that may buffer against the development of mental health problems in the context of inequality. Moreover, more research aimed at designing and evaluating interventions for reducing social comparison and strengthening social capital to improve mental health outcomes in the context of inequality is needed. These interventions could include community-based programs that foster social cohesion, promote supportive social networks, and foster a sense of empowerment among disadvantaged groups. Such research can advance our understanding of how economic inequality influences mental health and can facilitate the development of targeted strategies to enhance well-being.

Policy and Practice

The burden of reducing inequality and mitigating its negative sequelae lies in the hands of policymakers and requires macro-level changes. However, inequality is a multidimensional process, and resources at the micro level (i.e., individual level) and at the meso level (i.e., organizations, neighborhoods, and networks) can also be leveraged to combat these issues (Lamont & Pierson 2019). Below we outline macro-, meso-, and micro-level interventions that may help improve mental health outcomes (see **Figure 2**).

Macro-level policy changes. Given the pervasiveness of inequality and the profound influence it has on both physical and mental health, United Nations Sustainable Development Goal 10 calls for the reduction of "inequality within and among countries" (**https://sdgs.un.org/goals/goal10**). To achieve this goal, the importance of structural change to mitigate inequality cannot be reiterated strongly enough. Economic policy changes at the national or regional level that promote more equitable distribution of income through addressing tax avoidance, eliminating tax havens, fostering a more progressive taxation system, and introducing universal basic income schemes (Piketty 2014) will likely have the greatest impact in reducing the burden of mental health associated with inequality. While these changes are imperative, it has been argued that such policy changes are not necessarily stable and that a more fundamental approach entails reducing inequalities in incomes prior to taxation (Power et al. 2016, Wilkinson & Pickett 2018). Wilkinson & Pickett (2018) made a case for economic democracy—a socioeconomic ideology advocating for the transfer of ownership and decision-making authority from corporate shareholders and managers (e.g., boards of directors) to a more extensive array of stakeholders encompassing workers, consumers, suppliers, communities, and the general public—as a pathway to slowly but

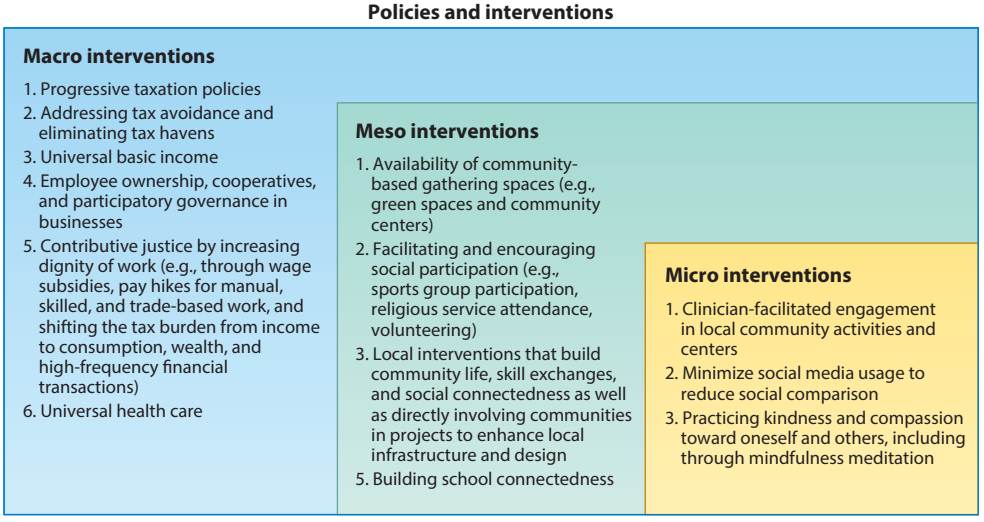

Figure 2

Recommendations for macro-, meso-, and micro-level policies and interventions. Figure adapted from Patel et al. (2018).

