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Income Inequality and Mental Health

Evidence from Poland and the International Literature

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INTRODUCTION

Evidence of low socio-economic status negatively impacting health is extensive, and studies from numerous nations have shown that individuals lower down the social and economic hierarchy have poorer health and an increased likelihood of premature death (Acheson, 1998; Kunst et al., 1998). However, research regarding the causal relationship between income inequality and mental health is still a relatively new area of scientific inquiry. Increasing attention today is directed towards the impact of social determinants - structural, economic, and relational factors that shape population health. Of these, income inequality has emerged as a potentially important contextual driver of mental health inequalities.

Empirical evidence for the inequality–mental health link is extensive but heterogeneous. Systematic reviews and meta-analyses, such as those of Ribeiro et al. (2017) and Tibber et al. (2022), generally document small but consistent associations between growing income inequality and poorer mental health outcomes, particularly depression. The evidence is stronger among certain subgroups - most notably those of economic disadvantage - but others report adverse effects on the entire socioeconomic spectrum. While methodological limitations (e.g., cross-sectional design, high heterogeneity, non-standard adjustment for confounders) make causal inference difficult, the repeated observation of these associations across countries leads to the consideration that income inequality is a population-level factor in mental health.

Still, the evidence base is geographically biased. The great majority of studies focus on Western high-income nations, with much less on Central and Eastern Europe (CEE). This silence is important, since the post-socialist economies have undergone fast and profound economic transformations, often with sharp peaks in inequality and changes in the social protection system. Poland, the largest economy in the region, is a case in point. Throughout the decades of transition, Poland experienced long-term economic growth alongside rising income disparities, deep-rooted socioeconomic health disparities, and an under-resourced mentally ill population system in the process of reform.

In these conditions, direct evidence probing the relationship between income disparity and mental illness in Poland has been lacking. Earlier studies have mostly responded to related issues - such as poverty, unemployment, or suicide rates - instead of making inequality a central explanatory factor. Furthermore, data constraints - e.g., the lack of precise, longitudinal observations of income distribution and mental health outcome indicators - restrict the extent of rigorous analysis. As proved by Jędrzejczak (2014) in the decomposition of the Gini

coefficient, regional means can hide sizeable within-group differences, a finding with important ramifications for mental health research.

This paper provides a comprehensive review of theoretical and empirical perspectives on the relationship between income inequality and mental health, with a particular focus on the Polish context. It synthesizes findings from international research and discusses the methodological and structural challenges of studying this relationship in Poland. The paper situates Poland within the larger context of literature and to indicates the potential priorities for future research and policy on the issue of mental health implications of income inequality.

CHAPTER I. Theoretical framework

1.1. Psychosocial Stress and Status Anxiety: Wilkinson and Pickett's Theory

One of the most powerful theories explaining the relationship between income inequality and mental health outcome is Wilkinson and Pickett's (2009) psychosocial theory. Their central argument is that income inequality, by increasing the perceived distance between individuals in the social hierarchy, expands status anxiety, therefore leading to chronic psychosocial stress. In their explanation, individuals who reside in unequal societies are more susceptible to what they term as "social evaluative threat"; a heightened fear of judgment, exclusion or stereotyping by others. Crucially, it is not the objective condition of being lower in status that drives poor mental health, but the subjective experience of being perceived as inferior. This exchange may lead to increased anxiety, self-consciousness and defensive or narcissistic social conduct in certain cases. Importantly, this finding is in line with the Income Inequality Hypothesis, that states it is not socioeconomic status per se that influences overall health, but relative socioeconomic status compared to others surrounding you, i.e. the variance of inequality in a defined region (Wilkinson & Pickett 2009).

Wilkinson and Pickett argue that people tend to internalize more competitive, individualist, and materialist values in unequal societies, which distort social relations and increase emotional vulnerability. This idea encapsulates Oliver James's "affluenza" theory (2009), which describes a value system centred on wealth accumulation, appearance, and external approval - what has been shown to correlate with depression, drug addiction, and personality disorders. The pursuit of status here is both social desire and psychological burden. As individuals struggle to prove themselves as being worthy in relation to others, social trust collapses, further weakening the protective effects of community and belonging.

