"Stand by Me": Unveiling the value of own and others' mental illness

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Abstract

This paper calculates the value of experiencing mental illness, either directly or indirectly through knowing someone near, family, or friends (NFF), who is affected. Using the well-being valuation method, which explores the trade-offs between income and self-reported experiences that maintain life satisfaction unchanged within a representative sample of the Swedish adult population, we found that the annual compensation ranges from 21-26 thousand Euros for those only directly affected to 30-37 thousand Euros for individuals affected both directly and indirectly. These results indicate the relevance of designing healthcare policies for good mental health that take in account both direct and indirect impacts of mental illness, and how mental illness is defined, measured, and discussed in societal and political contexts. Such policies can contribute to effectively address the broader economic and social consequences of mental illness.

Keywords: mental illness, near family and friends, well-being, well-being valuation method, life satisfaction, Sweden.

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1 Introduction

Mental illness is a judgment society assigns to individuals who do not conform to norms, rather than a medical diagnosis (Szasz, 1960). In rich countries, mental illness accounts for 38% of all illness, with an economic cost representing 8% of GDP (Layard and Clark, 2014), highlighting the need to learn more about silent suffering that goes unnoticed. Despite significant advances in defining mental illness and refining inquiries, there is limited empirical evidence that economically justifies the identification and prevention of mental illness. The lack of evidence slows the process of prioritizing the prevention of mental illness in healthcare, social care, and other relevant support (Knapp and Wong, 2020). Addressing this issue, this paper provides a valuation of mental illness. This is done by using the well-being valuation method (WVM), also known as the life satisfaction approach (LSA), a framework for estimating the economic value of individual experiences, both positive and negative.[1] By exploring trade-offs between income and individuals' self-reported experiences and perceptions of mental illness, we compute how increase in income could offset well-being losses and contribute to a better understanding of prevalence, severity, and impact of mental illness across populations. This subjective well-being measurement offers a clearer perspective on the relative value of non-market goods. This is in line with Stiglitz et al. (2009) that recommended focusing on income and consumption when evaluating economic well-being, to focus on households, considering the joint distribution of economic resources. Therefore, our findings provide insights that can assist policymakers in basing their decisions more solidly on evidence, and adding more empirical evidence to the initiatives to move the measuring well-being 'beyond GDP',

The difficulty in experiencing ourselves as interdependent with our fellow human beings and sharing in their joys and sorrows is influenced by how we construct our identities in a given historical context (Layton, 2009). This construction includes how dependence

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[1]There are several studies that report monetary valuations for various non-market goods, including specific health outcomes and diseases (Ferrer-i-Carbonell and Van Praag, 2002; Powdthavee and van den Berg, 2011) and informal care (van den Berg and Ada, 2007), but also other fields, as for example, air pollution and natural disasters (Luechinger, 2009; Luechinger and Raschky, 2009), crime and safety (Powdthavee, 2005; Moore and Shepherd, 2006; Frey et al., 2009) and airport noise (van Praag and Baarsma, 2005).

and independence, as well as emotions such as shame and guilt, are intertwined with class and gender identifications (Layton, 2009). Such identity formation can affect our connections with those in our close social circles, including near family and friends (NFF), as we are often encouraged to disengage from, disidentify with, and deny certain ways of being human. This process highlights the complex interplay between personal identity and the broader societal impacts on mental health.

Although the suffering of other individuals, near family and friends (NFF), especially very young children, can have negative impacts on both individual and societal overall well-being, to our knowledge, there is not yet an established way to assess these type of indirect costs and, therefore, they are not considered in economic evaluations of interventions targeted at preventing mental health issues. In this study, we use the WVM to calculate the amount of money required to keep individuals' life satisfaction unchanged, both when experiencing their own mental illness and/or when knowing someone NFF who is experiencing it. The next section provides an overview of valuing the non-financial costs of mental illness, emphasizing the WVM in contrast to some traditional alternatives. The third section presents a brief description of the institutional settings, the survey design, and a few descriptive statistics of the variables needed to calculate the monetary compensation that maintains the individual's life satisfaction unchanged when suffering directly or indirectly due to mental illness. The fourth section discusses results for the life satisfaction equations and the assessment of the value of mental illness. The last section concludes and directs attention to the ensuing discussion on the implications of our findings for policy development and the broader context of mental health intervention.

2 Valuation of mental illness using well-being valuation method

2.1 Valuation of health conditions

A significant body of health economics literature explores valuation methods for assessing the non-financial costs associated with health, addressing medical, economic, ethical, and societal aspects.

Valuation methods have been developed based on both preferences and experiences. In economics, preferences are usually linked to utility, whereas experience-based measures of well-being, also referred to as subjective well-being (SWB), relate to people's subjective experiences of their own well-being. Subjective well-being directly measures experienced utility, while stated preferences or revealed preferences are based on choices and ex ante statements of preference that are not always consistent with ex post experiences. For these reasons, the well-being valuation method WVM can provide monetary valuations for health status without market relationships.

Health utility assessment tools, such as Quality-Adjusted Life Years (QALY) and Disability-Adjusted Life Years (DALY), aim to quantify the value of different health states and facilitate comparisons across different conditions, whereas cost-benefit analysis (CBA) evaluates the economic value of health interventions by comparing the costs incurred with the benefits gained, assisting decision-makers in assessing the value of health improvements in relation to the resources invested.