surely increase economic equality (Case et al. 2023, Medaille 2014). Others have also argued that a simple redistribution of income may not be adequate and that redistribution of wealth needs to be coupled with putting the dignity of work at the center of the political agenda (Lamont 2023, Sandel 2021). In line with this idea are the recent increases in deaths of despair, including deaths from suicide, alcoholic chronic liver disease, and drug and alcohol poisoning (King et al. 2022, Knapp et al. 2019). Therefore, in addition to changes in economic policies that redistribute wealth and income, structural changes must also include policies that renew the dignity of work and increase recognition to signify that individuals make valued contributions to the common good (Lamont 2023, Sandel 2021). In other words, reducing the burden of mental health requires both contributive and distributive justice (Sandel 2021), which may involve the economic policy changes described above as well as wage subsidies and pay hikes for manual and other forms of labor and shifting the tax burden from income to consumption, wealth, and high-frequency financial transactions (Sandel 2021). In addition to these macro-level changes, economic changes need to be supplemented with the promotion of positive narratives and depictions of stigmatized groups (including those with less economic resources) to transform cultural representations and create a sense of belonging (Berezin & Lamont 2016). Making inclusive narratives more widely available plays a central role in fostering both dignity and solidarity by reducing stigma and promoting social connections (Lamont 2023). Such cultural changes can have a macro effect, as we have seen with the collective mobilization in favor of same-sex marriage and the reduction of stigma toward individuals with HIV-AIDS (Clair et al. 2016).

Difficult questions, of course, remain concerning what might be considered reasonable or acceptable levels of inequality. While the notion of perfect equality is one that is challenging to achieve realistically, there is no clear line as to what might be considered reasonable or acceptable. Some degree of inequality is sometimes justified on the grounds of providing incentives for work and productivity and sometimes on the grounds that economic systems that permit some degree of inequality may ultimately raise standards of living for everyone, even the worst off. Nevertheless, the rising levels of inequality are of considerable concern, and, as documented above, there

are mechanisms by which inequality affects health and well-being independent of absolute levels of poverty.

Meso-level (community) interventions. It has been suggested that higher levels of social capital lead to improved mental well-being (Bassett & Moore 2013, Henderson & Whiteford 2003). Indeed, both interventionists and researchers have emphasized the significance of social capital in influencing health outcomes (Villalonga-Olives et al. 2018). Among nonintervention studies, evidence suggests that social participation (e.g., sports group participation, religious service attendance, volunteering) can increase social capital and lead to higher levels of happiness (Kim et al. 2021) while lowering the risk of deaths of despair (Chen et al. 2020) and depressive symptoms (Shiba et al. 2021). Other work using data from Japan indicates that participation in community gathering places, including religious spaces, promotes health and well-being (Ide et al. 2023). As such, availability of community-based gathering spaces as well as spaces that provide opportunities to engage in various activities may promote social connectedness and, in turn, mental health and well-being. Beyond changes in built environments, initiatives that harness the power of communities can also be put into place (Klinenberg 2018). Examples include initiatives like the Bronx Green Up (**https://www.nybg.org/gardens/bronx-green-up/**), Little Free Library (**https://littlefreelibrary.org**), and Timebanks (**https://timebanking.org**), which help build community life, skill exchanges, and social connectedness. Equally important is fostering policies and narratives that provide support messaging about social cohesion and solidarity (Hall & Lamont 2013).

Notably, the available evidence from intervention studies indicates that social capital can be exogenously generated. An intervention in Portland, Oregon, that involved communities in urban design projects showed that residents perceived neighborhood improvements and highlighted increased social interactions, enhanced sense of place, and stronger community participation (Semenza & March 2009). Even modifying the built environment to promote walkability through the availability of green spaces and benches can promote social capital (Morales-Flores & Marmolejo-Duarte 2021). Interventions aimed at improving connectedness and belonging at the school level have also been effective in mitigating depression and anxiety among adolescents in both high-income and low/middle-income countries (Raniti et al. 2022). For example, in rural India, a recent study underscored the significance of school relationships in student well-being. The intervention was designed to foster supportive connections among students and teachers, promote a sense of belonging, and encourage active engagement in school activities. The findings showed that the intervention led to large improvements in mental health that were mediated by the quality of relationships within the school community (Shinde et al. 2018, Singla et al. 2021). In another study from a non-WEIRD[1] country, a randomized trial was able to strengthen social capital in South Africa during a 2-year period (Pronyk et al. 2008). Specifically, the intervention combined group-based microfinance and gender and HIV training and successfully contributed to changes in solidarity, reciprocity, and social group membership (Pronyk et al. 2008). Interventions have also positively affected certain facets of social capital (e.g., civic participation in governance processes) within postconflict communities in Nicaragua (Brune & Bossert 2009). This project sought to boost household involvement in community affairs and to foster trust between residents and local institutions. The interventions were tailored to individual community needs while adhering to key principles: building upon existing organizations, fostering broad participation, enhancing communication and conflict resolution skills, empowering community members, and establishing lasting partnerships with external organizations.