Wilkinson and Pickett also point out that these consequences are felt by more people than only those on the bottom of the socioeconomic ladder. Across populations and categories of health, they find that relatively low social status is associated with adverse physical and mental health outcomes even in middle income or otherwise materially privileged individuals. This strengthens the argument that inequality acts on mental health through relational, but not solely economical, mechanisms. Therefore, psychosocial theory places income inequality as a root cause of pathology of a stress-related nature, not merely by affecting material levels of living but by reshaping the social world in which people assess their self-worth.

These findings underlie the hypothesis that inequality is not merely harmful for the economically disadvantaged, but for society at large. Importantly, Wilkinson and Pickett's

hypothesis challenges researchers to look beyond mental illness as an outcome of individual experience or genetics, but rather because of typical societal arrangements. By shifting focus from medical poverty to psychosocial atmosphere, their work emphasizes how inequality can be a form of collective social tension, embedded in the interpersonally-oriented life. Pushing the idea even further, Marmot (2004) has suggested a notion of status syndrome, which states that an individual's position in the social hierarchy systematically influences health outcomes through chronic stress, lack of autonomy and lack of control over the conditions of life (Marmot, 2004). While Wilkinson emphasizes perceived inferiority and social comparison, Marmot places autonomy and control as the mediators between inequality and poor mental and physical health, adding evidence to the idea that status has matters beyond material conditions.

1.2. Social Comparison and Identity: The Psychology of Perceived Inequality

Theory also emphasizes the psychological dimensions of inequality, most importantly how individuals cognitively interpret their own and other people's social status. Relative deprivation theory (Runciman 1966) focuses on the individual level comparisons and expectations, whereas social identity theory, developed by Henri Tajfel (1978), focuses on the psychological effect of being a member of a lower status social group. Both theories stress that inequality is not just felt as material deprivation, but also of social comparison and perceived marginalization, both of which are powerful determinants of mental health.

Relative Deprivation Theory, developed by Runciman (1966) and applied widely in social psychology and public health, is one of the leading explanations for the link between income inequality and mental illness. According to it, individuals do not evaluate their life per se, but in relation to others, within their reference group. When people perceive they are disadvantaged relative to others for example in income, status or lifestyle, they could experience frustration, humiliation and injustice. These comparison processes can operate in both the upward and downward directions: whereas individuals may be aggrieved from realizing they are worse off than others, they may also be concerned from maintaining their position or from seeing the misery of those below them, which provokes fears of sliding down or moral unease. The psychological burden of inequality thus extends beyond the bottom step but enshrines the social ladder. These affective reactions might lead to chronic psychological distress, particularly within highly unequal societies in which upward comparisons are most salient and more prevalent. Relative deprivation is not limited to economic poverty, but it can be linked with individuals having adequate resources if they perceive that they are behind, whether

economically or socially. Hence, it could be that not only the level of income is important, but it's distribution; this assessment is crucial when determining populations' mental health in relation with earnings. While relative deprivation theory originated in sociology, it has been influentially extended to public health as a conceptual explanation for how inequality may affect psychological wellbeing.

Henri Tajfel's intergroup differentiation and social identity theory offers another important view of how inequality can affect mental health through social psychological processes. Within his theory, individuals derive much of their self-concept from membership in social groups. According to Tajfel, this phenomenon is a three-step psychological process: Categorization, Identification and Comparison. They first intuitively categorize themselves and others into social groups - for example, by income group, occupation, educational level, or by area of residence - as an automatic cognitive process to make sense of the social world. Second, they identify with one such group and transfer its status and attributes to their in-group sense of self. Third, individuals make comparison between groups, what generates a tendency to categorize others as in-groups ("us") and out-groups ("them"). For income inequality, these group discrepancies tend to overlap with socioeconomic discrepancies, like education, class, or neighbourhood. As one perceives their group as being less prestigious or lower in status, it can cause identity threat, lowering self-esteem, and thus chronic psychosocial stress. Simply knowing that one's group is at a disadvantage can detract from psychological wellbeing.