For goods that do not have market prices, the willingness to pay method is often used to measure how much money individuals are prepared to spend to obtain a specific health outcome or to avoid a negative health outcome. However, because the well-being valuation method (WVM) can provide monetary valuations for health status without market relationships, it has been considered preferable to the revealed and stated preference approaches (Dolan and Kahneman, 2008). Although there are many challenges with monetizing differences in levels of subjective well-being (Kahneman and Krueger, 2006), the United Kingdom Treasury's Green Book, which provides formal guidance to

government agencies on the appraisal and evaluation of policy proposals, was updated in 2011 to include a section on valuation for social cost-benefit analysis, incorporating the life satisfaction approach (Fujiwara and Campbell, 2011). However, different well-being measures yield significantly different monetary valuations for the same health problem, highlighting the need to reconsider which measure to use in the well-being valuation method (Powdthavee and van den Berg, 2011).

WVM implies that information on people's health related experiences is collected directly, without specifically drawing attention to the health condition in question, thereby avoiding the cognitive pitfalls of the stated preferences approach, which attempts to get people's preferences over different hypothetical situations. WVM has proven to be useful to calculate shadow prices for non-market commodities. Ferrer-i-Carbonell and Van Praag (2002) is to our knowledge the first study that used WVM to evaluate health losses and/or gains by analyzing the impact of a change in health status on subjective well-being. In a first step, they estimated the income equivalent of health satisfaction changes, i.e., the equivalent income change that would be necessary to change general life satisfaction to the same extent as a change in health satisfaction would do. In the next step, health satisfaction changes are linked to given diseases to estimate the income equivalent for these diseases.

2.2 Valuating mental illness using WVM

The Well-being Valuation Method (WVM) requires a randomly selected representative sample of individuals who are asked to rate their subjective well-being (SWB), reveal their experiences, and disclose their household income. It is crucial to specify exactly what type of subjective well-being is measured, as the determinants and correlates differ across the measures (Stone and Krueger, 2018). Evaluative measures require a person to reflect upon and evaluate his or her life (or some aspect of it, such as health). This is often measured using questions such as: *Overall, how satisfied are you with life as a whole these days?* after providing the following information: 'The following question asks how satisfied you feel, on a scale from 0 to 10. Zero means you feel "not at all satisfied" and

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10 means you feel "completely satisfied".' (OECD, 2013). WVM involves estimating, in a first step, the following SWB equation:

$$SWB_i = \alpha + \beta_{HI}HI_i + \beta_{EMI}EMI_i + \sum_{j=1}^{k} \beta_j X_{ij} + \epsilon_i \qquad (1)$$

where SWB is an evaluative measure, often requiring the respondent to assess and reflect on their life or specific aspects thereof, such as health, on a scale from 0 to 10. A score of zero indicates 'not at all satisfied', while ten signifies 'completely satisfied' (OECD, 2013). Here, HI represents household income, and EMI is a dummy variable denoting the experience of mental illness. X_j is the vector of other determinants of SWB, including individual demographic and socio-economic characteristics, and attitudes related to the use of the limited health budget, and healthcare issues.

To estimate the parameters of equation (1), one can use ordinary least squares (OLS), ordered logit, or ordered probit regression, ensuring causal estimates for the HI and EMI coefficients. Upon obtaining robust causal estimates, the "shadow price" of the experience is deduced using the coefficients from the SWB equation. The focus lies on two regression estimates: 1) β_{EMI}, the impact of the non-market good (experiencing mental ilness) on SWB; and 2) β_{HI}, the effect of household income on SWB. The relative magnitude of these parameters indicates an implicit rate of substitution between household income and the indirect experience of mental illness, illustrating how much income would maintain an individual's SWB unchanged when indirectly experiencing mental ilness.

Specifically, the marginal rate of substitution (MRS) between experiencing mental illness and income is estimated as:

$$MRS_{EMI,HI} = \frac{\mu_{EMI}}{\mu_{HI}} = -\frac{\beta_{EMI}}{\beta_{HI}} \qquad (2)$$

A statistically significant negative relationship between experiencing mental illness and life satisfaction indicates an average decrease in life satisfaction by β_{EMI} units. However, it does not imply that every individual experiencing mental illness will have a decrease in life satisfaction by β_{EMI} units.

2.3 Experience of mental illness as a treatment variable

In the context of econometric analysis and program evaluation, a treatment variable is a key component in estimating causal effects and measuring the impact of the treatment on an outcome variable of interest. The treatment variable can be a binary variable, representing the assignment or exposure of individuals to a specific treatment or intervention. It takes on two values: 1 or 0, representing the presence or absence of the treatment, respectively. Typically, individuals in the treatment group receive the treatment, while those in the control group do not. The assignment of treatment may be determined by randomization, policy implementation, natural experiments, or other methods, depending on the research design.