[1]WEIRD stands for Western, educated, industrialized, rich, and democratic.

Given the evidence showing that social capital is degraded in more unequal societies, and the beneficial role it plays in mental health and well-being, interventions that bolster social capital may be particularly beneficial in improving mental health outcomes in the context of inequality. While studies have shown that interventions targeting school connectedness can have substantial benefits for mental health (Shinde et al. 2018, Singla et al. 2021), research in this area is in its nascent stages. Translating epidemiological findings about the link between social capital and mental health into practical applications requires further evidence. It is crucial to investigate the viability and effectiveness of interventions aimed at enhancing various aspects of social capital to improve mental health outcomes (Murayama et al. 2012). A recent systematic review by Flores et al. (2018) highlighted the limited research on social capital interventions and their impact on mental health outcomes. While observing improvements in both social capital scores and mental health outcomes over time, the review generally found little evidence of long-term benefits compared to control groups. However, the included studies were highly heterogeneous, and it is possible that social capital interventions are more effective for certain populations but not others, contributing to the mixed results (Okuzono et al. 2023). Social capital can be a double-edged phenomenon, and its potential downsides (e.g., social exclusion of racially and ethnically minoritized individuals within predominantly white communities with strong and homogeneous social ties) need to be considered when designing interventions (Villalonga-Olives & Kawachi 2017). The scarcity of intervention studies focusing on the role of social capital in improving mental health within contexts of inequality points toward a crucial area for future research.

Moreover, apart from boosting trust and social support, social capital can be leveraged to mobilize effective social movements that compel authorities and policymakers to address the mental health needs of communities and specific populations. While we are not aware of any such movements in the context of mental health, one formidable example—that of the South African Treatment Action Campaign (TAC) from South Africa, a highly unequal country—demonstrates how even small, marginalized groups can form influential, health-focused social movements to bring about change. The TAC campaign offers a powerful example for reframing how we approach community empowerment and the role of social capital in health (Campbell 2020). We speculate that participation in such community-based social movements may also combat feelings of powerlessness and improve mental health outcomes in individuals. Similarly, the Self-Employed Women's Association in India focuses on improving the economic conditions of women in the unorganized sector through collective action. Their initiatives have shown that empowering women results in improved health outcomes for families and communities as a whole (WHO 2008).

Micro-level (individual) interventions. Policy-level changes and shifting narratives that redistribute income, promote the dignity of work, and increase pay for those who do manual, skilled, and trade-based work will be most effective in buffering status anxiety and promoting population mental health. In addition, fostering community life to build trust and social cohesion may contribute to lower social comparison and status anxiety. However, in addition to the above, clinicians and individuals can play a role in reducing status anxiety in day-to-day life. For example, practices such as mindfulness meditation, self-compassion, and gratitude can promote self-awareness, reduce the impact of external comparisons, and contribute to positive mental health outcomes. Mindfulness encourages individuals to focus on the present moment and has proven to be effective in reducing mental health difficulties (Galante et al. 2023). Similarly, gratitude-based interventions have been shown to reduce perceived stress and depression (Komase et al. 2021). These involve engaging in regular practices of gratitude, such as keeping a gratitude journal, writing gratitude letters, or engaging in gratitude meditation as a means to enhance psychological