Tajfel's work highlights that social comparison is not only individual, as in Relative Deprivation Theory, but also collective. This can risk worsening the mental health hazards, as people internalize the group's presumed inferiority and could be exposed to negative stereotypes. According to Walker & Pettigrew (1984), in very unequal societies these group boundaries are even more evident, reinforcing feelings of social exclusion or marginalization. Hence, Tajfel's theory complements other inequality models in the sense that it explains how identity perceived inequality affect psychological outcomes.

Less common but also insightful counterargument is the Mixed Neighbourhood Hypothesis, where income variation in a specific neighbourhood might under some conditions be advantageous to mental well-being (Ostendorf et al. 2001). The reasoning behind such an argument comes from the suggestion that diverse socioeconomic environments would entail greater exposure to opportunity structures, role models, or channels of upward mobility.

1.3. Social Capital and Social Cohesion

Another theoretical framework within which the interaction of mental health and income inequality can be explained is the social capital and social cohesion theory (Kawachi & Berkman, 2000). Under this theory, societies are held together by networks of trust, shared values and mutual obligations, which give people a sense of belonging and psychological security. In more layered societies these ties are theorized to break; the more layered the society is, the less the individuals will come to feel obligated to one another. The implications of this breakdown in trust and civic engagement may contribute to greater social isolation, interpersonal distrust, and diminished feelings of community, all of which may foster emotional anguish. As opposed to psychosocial models that emphasize internalized status awareness, the social cohesion model identifies the external social situation as the source of harm. Mental wellbeing is not just impacted by the way individuals view themselves in society, but also by how far society itself offers mutually reinforcing, cooperative and trustworthy interpersonal conditions. When these are undermined through inequality, the buffer that provides psychological resilience is hypothesized to break down. Kawachi and Berkman argue that social capital is not only a resource owned by the individual, but a public good built by equitable and trusting relations. As inequality increases, it creates social distance, stimulates intergroup mistrust, and dissipates the capacity to absorb collective shock. Social capital in such a vision cannot function anymore as a stress buffer, and its erosion escalates the psychological vulnerabilities that arise in fragmented societies. Hence, relational harms of inequality are twofold: they cause disruption to both the internal self-concept and the external social world, making inequality not only a threat to material welfare but to the social architecture that preserves mental health as well.

A further nuance in this framework, originally proposed by Putnam (2000), is the distinction between bonding and bridging social capital. While bonding capital keeps people together among similar social aggregates, bridging capital facilitates links between different communities and backgrounds. Income inequality is said to disproportionately reduce the latter, making social silos more homogeneous and breaking up large-scale social trust. These dynamics do not necessarily have to be interpersonal - institutional trust also becomes a casualty. As public institution-perceived fairness and reciprocity decrease, individuals can end up losing confidence in the very same institutions created to protect and provide social support.

Within the broader frame of social cohesion, scholars have identified the twin advantage of social capital to yield economic and psychological dividends (Klein, 2013). Investments in

social relations, networks and shared norms are assumed to generate money returns (in the form of increased economic cooperation, trust-and-exchange-based relations and labour market advantages) and psychic returns, such as increased life satisfaction, emotional support and stress resistance. This definition implies that the social environment is not just a shock-absorber to mental health but is a productive asset producing concrete and intangible returns. By this account, mental health is coupled with the quality of interpersonal relationships and the perceived economic balance of a society. Inequality, by attacking both, can at the same time damage trust and generate distress, producing a feedback cycle between economic polarization and psychological susceptibility.

Heightened inequality is damaging to bridging social capital - that is, those bonds that cut across individuals across various social, economic or cultural divides (Putnam, 2000). Individuals in unequal societies put more into bonding capital, forming strong ties within homogenous groups, but bridging class or communal bonds are more tenuous. This reduction in bridging capital prevents one from being exposed to new worldview, social norms and opportunity structures. In consequence, it's sustaining the sense of isolation and distinction between social strata. This situates individuals into "echo chambers"; social spaces in which their beliefs and experiences are reaffirmed without being diversified and/or challenged. These dynamics reinforce pessimism, mistrust, and exclusion of each other, eroding social cohesion on which psychological wellbeing relies (Kawachi & Berkman, 2000).