Many instances identified as mental illness are cultural constructs, responses to stress, or nonconformist behaviors and not psychiatric diagnoses or other mental disorders (Horwitz, 2020). Experiencing mental illness can be conceptualized in a similar manner as a treatment variable and used as an indicator that captures the effect of experiencing mental illness on the individual's SWB (the outcome variable). The causal effect of experiencing mental illness on SWB can be assessed by comparing the SWB of individuals with mental illness experience (the "treated" group) to those who do not have such experiences (the control group). In regression-based strategies, variation in the regressor of interest is often assumed to be as good as random after conditioning on a sufficient set of control variables. This assumption allows researchers to estimate the causal impact of experiencing mental illness on subjective well-being effectively , but it is likely that OLS will produce biased causal estimates, where the bias can arise from endogeneity, simultaneity, and measurement error (Pei et al., 2019). Furthermore, individuals with lower levels of life satisfaction might inherently have poor mental health, which could bias the results. To address these complexities, a wide range of confounders can be incorporated into multivariate regression analysis. Including such controls reduces the variance in the residuals, which reduces the standard errors of the regression coefficients and increases the precision of the estimates. However, including bad controls can introduce biases. Therefore, identifying the appropriate variables to condition our regression

analysis and drawing causal conclusions is imperative. Proper identification and understanding of other variables, which can act as confounders, colliders, or mediators, allow more accurate interpretations of the causal relationship between experiencing mental illness and life satisfaction. Controlling for confounders helps isolate the true effects of experiencing mental illness on life satisfaction. Simultaneously, caution is needed when interpreting relationships involving colliders and mediators to avoid introducing biases or misinterpretations.

3   Methodology

3.1   Institutional settings, data design and descriptive statistics

The Swedish government and the regional authorities responsible for the allocation of healthcare resources have been continuously working to improve mental health care. Until 2015, mental health policies predominantly targeted severe mental disorders and focused on for children and young people. Since then, efforts have shifted towards improving the capacity of the Swedish welfare system to address challenges associated with increasing mental ill-health in the population (Socialdepartementet, 2015).

The data used in our study began being collected online at the end of 2021, coinciding with the government's announcement of additional restrictions and infection control measures to combat the rising spread of COVID-19 in society and the consequent increased pressure on the healthcare sector. The data collection period spanned from 23 December 2021 to 16 January 2022, during which restrictions were imposed on cultural, sports, and recreational organizations against organizing or participating in camps, cups, or other significant indoor activities involving participants who do not usually meet otherwise. This context might affect the responses of all 1,000 individuals from the web panel Userneeds who answered online our web survey, designed to identify the population's preferences for the allocation of limited healthcare resources. The sample is representative with respect to age, gender, and geographical region for the adult population of Sweden. The survey (translated from Swedish) is presented in Appendix. Ethical approval was obtained from

the Swedish Ethical Review Authority (ref 2021-05132).

Respondents were initially informed about the number of people who died in Sweden in 2019 due to suicide, pancreatic cancer, breast cancer and acute myocardial infarction, the health conditions included in the hypothetical exercise of priority setting and allocation of a given fixed budget. They were then asked six times to allocate a given limited healthcare budget to save lives from two of the four causes of death, with exact details provided about the number of lives saved and the age of patients that would be treated. In addition to their choices and demographic and socio-economic characteristics, respondents also answered questions about their experiences (their own and/or someone near them) with suicide, pancreatic cancer, breast cancer, and acute myocardial infarction. They also reported on their general life satisfaction, domain satisfactions, and their opinions about lifesaving and resource allocation. In this paper, we specifically utilize information regarding whether the respondent or someone near them, family and/or friends (NFF) has experienced mental illness.

Figure 1: Life satisfaction by experience of mental illness

In our analysis, we need three key variables: life satisfaction (LS), experience of mental illness (EMI), and household income (HI). All respondents answered the LS question, but a small number of respondents did not answer the EMI questions. However, the non-response rate for the HI question was significantly higher, which can affect the

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representatives of the sample used in our analysis. Despite this, Table 1 suggests minimal differences in their responses to EMI-questions between the overall sample and the subsample of those who reported their income 26% have personally experienced mental illness, while a larger proportion; 47.7% have experienced it indirectly through NFF; and about half of the respondents (53.2%) were affected either directly through their own experiences or indirectly through NFF. This relatively high percentage indicates that mental illness affects a broad network of relationships and, by extension, the larger community. Nonetheless, 20.5% have MI experiences both personally and through NFF, suggesting that individuals who suffer from mental illness or are near to someone who does are likely to find themselves in an environment where mental health challenges are more common. This result not only indicates a very acute societal problem that needs rapid and sustainable solutions, but also suggests a potentially compounded effect on individual well-being. As previously mentioned, to address this complexity, a wide range of confounding factors can be incorporated into multivariate regression analysis. Addressing potential confounding in a life satisfaction equation that includes experiencing mental illness (EMI) is crucial to obtaining accurate and meaningful results. To mitigate the influence of unnecessary variables and improve the validity of the analysis, we employed the strategy of covariate adjustment.

Table 1: Experience of Mental Illness

	Own		NFF		Own and NFF		Own or NFF	
	All	Income	All	Income	All	Income	All	Income
A: Not restricted								
Yes	26.0	26.0	47.7	48.9	20.5	20.3	53.2	54.1
No	70.2	70.6	46.0	46.0	75.1	75.8	40.8	40.8
Don't know/	3.8	3.4	6.3	5.1	4.6	4.9	7.0	5.1
B: Only one type								
Yes	4.2	5.6	25.9	28.5				
N	1000	865	1000	865	1000	865	1000	865

Based on the available data, the design of estimation is embarked on an in-depth exploration of EMI, explained as experiencing mental illness personally or indirectly

through close associations with family and friends (NFF) who are affected. Based on the combination of having or not having these experiences, five groups of individuals were constructed: four EMI-definition/"treatment" groups are formed to reflect specific scenarios: 1) individuals directly experiencing mental illness, 2) those who know someone (NFF) with mental illness, 3) individuals with both direct and indirect experiences, and 4) those experiencing other variations of mental illness influence, alongside a comparison/"control" group comprised of individuals unaffected by mental illness either directly or indirectly.