well-being and resilience (Wood et al. 2010). While no studies to our knowledge have examined the effects of such an intervention on social comparison directly, one study showed that dispositional gratitude helps shield against the negative effects of social comparison and envy on Instagram (Kaminger et al. 2023). Individuals can also be encouraged to cultivate self-compassion, which entails treating oneself with kindness, understanding, and acceptance, especially in the face of failure or adversity—a practice that has been linked to lower rates of psychopathology (MacBeth & Gumley 2012). The practice of mindfulness meditation and self-compassion promotes effective emotion regulation (Hill & Updegraff 2012, Inwood & Ferrari 2018), a transdiagnostic risk factor for many different mental health conditions. Other studies and evidence from randomized trials indicate that acts of kindness likewise foster better mental health and well-being (Curry et al. 2018, Lyubomirsky et al. 2005); moreover, there is experimental evidence that such acts of kindness tend to propagate through social networks (Fowler & Christakis 2010), thereby bringing about greater solidarity. Further, given that technology-based social comparison through social media is associated with depressive symptoms (Nesi & Prinstein 2015), reductions in social media use might prove to be beneficial in mitigating social comparison and subsequent mental health problems. Indeed, recent research suggests that reducing recreational screen time is associated with better mental health, well-being, and educational performance in both adolescents and adults (Haidt 2024, Pedersen et al. 2022). This can be coupled with the adoption/promotion of social savoring (experiencing joyful emotions about someone else's experiences), a recently developed, brief, web-based intervention that has shown promise in improving self-esteem (Andrade et al. 2023). Finally, social relationships play a crucial role in well-being (Barnett & Gotlib 1988, Kawachi & Berkman 2001). To help individuals strengthen their social networks, clinicians should maintain a list of local community-based activities and centers, which could include both secular and religious communities (NHS England 2020, VanderWeele et al. 2022). Such a list could be provided to clients to help them engage with their local communities and build social connections, trust, and solidarity. Finally, it may be fruitful to evaluate interventions that combine social capital and/or psychological components with interventions that provide financial support to households living in poverty in circumstances of inequality (Lund et al. 2023).

CONCLUSION

In sum, there is a compelling link between economic inequality and poorer mental health outcomes. Numerous studies consistently demonstrate that greater income inequalities within societies are associated with worse mental health across various populations and geographic scales. This relationship persists despite adjustments for individual income, highlighting inequality as an ecological phenomenon with profound implications. Key mechanisms that transmit the effects of inequality on mental health include increased social comparison and the erosion of social capital. Economic inequality can disproportionately affect those from socially disadvantaged backgrounds (e.g., racially and ethnically minoritized groups) and, thus, may exacerbate existing disparities in mental health outcomes.

These findings underscore the urgent need to address economic inequality as a public health priority. Addressing this issue necessitates systemic changes at multiple levels, and global and national economic policy play a central role. Advocating for macroeconomic reforms that promote fairer income distribution while increasing dignity of work and shifting narratives is paramount; meso- and micro-level interventions targeting communities and individuals, respectively, can also play a role. Mental health professionals can help champion this cause, urging for evidence-based policies that prioritize greater equity. Collective advocacy by health professionals can catalyze collaboration with government and civil society stakeholders to effect meaningful change. By

aligning economic policy with mental health priorities, we can forge a more equitable society where well-being thrives for all.

SUMMARY POINTS

1. Economic inequality is rising globally and contributes to higher levels of mental health problems, such as depression and substance use disorders.
2. As a structural characteristic of a society, economic inequality affects mental health across all socioeconomic strata, including the wealthiest.
3. Inequality disproportionately harms the mental health of socially marginalized groups, increasing health disparities and further entrenching societal divisions.
4. Economic inequality worsens mental health by increasing interpersonal social comparison and undermining the social capital of communities.
5. Macro-, meso-, and micro-level interventions need to be implemented to address inequality through policy changes, fostering of community cohesion to build social capital, and promotion of individual practices that reduce status anxiety and improve mental health.

FUTURE ISSUES

1. Future research should explore multiple dimensions of economic inequality, such as wealth, in addition to income.
2. Future research should assess how social comparison affects mental health through geographic or online networks.
3. Quasi-experimental studies, natural experiments, and experimental trials adjusting inequality levels can further strengthen causal inference and offer insights into protective factors that might mitigate the toxic effects of inequality on mental health.
4. Future studies should incorporate intersectionality to explore how race, gender, and class jointly and synergistically influence vulnerability to inequality's mental health effects.

DISCLOSURE STATEMENT

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