CHAPTER II. Evidence from the literature

2.1. Evidence from the International Literature

2.1.1 Systematic Reviews and Meta-Analyses

One of the most influential contributions in the literature is the systematic review of Ribeiro et al. (2017). The review sought to determine whether, and to what extent, income inequalities are associated with mental illness morbidity and resilience in various global contexts. From over 15,000 initial references, the authors included 27 studies in the qualitative synthesis and nine in the meta-analysis. They found that while the overall association between income inequality and mental health outcomes is statistically significant, effect sizes are small but consistent enough to be of public health concern. Most studies reported a direction of positive association or subgroup-specific effects, primarily for individuals with low income. The review pinpointed that the material pathway - where inequality breeds poverty, stress, and less access to healthcare - remains a fundamental explanatory process. However, extremely high heterogeneity between studies ($I^2 = 89.3\%$; $p<0,0001$) limited the potential for generalizing findings, and meta-regression could not account for this heterogeneity.

Despite these limitations, the review has valuable insights. Small population-level effects can translate into very real aggregate effects, especially where inequality is widespread. Most notably, the review finds a lack of studies specifically designed to test inequality as a determinant of mental health, and most of the evidence comes from cross-sectional rather than longitudinal sources. This restricts causal inference and adds the possibility of reverse causality - where poor mental health can also lead to lower income and area disadvantage. Yet, depressive disorders are the most coherent and inequality-responsive outcome the authors identify, and they suggest more targeted, theory-driven research is needed. The authors' findings offer some support for the hypothesis that structural economic conditions are relevant to the mental health of populations, even if the exact mechanisms and magnitudes continue to be contested.

In a complementary approach to the work of Ribeiro et al. (2017), Tibber et al. (2022) conducted a systematic review with another geographic perspective, examining whether country-level subnational income inequality is associated with adult mental health. Their article attempted to examine whether there is support from current research for the Income Inequality Hypothesis (IIH) that inequality harms mental health, or for the Mixed Neighbourhood Hypothesis that inequality has uneven impacts. From 42 studies that had almost eight million participants and over 110,000 geographic locations, the review found that 54.76% of the included studies supported the IIH, and only 11.9% supported the Mixed Neighbourhood

Hypothesis. The proportions did not alter if it was limited to the highest-quality studies or if absolute deprivation was controlled for, a finding indicating that relative inequality, rather than poverty, is a highly significant contextual factor in influencing mental health. Strength of the study lies in high-quality measurement and extensive coverage, including both high-income countries (HICs) and low- and middle-income countries (LMICs). The association between higher income inequality and poorer mental health outcomes was generally preserved across various mental health disorders (e.g., depression, anxiety) and levels (e.g., regional, district), further corroborating the perception that inequality has psychosocial effects across the settings. Notably, they are in line with the intuitive understanding that the damages of inequality extend past the worst-off within society. Experiments testing interactions between poverty and inequality yielded mixed results; some reported inequality harming poorer groups, whereas others detected negative consequences on wealthier groups as well suggesting that inequality is corrosive to society along lines that span the socioeconomic spectrum. At the same time, Tibber et al. (2022) identify significant methodological vulnerabilities in the literature. Many failed to employ correct multi-level modelling or to control contextual confounders well enough, such as deprivation or demographic heterogeneity, complicating efforts to establish causality or clarify mechanisms. While the review itself did avoid labelling explanatory pathways, authors believe that the repeated association across settings still justifies more intense policy and research efforts. Their findings indicate that income inequality may be a structural determinant of mental health, one that merits targeted intervention even if mechanistic certainty is not established.