3.2 Exploratory analysis

To estimate the value of mental illness using WVM, we need to estimate the coefficients of experience of mental illness (EMI) and household income (HI) in the life satisfaction (LS) equation. However, experiencing mental illness is a variable characterized by both timing and duration, details that are often unknown. People with lower levels of life satisfaction may also have bad mental health (the issue of reverse causality), which could potentially bias the results. To address these issues, a wide range of factors known from theoretical and empirical studies to be correlated with life satisfaction can be included in multivariate regression analysis. Including controls reduces variance in the residuals, which reduces the standard errors of the regression and increases precision. However, bad controls can also bias the results. Therefore, to draw valid ceteris paribus conclusions, we need to correctly determine which variables, other than experience of mental illness, we need to include in the model specification and their functional form. Proper identification and understanding of other variables, which may act as confounders, colliders, and mediators, and the correct functional form of the model, are essential for accurate interpretations of causal relationships. Effectively controlling for confounders helps to isolate the true effects, while caution is necessary when interpreting relationships involving colliders and mediators to avoid introducing biases or misinterpretations.

In the context of our analysis, 'confounders' are variables that are known to be associated with both the explanatory variables EMI and HI and the analyzed variable,

LS. Because confounders can introduce a spurious relationship between these variables, leading to biased or incorrect results, controlling for these variables through statistical methods or study design is essential to accurately estimate and understand the direct impact of EMI and HI on LS. Based on the literature, we identified potential confounding variables such as education, personality traits, social support, cultural differences, health status, family structure, geographic location, and job characteristics. However, due to data availability (see Table 6, we included only selected variables in the life satisfaction equation, allowing for a more precise examination of the relationship between EMI, HI, and LS. Variables such as age, foreign-born status, living alone, and having children are considered confounders as they are known to influence both the explanatory EMI and HI and the dependent variable LS, and therefore we should not include them in the LS-equation (Tables B1-B4). Sensitivity analyses confirmed the robustness of our results, showing that variations in the inclusion or exclusion of these confounders impact the stability of the relationship between EMI, HI, and LS (Tables C1-C4).

Colliders, another group of variables that needed consideration, are correlated with both the explanatory variable EMI and HI income and outcome variable LS. Conditioning on a collider can introduce an artificial association between income and life satisfaction, even if they are not causally related. Potential colliders include job satisfaction, social support, health status, education, personality traits, family structure, geographic location, and job characteristics. In our data, labor market status and attitudinal variables towards health decisions can act as colliders, being influenced by both the independent variables (EMI and HI) and the life satisfaction (Tables B1-B4). . Proper management of these variables is crucial to avoid introducing biases into our analysis. Sensitivity analyses were conducted to confirm the robustness of our findings, ensuring that our interpretations are reliable and unaffected by collider bias (Tables C1-C4).

Nonetheless, mediators, variables that lie on the causal pathway between our independent variables (EMI and HI) and the outcome variable (LS), can explain part of or the entire correlation between the independent and dependent variables. In our data, personal resilience can act as a mediator between income and life satisfaction. Personal

resilience, reflected indirectly through attitudes towards life and mental health control, can mediate the relationship between income and life satisfaction, showing how income can affect life satisfaction both directly and indirectly. Due to data availability, we included only education, foreign background, and family structure in the life satisfaction equation, allowing for a more precise examination of the relationship between EMI, income, and life satisfaction (Tables C1-C4).

4   Results

4.1   The life satisfaction equations

To facilitate a focused analysis of each EMI's impact on life satisfaction, we estimate the life satisfaction equation separately for four distinct samples. Each sample includes the same comparison/control group (i.e., individuals witout any EMI), and one of the EMI definition/treatment groups. The EMI treatment groups are constructed as follows: individuals who are only directly affected by mental illness (Definition 1), those who only know someone near, family members, or friends (NFF) who is affected (Definition 2), individuals experiencing mental illness both personally and through NFF (Definition 3), and individuals having at least one of these experiences, either directly or indirectly (Definition 4). The estimates are relatively stable across the model specifications (Tables C1-C4). Table 2 provides estimates of EMI for all four definitions across various model specifications. Without estimates for NFF only, the EMI estimates are statistically significant and negative, suggesting that personal experiences or combined personal and NFF experiences have robust and consistently significant negative effects on individual life satisfaction. Experiencing mental illness solely through near friends or family shows a less and occasionally significant impact, highlighting the varied impact of personal versus indirect experiences of mental illness on individual well-being.

Estimates for household income are statistically significant and positive in all definitions and model specifications. This consistency of EMI and HI estimates implies that we can use them to calculate the marginal rate of substitution between household income

and experiences of mental illness to determine the amount of compensation needed to maintain the individual's well-being unchanged when experiencing mental illness (Table 3).

As model complexity increases with the addition of variables like demographic characteristics, labor market status, and attitudes, the estimates remain statistically significant, but their magnitude change, requiring a deeper analysis of these variables roles as confounder, collider or moderator in the estimation of the impact of mental illness experiences on life satisfaction.