In a supporting but independent line of evidence, Thomson et al. (2022) combined 136 studies of the effects of individual or household income changes on mental health and wellbeing in working-age individuals. While their review considered income change more broadly than income inequality per se, it found that expansion that shifted individuals out of poverty was associated with far larger improvements in mental well-being (0.13 SD for a binary income increase lifting individuals out of poverty) compared to other rises in income (0.01 SD for a binary income increase). Declines in income were associated with –0.21 SD drop for a binary income decrease. These effects were generally more significant in low- and middle-income settings and in most socioeconomically disadvantaged, which suggests that absolute financial position interacts with mental health in ways consistent with inequality-driven disadvantage. Even though effect sizes were tiny and confidence was low due to over-heterogeneity and risk of bias, the authors argue that targeted income supplementation could have mental health

impacts as large as conventional treatments, maintaining the intuition that structural economic conditions can have a big impact on mental health.

2.1.2 Findings from Individual Studies

Beyond systematic reviews, individual empirical studies provide insights regarding the way income inequality may impact mental health. These studies differ by methodology, geographical region, measurement of inequality and mental health outcomes and allow for a more precise understanding of the relationship across environments. Bridges and Disney (2010) discuss the relationship between domestic financial indebtedness and mental health among women with children in Britain. They find that while objective financial situation measures have a minimal direct contribution to psychological well-being, subjective financial stress is positively related to reported depression. Their results show that subjective financial issues mediate the link between debt and depression, though much of the correlation that is seen may stem from psychological personality traits of individuals. In a study conducted by Bechtel et al. (2012), authors utilize panel data to address endogeneity concerns, namely of unobserved heterogeneity and reverse causality and test three income inequality measures (Gini, Theil, Atkinson) robustly to determine whether their conclusions hold in the Australian context. The findings of the authors reject the Income Inequality Hypothesis (IIH), suggesting that income inequality plays little to no role in mental health outcomes in this context.

Layte (2012) analyzes three of the most important pathways - status anxiety, social capital and neo-materialism - to explain how income inequality affects mental health. With a focus on 30 European countries' multilevel data, the study yields best evidence for the status anxiety and social capital hypotheses and finds social cohesion mechanisms operating more strongly in more wealthy countries, while status anxiety operates more strongly in poorer ones. These findings suggest that the detrimental effect of inequality on mental health is primarily mediated by psychosocial and relational mechanisms rather than through material deprivation alone.

Studying the relationship between suicide rates and income inequality, Stack (2021) found a positive relationship between the two, mentioning that research names low income as a strong predictor of suicide risk, and that poorer individuals are several times more likely to commit suicide compared to their wealthier counterparts. The relationship remains significant after adjustment for other risk factors, in contrast with prior hypotheses that poverty might act as an insurance factor against suicidality (Durkheim 2005). Socioeconomic inequality thus

presents itself as an integral determinant in suicide epidemiology. San Sebastián et al. (2018) offer convincing evidence from northern Sweden and found that absolute income level is the strongest predictor of poor mental health, with individuals in the lowest quintile being highly likely to suffer from psychological distress. While some support was found for the relative income effect, there was no association between municipal-level inequality and mental health, suggesting that in this welfare-state context individual disparities matter more than contextual inequality.

In more contemporary research, examining the impact of COVID-19 on this relationship Benny et al. (2023) conducted a longitudinal survey of nearly 30,000 Canadian adolescents and found that higher income inequality at the regional level was associated with more symptoms of anxiety, particularly during the COVID-19 pandemic, but there was no significant relationship with depression after COVID. The findings show that the pandemic intensified the mental health impact of income inequality, especially in areas with pre-existing high inequality, and that anxiety may precede depression as an early indicator of distress in adolescents. This is among the first studies to calculate the joint impact of income inequality and COVID-19 on mental health in adolescents using panel data.

These studies show the heterogeneity of income inequality/mental health gradient research, driven by differences in context, methodology, and outcome. While there is weak or null association in some contexts, there is strong support for psychosocial, relational, or absolute income effects in others, and emerging evidence suggests that crises such as the COVID-19 pandemic might be reinforcing these inequalities.

2.1.3 Methodological and Conceptual Debates

One of the primary methodological debates concerns how income inequality is measured. Researchers have applied several metrics, primarily the Gini coefficient for the purpose of cross-contextual comparability, but other metrics such as the Theil index, Atkinson index, (Bechtel et al., 2012) are chosen for the purposes of measuring distributional inequalities along varying dimensions. Each measure places different weights on income differences along the distribution; the same data can lead to different conclusions depending on the measure taken. This heterogeneity in methodology renders study comparisons difficult and challenges the sensitivity of observed associations to the inequality measure used.

Another methodological problem is in measurement of mental health outcomes themselves. These range from those that are based on self-report questionnaires (Bridges &

Disney, 2010) with standardized instruments, to those derived from administrative health data or clinical diagnosis (Stack, 2021). Self-report allows the collection of data at a population level but is prone to reporting bias, cultural norms, and individual interpretation of well-being. By contrast, clinical data are more accurate to diagnose but miss persons with low healthcare access or unmet care and thus can bias observed associations with inequality.

Beyond measurement there is controversy in statistical techniques and study designs. In most investigations, cross-sectional data are employed, limiting the scope for inferring causality or temporal order of inequality on mental illness outcomes. Longitudinal design and panel data models have stronger bases for causal inference but require large data sets and strict control over confounders such as socioeconomic status, demographic structure and unobserved heterogeneity. Furthermore, with the occurrence of inconsistencies in the level of aggregation - from neighbourhoods and municipalities to national data sets - it is difficult to interpret whether effects are at the individual, local, or societal level, as on each of those levels mental health may be influenced differently.

Conceptually, there are differences among authors on the omnipresent mechanisms behind the inequality and mental health relationship. The status anxiety hypothesis (Wilkinson & Pickett, 2009) emphasizes psychosocial distress rooted in perceived social ranking, while social capital theory (Kawachi & Berkman, 2000) specifies how inequality erodes trust, cooperation, and social cohesion. While it is argued by some researchers that either material or psychosocial processes, individually, are sufficient to account for the association, others propose an integrated or multichannel model in which these processes act interactively. This theory heterogeneity still shapes research agendas and interpretation of empirical findings.

2.2. Evidence from Poland

While there has been a vast literature on the dynamic interaction between mental health outcomes and income inequality in Western high-income nations, the Central and Eastern European experience has been neglected. Poland, the biggest post-socialist economy in the area, is an especially important subject for investigation. It has experienced significant socioeconomic change over the last thirty years, with greater economic growth and growing income inequality (Romanchuk 2025; Perdał & Burchardt 2023). These structural shifts at the population level have potentially harmful impacts on population mental health but still aren’t perfectly comprehended.

A combination of theoretical curiosity and the necessity of policy relevance encouraged this section to follow up on the existing evidence regarding the relation between income inequality and mental health in Poland. Given the high prevalence of mental health disorders throughout the country (OECD 2023), along with overall variation in regional economic performance (Churski & Perdał 2022), and poorly developed public mental health infrastructure (RPO, 2014), it is evident that there is a genuine need to examine whether and how inequality manifests as a psychological determinant.

2.2.1 Polish Studies on Mental Health and Inequality

According to Bukowski et al. (2023), income inequality in Poland is both high by European standards and has shown marked growth over the past two decades. The top 10% of earners capture over 37% of national income, while the bottom half receives just 21.5%, with the top 1% alone controlling 13.4%. This rise in inequality is largely the product of growing business income among richer urban men, showing limited redistributive effects of Poland's tax and transfer system. Unlike Bukowski et al. (2023), Brzeziński (2017) posits that while income inequality is quite high in Poland compared to the wealthier EU countries, it is not exceptionally severe compared to countries with similar economic development. He indicates that the primary source of inequality lies in wage dispersion - primarily due to high returns to education and non-standard work - rather than in a dramatic recent increase. Further, he also mentions that the tax system of Poland has a low redistributive impact, with a slight degree of equalization being achieved through the minimum wage and social transfers. He also warns that persistent inequality can erode institutional trust and the legitimacy of the broader economic order. Nonetheless, both papers note that the persistence and strength of income inequality is a feature of the Polish economy whether viewed in terms of top-income concentration or broader labor market structures, highlighting the shortcomings of current fiscal arrangements in effectively addressing distributive imbalances.