Table 2: The estimated parameters of mental illness experience, by type of experience and model specification

	(1)	(2)	(3)	(4)	(5)
Own, only	-1.485***	-1.321***	-1.107***	-1.067***	-1.086***
Near friend/family, only	-0.165	-0.274*	-0.218	-0.182	-0.182
Both own and NFF	-1.917***	-1.771***	-1.560***	-1.495***	-1.465***
Own or NFF	-0.954***	-0.934***	-0.764***	-0.734***	-0.660***
Household income		✓***	✓***	✓***	✓***
Demographic characteristics			✓	✓	✓
Labor market status				✓	✓
Attitudes					✓

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: The estimated value of experiencing mental illness (in 1000 Euros), by type of experience and model specification

	(2)	(3)	(4)	(5)
Own, only	23.312	26.047	22.864	21.364
Near friend/family (NFF), only	5.058	4.756	4.282	4.098
Both own and NFF	30.360	36.706	33.849	32.556
Own or NFF	11.923	13.287	13.345	11.155

Estimates of the monetary equivalent needed to maintain an individual's life satisfaction unchanged when experiencing mental illness directly or knowing someone NFF who is affected show. The annual compensation is from 11-13 thousand Euros for those who had either of the experiences, to 21-26 thousand Euros for those with only their own experience, and 33-37 thousand Euros for those with both experiences. The annual compensation for those who only know someone NFF who is affected is 4-5 thousand Euros, but this value is computed using the estimate of EMI that is not statistically significant at the 10% level.

5   Discussion and conclusions

Mental illness is a judgment society assigns to individuals who do not conform to norms, rather than a medical diagnosis (Szasz, 1960). The notion that mental illness could merely be a myth used to mask deeper moral conflicts in human relationships brings a critical perspective to our valuation methods. In this paper, we calculated the economic value of experiencing mental illness (EMI), either personally or through near family or friends, using the well-being valuation method.

The design of estimation has embarked on an in-depth exploration of EMI, defined from the perspective of personal experience or knowing someone near, family and friends (NFF), who is affected. Based on the combination of having or not having these experiences, five groups of individuals were built: four EMI-definition/"treatment" groups who have at least one of the experiences and a comparison group who does not experience mental illness directly or indirectly. Using data from a representative sample of the Swedish adult population, we estimate the life satisfaction equation separately for four subsamples that includes each treatment group and comparison comparison group. With the exception of the impact of only knowing someone NFF affected by mental illness, all other EMI estimates have a significant negative effect on individual life satisfaction. Using these EMI estimates and the estimates of household income, which are statistically significant for all four samples, we compute the annual compensation that can maintain

individual life satisfaction unchanged when experiencing mental illness. Assessing the trade-offs between income and self-reported experiences that maintain life satisfaction unchanged, reveals that within a representative Swedish population, annual compensation ranges from 21-26 thousand Euros for those directly affected to 30-37 thousand Euros for individuals impacted both directly and indirectly. This finding indicate the relevance of designing healthcare policies for good mental health that recognize both direct and indirect impacts and contribute to more effectively addressing the broader economic and social consequences of what we identify as mental illness, challenging us to rethink how we define and deal with these issues in societal and political discussions.

This suggests the need for comprehensive mental health policies that go beyond immediate healthcare provision. These findings advocate for a holistic approach that includes preventive measures, early intervention, and the integration of mental health support within broader social and economic policies. The quantification of mental illness economic impact provides a solid foundation for advocating increased investment in mental health services, underlining the potential for significant long-term savings and improved societal well-being in Sweden.

Our study's reliance on self-reported data and the specific socioeconomic context of Sweden may limit the generalization of the findings. Therefore, future research should aim to replicate this study across different cultural and economic settings to enhance the understanding of mental illness' economic impacts globally. Better data with longitudinal focus could provide further insights into the long-term economic effects of mental illness and the efficacy of different intervention strategies, offering more detailed guidance for policymakers and healthcare providers.

6 Acknowledgments

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Appendix

Table A1: Descriptive statistics by experience of mental illness (EMI)

	No EMI 353		Only own 39		Only NFF 235		Own & NFF 176		Own or NFF 472	
	Mean	Std	Mean	Std	Mean	Std	Mean	Std	Mean	Std
Life satisfaction	7,33	(1,84)	5,85	2,67	7,17	1,80	5,41	2,42	6,38	2,29
Mountly HI (in 1000 SEK)	20,11	(5,53)	17,69	6,26	21,78	5,33	18,03	5,40	19,89	5,79
Woman	0,43	(0,50)	0,54	0,51	0,55	0,50	0,72	0,45	0,62	0,49
Age-groups										
18-34	0,16	(0,36)	0,31	0,47	0,21	0,41	0,40	0,49	0,30	0,46
35-49	0,18	(0,39)	0,38	0,49	0,29	0,46	0,36	0,48	0,32	0,47
50-80	0,66	(0,47)	0,31	0,47	0,49	0,50	0,24	0,43	0,38	0,49
Foreign born (0/1)	0,09	(0,29)	0,15	0,37	0,10	0,30	0,10	0,30	0,11	0,32
Living alone (0/1)	0,30	(0,46)	0,46	0,51	0,15	0,36	0,32	0,47	0,25	0,43
Having children (0/1)	0,17	(0,37)	0,28	0,46	0,36	0,48	0,27	0,44	0,31	0,46
Labor market status										
Student	0,03	(0,17)	0,05	0,22	0,05	0,21	0,13	0,33	0,08	0,27
Employed	0,42	(0,49)	0,67	0,48	0,61	0,49	0,59	0,49	0,60	0,49
Self-employed			0,03	0,16	0,01	0,09	0,05	0,22	0,03	0,16
Retired	0,48	(0,50)	0,21	0,41	0,29	0,45	0,14	0,34	0,23	0,42
Unemployed	0,01	(0,09)			0,01	0,11	0,02	0,15	0,02	0,13
Sick leave	0,01	(0,08)	0,03	0,16	0,02	0,14	0,06	0,24	0,04	0,19
Other	0,00	(0,05)	0,03	0,16	0,02	0,13	0,02	0,13	0,02	0,13
Prevent death regardless QoL										
No	0,02	(0,14)	0,03	0,16	0,04	0,19	0,06	0,24	0,04	0,21
1-4	0,46	(0,50)	0,49	0,51	0,61	0,49	0,55	0,50	0,57	0,50
5-10	0,45	(0,50)	0,38	0,49	0,30	0,46	0,32	0,47	0,32	0,47
Don't know	0,07	(0,26)	0,10	0,31	0,05	0,22	0,07	0,26	0,07	0,25
Priority youth people										
No	0,02	(0,15)	0,03	0,16	0,02	0,13	0,01	0,08	0,01	0,11
1-4	0,28	(0,45)	0,28	0,46	0,28	0,45	0,27	0,44	0,28	0,45
5-10	0,61	(0,49)	0,64	0,49	0,64	0,48	0,65	0,48	0,64	0,48
Don't know	0,09	(0,28)	0,05	0,22	0,07	0,25	0,07	0,26	0,07	0,26
Free decision to live										
No	0,04	(0,20)	0,03	0,16	0,05	0,22	0,06	0,24	0,05	0,22
1-4	0,38	(0,49)	0,31	0,47	0,51	0,50	0,53	0,50	0,50	0,50
5-10	0,41	(0,49)	0,56	0,50	0,34	0,47	0,37	0,48	0,37	0,48
Don't know	0,16	(0,37)	0,10	0,31	0,10	0,30	0,04	0,20	0,08	0,27

Table B1: Correlation matrix; only own experience of mental illness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Life satisfaction (1)	1												
EMI: own, only (2)	-0.224*	1											
Household income (3)	0.219*	-0.128	1										
Woman (4)	0.0342	0.0650	-0.0413	1									
Age (5)	0.159*	-0.198*	-0.00896	-0.0468	1								
Foreign born (6)	0.0696	0.0639	-0.0150	0.0561	-0.0938	1							
Living alone (7)	-0.210*	0.104	-0.576*	0.0583	-0.0330	-0.000378	1						
Has children (8)	-0.0130	0.0898	0.250*	0.0283	-0.416*	0.0949	-0.317*	1					
Employed (9)	0.0510	-0.0353	0.102	-0.00922	-0.0105	0.00635	-0.0513	0.0188	1				
Self-employed (10)	-0.106	0.147*	0.251*	0.163*	-0.500*	0.0700	-0.00394	0.385*	-0.203*	1			
Retired (11)	0.120	-0.165*	-0.198*	-0.208*	0.609*	-0.0894	0.0222	-0.410*	-0.205*	-0.815*	1		
Unemployed (12)	-0.0602	0.0336	-0.157*	0.0649	-0.314*	0.0356	-0.00344	0.0624	-0.0418	-0.166*	-0.168*	1	
On sick leave (13)	-0.0430	0.0280	-0.176*	0.0984	0.0611	0.0294	0.0492	-0.0581	-0.0281	-0.112	-0.113	-0.0231	1

N = 392   EMI = 39   No = 353

Note: * $p < 0.01$.

Table B2: Correlation matrix; only NFF experience of mental illness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Life satisfaction (1)	1												
EMI: own, only (2)	-0.0445	1											
Household income (3)	0.185*	0.148*	1										
Woman (4)	-0.00290	0.116*	-0.0655	1									
Age (5)	0.119*	-0.143*	-0.0436	-0.119*	1								
Foreign born (6)	0.0354	0.0191	0.0366	0.00276	-0.107*	1							
Living alone (7)	-0.163*	-0.168*	-0.580*	0.0568	-0.000855	-0.0206	1						
Has children (8)	-0.0482	0.222*	0.227*	0.0490	-0.470*	0.0443	-0.321*	1					
Employed (9)	0.0139	-0.115*	0.0700	-0.0293	0.0202	0.00304	-0.0182	-0.0414	1				
Self-employed (10)	-0.0568	0.183*	0.324*	0.173*	-0.481*	0.0486	-0.0677	0.431*	-0.186*	1			
Retired (11)	0.115*	-0.194*	-0.219*	-0.262*	0.617*	-0.0884	0.0487	-0.458*	-0.154*	-0.813*	1		
Unemployed (12)	-0.0729	0.0404	-0.162*	0.134*	-0.280*	0.0276	0.0353	0.0336	-0.0370	-0.196*	-0.161*	1	
On sick leave (13)	-0.130*	0.0662	-0.211*	0.111*	-0.0361	0.0694	0.0503	0.0220	-0.0282	-0.149*	-0.123*	-0.0296	1

N = 588   EMI = 235   No = 353

Note: * $p < 0.01$.