Recent study conducted by Gawliński et al. (2020) reveals that suicide remains a significant Polish public health problem, with the country experiencing a systematic rise in suicide attempts over the past three decades while the rate of suicide deaths stays at a stable level. Studying the trend of suicides in Poland over a span of thirty years, authors' results provide broad gender distinctions - men not only attempt suicide more often, but it also with a much higher fatality rate. Despite the scale of the issue, ineffective collection and classification of the data hinder successful prevention, thereby reflecting the urgency for a unified monitoring

system and comprehensive mental health interventions. Meanwhile, Poland's mental health care system is being transformed; it moves away from an outdated, hospital-centered system towards deinstitutionalized community-based treatment through the creation of local mental health centers (MHCs) (Korolkiewicz et al. 2024). These are designed to provide free, individualized, and convenient services close to the patients' homes, aligned with global developments and in response to demographic changes, including the flow of Ukrainian refugees. While change is being witnessed there remain long-term issues, including the availability of stable financing and the encouragement of uniform standards of quality across the regions.

Whether income inequality and mental health outcomes in Poland are linked by causation or mere correlation is one of the biggest questions for researchers and policymakers. Winkler-Galicki & Celebias (2017) examined Poland's suicidal rates and concluded that it witnessed a steep rise in suicides during 2000 to 2014, with suicide rates doubling from the figures of the early 2000s, partly due to adverse economic conditions. Authors underlie that unemployment and low income were some of the main drivers. In older individuals, retirement often brought decreased income, higher bills, and feelings of social exclusion, further elevating suicide risk. Ziętarski and Pobłocka (2022) examined suicides in Poland directly caused by economic reasons or sudden loss of work, relating them to key macroeconomic indicators. By employing statistical analysis and a novel econometric model, they found that suicides were positively related with higher unemployment and alcohol (spirits) consumption and negatively related with GDP growth and retail trade tendency indices. However, their study does not focus explicitly on income inequalities, using only national GDP growth rate as a proxy for income, which fails to capture disparities between regions or within the population. Polish work by Bielecki et al. (2015) questioned 1,226 adults for depressive symptoms and discovered that reduced socioeconomic status, as it is defined through limited income, low education, and unsecure employment, was highly linked with elevated rates of depression. Approximately 40% of participants were displaying depressive symptoms, with a greater rate in women (48%) than in men (32%). On the other hand, the study cannot establish whether depression causes low socioeconomic status or vice versa because it is cross-sectional in design. In general, results confirm that economic disadvantage in Poland is closely linked to poorer mental health status, but science lacks papers that would explicitly investigate the link between overall income inequality and mental health in Poland.

2.2.2 Structural and Data Constraints in the Polish Context

Among the most fundamental issues of the research of the link between mental health and income inequality in Poland is the lack of quantity and quality of data. Indicators of distribution of income, including Gini coefficients, are known at the voivodeship level alone and they constitute annual averages, hence obscuring significant intra-voivodeship differences and hindering detailed local analysis. Furthermore, with richer microdata of the Polish Household Budget Survey (HBS), access is restricted and often delayed, which limits timely and high-resolution research.

For mental health, national-level data are mostly limited to suicide rates, while more general markers - e.g., prevalence of depression or prevalence of anxiety disorder - are typically obtained from infrequently administered self-report surveys. Surveys are not institutionalized and therefore become cross-time and cross-region difficult to compare. Self-reports also cause bias due to stigma introduced, cultural norms, and wording variation of questions, which result in systematic underreporting of Poland's mental health issues.

A second limitation is between the level of granularity of the income inequality data and the mental health data, as they are often incompatibile. Income data are gathered typically on a yearly, regional basis, while mental health data may be gathered at the facility or case report level, sometimes in different time horizons. This complicates the use of econometric matching directly and weakens attempts to establish causality. The lack of longitudinal, individual-level data on economic and mental health measures contributes to this problem further, such that most analyses must resort to cross-sectional or ecological approaches, risking drawing misleading conclusions about individuals based on group-level trends.