Table B3: Correlation matrix; own and NFF experience of mental illness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Life satisfaction (1)	1												
EMI: own, only (2)	-0.404*	1											
Household income (3)	0.239*	-0.176*	1										
Woman (4)	-0.0974	0.275*	-0.115*	1									
Age (5)	0.241*	-0.378*	0.0654	-0.125*	1								
Foreign born (6)	0.0554	0.00965	-0.0494	0.0282	-0.0957	1							
Living alone (7)	-0.184*	0.0183	-0.564*	0.0703	-0.0326	0.0282	1						
Has children (8)	-0.0666	0.118*	0.206*	0.0387	-0.272*	0.00296	-0.333*	1					
Employed (9)	-0.0105	0.000310	0.0782	-0.0385	-0.00791	0.0148	-0.0236	0.0341	1				
Self-employed (10)	-0.111	0.154*	0.237*	0.0993	-0.420*	-0.00447	-0.0425	0.383*	-0.221*	1			
Retired (11)	0.223*	-0.335*	-0.0975	-0.226*	0.628*	-0.0661	0.0247	-0.370*	-0.176*	-0.723*	1		
Unemployed (12)	-0.0800	0.183*	-0.223*	0.182*	-0.365*	0.133*	0.0491	-0.0510	-0.0598	-0.246*	-0.195*	1	
On sick leave (13)	-0.146*	0.176*	-0.187*	0.108	-0.0210	0.00504	0.0403	-0.0497	-0.0460	-0.189*	-0.150*	-0.0511	1

N = 529	EMI = 176	No = 353	

Note: * $p < 0.01$.

Table B4: Correlation matrix; own and NFF experience of mental illness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Life satisfaction (1)	1												
EMI: own, only (2)	-0.219*	1											
Household income (3)	0.252*	-0.0192	1										
Woman (4)	-0.0718	0.187*	-0.111*	1									
Age (5)	0.172*	-0.256*	0.0619	-0.125*	1								
Foreign born (6)	0.0448	0.0352	-0.0205	0.0100	-0.115*	1							
Living alone (7)	-0.214*	-0.0535	-0.593*	0.0486	-0.0324	0.00733	1						
Has children (8)	-0.0429	0.163*	0.218*	0.0432	-0.338*	0.00811	-0.352*	1					
Employed (9)	-0.0197	-0.0676	0.0576	-0.0279	0.00821	-0.00194	-0.0172	0.00817	1				
Self-employed (10)	-0.0568	0.174*	0.272*	0.117*	-0.402*	0.0207	-0.0738	0.370*	-0.203*	1			
Retired (11)	0.161*	-0.264*	-0.119*	-0.255*	0.603*	-0.0882	0.0330	-0.390*	-0.138*	-0.742*	1		
Unemployed (12)	-0.0617	0.0998*	-0.207*	0.158*	-0.322*	0.0861	0.0687	-0.0231	-0.0483	-0.260*	-0.176*	1	
On sick leave (13)	-0.140*	0.106*	-0.206*	0.119*	-0.0252	0.0588	0.0651	-0.0251	-0.0384	-0.207*	-0.140*	-0.0491	1

N = 825   EMI = 472   No = 353

Note: * $p < 0.01$.

Table C1: Life satisfaction regressions; only own experience of mental illness

	(1)	(2)	(3)	(4)	(5)
Experience mental illness: own only	-1.485***	-1.321***	-1.107***	-1.067***	-1.086***
Household income equivalent (in 1000 SEK)		0.068***	0.051**	0.056**	0.061***
Woman			0.191	0.269	0.314
Age-groups (CG:18-34)					
35-49			-0.259	-0.285	-0.273
50-80			0.598**	0.362	0.335
Foreign born			0.640**	0.640**	0.564*
Living alone			-0.449*	-0.416	-0.315
Having children			0.176	0.203	0.120
Labor market status (CG: student)					
Employed				0.042	-0.094
Self-employed				0.461	0.277
Retired				0.403	0.360
Unemployed				0.063	0.070
On sick leave				-0.204	0.269
Other				-0.271	-0.880
Prevent death regardless QoL (CG: No)					
1-4					-0.409
5-10					-0.418
Don't know					-0.809
Priority youth people					
1-4					-1.821***
5-10					-1.473**
Don't know					-1.947***
Free decision to live (CG: No)					
1-4					-0.895*
5-10					-0.565
Don't know					-0.672
_cons	7.331***	5.959***	5.930***	5.709***	8.374***
N	392	392	392	392	392
adj. R2	0.048	0.083	0.114	0.105	0.124

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C2: Life satisfaction regressions. NFF only

	(1)	(2)	(3)	(4)	(5)
Experience mental illness: NFF only	-0.165	-0.274*	-0.218	-0.182	-0.181
Household income equivalent (in 1000 SEK)		0.065***	0.055***	0.051***	0.053***
Woman			0.063	0.163	0.211
Age-groups (CG:18-34)					
35-49			-0.391	-0.320	-0.296
50-80			0.441**	0.273	0.290
Foreign born (0/1)			0.263	0.250	0.208
Living alone (0/1)			-0.349	-0.375*	-0.330
Having children (0/1)			0.089	0.059	0.005
Labor market status (CG: student)					
Employed				0.230	0.244
Self-employed				0.267	0.288
Retired				0.500	0.543
Unemployed				0.152	0.319
On sick leave				-1.623**	-1.559**
Other				0.986	1.180
Prevent death regardless QoL (CG: No)					
1-4					-0.087
5-10					-0.261
Don't know					-0.370
Priority youth people					
1-4					-1.445***
5-10					-1.040**
Don't know					-1.483**
Free decision to live (CG: No)					
1-4					-0.827**
5-10					-0.598*
Don't know					-0.540
_cons	7.331***	6.027***	6.046***	5.840***	7.745***
N	588	588	588	588	588
adj. R^2	0.000	0.036	0.064	0.072	0.091

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C3: Life satisfaction regressions. own & NFF