Methodological constraints to measurement of inequality are illustrated by Jędrzejczak (2014), who applied decomposition methods of the Gini coefficient to Polish HBS data. Households were categorized according to main source of maintenance, economic region (NUTS 1), and family type, with analyses performed in terms of Dagum and Yitzhaki–Lerman frameworks. Results showed that even if there exist large socio-economic disparities among household groups, regional diversity explains only a minority fraction of total inequality. This is to note that national or regional averages may conceal high within-group inequality - an insight particularly valuable when investigating mental health outcomes, which may be more sensitive to inequality within groups than to regional averages.

Finally, both the income and mental health samples exclude some of the most vulnerable groups- i.e., the homeless, the institutionally housed, or illegal workers - whose poverty and

mental illness are highly concentrated among them. Not only is their exclusion downwardly biasing the true size of the problem but also biases any conclusions about the nature of the income inequality - mental health relationship in Poland.

CONCLUSION

The present article has explored the relationship between income inequality and mental health through theoretical reasoning, international experience, and the case of Poland. Consistent with psychosocial, social comparison, and social cohesion theories, all the literature agrees in accepting that inequality affects mental health by a variety of mechanisms - and not only by restricting material resources, but also social relations, status perceptions, and institutional trust. Although overall poverty remains a strong predictor of mental health, there is some indication that relative position in the distribution of income and shrinking social solidarity each independently contribute to measurable effects on mental health status.

Systematic reviews and global evidence affirm that the association between income inequality and mental health is positive but modest in size. The relationship is closest to depression, anxiety, and risk of suicide, and seems to act along the socioeconomic gradient rather than necessarily amongst the poorest alone. Heterogeneity of technique and data availability - i.e., cross-sectional data, non-proportional inequality measures, and differential mental health definitions - limit causal inference but not consistency between settings.

While Polish literature both finds high income inequality and unfavorable mental health results - and suggests economic stress ranks among the leading causes of depression and suicide - no study so far has formally examined the causal direct relationship between income inequality and mental health in Poland. Closing this gap is a necessary step towards evidence-based policy. Though economic status, as well as mental health and health in general, are much recognized as being related, income inequality is one that is not adequately known in the Polish case and would need targeted research. Evidence remains too weak and fragmented to prove it in Poland. While country-level research supplies evidence of the relationship between economic disadvantage and poorer mental health outcomes, not many have pursued income inequality as an explicit variable in their analyses. The biggest issue is lack of data: no regional income inequality measures, just suicide rates or sporadic self-reporting surveys of mental health are available, and no longitudinal data at the individual level on economic and mental health indicators for several years are available. Second, both inequality and mental health depend upon statistics that are controlled to omit some of the most vulnerable groups of society, thus downwardly skewing the estimates and potentially concealing the actual extent of the problem. The Polish experience also shows that even differences within a group can measure as broad as regional divergence, a point emphasized by Gini coefficient decomposition analysis. What takes place at the national average can be concealing what is worst for mental health inequality,

namely social reference group and community-level inequality. That would have significant implications for study design and policy intervention: interventions would need to control for, not only macroeconomic redistributions, but localized inequality and psychosocial context.

To fill this gap, future research would benefit from pursuing several promising avenues. First, the development of regional-level income inequality measures would enable finer-grained examination of the spatial mapping of inequality onto mental health inequalities. Second, establishing longitudinal panel datasets linking economic variables with standardized measures of mental health would enable causal inference. Third, including psychosocial context variables - social trust, stigma, and perceived status - may permit identification of mechanisms independent of material deprivation. Finally, cross-regional comparison across Central and Eastern Europe could establish whether Polish trends are atypical or reflect a regional trend. Without such an undertaking, the empirical base and corresponding policy recommendations will be restricted.

Overall, the evidence is that mental health effects of inequity can be addressed on a multi-dimensional front. Effective policy will need to balance economic redistribution with measures to foster social cohesion, stigma reduction, and increased access to mental health care. Polish advancement in this area will need to include investment in high-quality disaggregated longitudinal data and inter-disciplinary research in economics, public health, and social psychology. In the absence of such progress, both scientific knowledge and policy action toward the inequality–mental health connection will remain incomplete and abortive.

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