	(1)	(2)	(3)	(4)	(5)
Experience mental illness: own & NFF	-1.917***	-1.771***	-1.560***	-1.495***	-1.465***
Household income equivalent (in 1000 SEK)		0.070***	0.051***	0.053**	0.054**
Woman			0.099	0.138	0.185
Age-groups (CG:18-34)					
35-49			-0.365	-0.349	-0.393
50-80			0.485**	0.394	0.309
Foreign born (0/1)			0.605**	0.589*	0.573*
Living alone (0/1)			-0.587**	-0.573**	-0.491**
Having children (0/1)			-0.056	-0.026	-0.097
Labor market status (CG: student)					
Employed				-0.207	-0.218
Self-employed				-0.324	-0.303
Retired				0.040	0.146
Unemployed				-0.717	-0.541
On sick leave				-0.958	-0.916
Other				-0.283	-0.198
Prevent death regardless QoL (CG: No)				-0.136	-0.051
1-4					-0.867
5-10					-1.282*
Don't know					-0.833
Priority youth people					
1-4					-1.445***
3em5-10					-1.040**
3emDon't know					-1.483**
Free decision to live (CG: No)					
1-4					-0.399
5-10					-0.014
Don't know					-0.349
_cons	7.331***	5.928***	6.143***	6.230***	7.511***
N	529	529	529	529	529
adj. R^2	0.161	0.189	0.218	0.216	0.227

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C4: Life satisfaction regressions; own & NFF

	(1)	(2)	(3)	(4)	(5)
Experience mental illness: own & NFF	-0.954***	-0.934***	-0.764***	-0.734***	-0.660***
Household income equivalent (in 1000 SEK)		0.094***	0.069***	0.066***	0.071***
Woman			-0.053	0.006	0.059
Age-groups (CG:18-34)					
35-49			-0.548***	-0.531**	-0.512**
50-80			0.488**	0.419*	0.386*
Foreign born (0/1)			0.509**	0.534**	0.462**
Living alone (0/1)			-0.579***	-0.586***	-0.513**
Having children (0/1)			0.074	0.091	0.020
Labor market status (CG: student)					
Employed				-0.102	-0.166
Self-employed				-0.551	-0.569
Retired				0.065	0.072
Unemployed				-0.877	-0.755
On sick leave				-1.024*	-1.043*
Other				-0.406	-0.344
Prevent death regardless QoL (CG: No)					
1-4					0.367
5-10					0.438
Don't know					0.038
Priority youth people					
1-4					-1.453***
5-10					-1.083**
Don't know					-1.595**
Free decision to live (CG: No)					
1-4					-0.327
5-10					-0.013
Don't know					0.135
_cons	7.331***	5.439***	5.859***	5.980***	6.846***
N	825	825	825	825	825
adj. R^2	0.047	0.107	0.148	0.152	0.166

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The Web-survey "Priority-setting in health care"
Appendix 6 of the Ethical application

1. You are:
   - ☐ Woman
   - ☐ Man
   - ☐ None of above
   - ☐ Don't want to answer

2. Your age: _____

3. Your labor market status:
   - ☐ Student
   - ☐ Employee
   - ☐ Self-employed
   - ☐ Retired
   - ☐ Looking for job
   - ☐ On leave due to sickness
   - ☐ Other: _____

4. How do you think one should prioritize between different measures in health care that save lives?

   We are interested to know how you think one should prioritize between different measures in health care that save lives. We will focus on four causes of death: pancreatic cancer, breast cancer, suicide, and acute heart attack. In Sweden, almost 10,000 people died in 2019 due to one of these four causes. See more detailed statistics below.

Cause of Death	Total	0-19	20-39	40-59	60+
Pancreatic cancer	1922	0	2	142	1138
Breast cancer	1362	0	20	237	579
Suicide	1269	50	402	416	309
Acute heart attack	5234	0	15	312	2078

5. Did you suffer from

	Yes	No	Don't want to answer/Don't know
Pancreatic cancer	☐	☐	☐
Acute heart attack	☐	☐	☐
Mental illness	☐	☐	☐
Breast cancer	☐	☐	☐

6. Has someone in your family/relatives or close friend been affected by

	Yes	No	Don't want to answer/Don't know
Pancreatic cancer	☐	☐	☐
Acute heart attack	☐	☐	☐
Mental illness	☐	☐	☐
Breast cancer	☐	☐	☐

7. Has someone in your family/relatives or close friend tried to commit suicide? ☐ Yes ☐ No ☐ Don't want to answer/Don't know

8. Has someone in your family/relatives or close friend died from

	Yes	No	Don't want to answer/Don't know
Pancreatic cancer	☐	☐	☐
Acute heart attack	☐	☐	☐
Suicide	☐	☐	☐
Breast cancer	☐	☐	☐

9. To what extent do you think that a person can influence his/her risk of suffering from (0 = not at all, 10 = to a very high degree)
   - Pancreatic cancer ___
   - Acute heart attack ___
   - Mental disorder ___
   - Breast cancer ___

10. How much do you agree with the following statements? (0 = do not agree at all; 10 = completely agree)
    - (9.1) Prevents most deaths, regardless of the quality of life or age.
    - (9.2) Saves the most years of life, often prioritizing the young over the elderly.
    - (9.3) Focuses on the most acute cases, even if it benefits fewer people.
    - (9.4) Treats patients who already have developed a disease instead of preventing future diseases.
    - (9.5) Treats conditions that the patient did not contribute to through their lifestyle.

11. To what extent do you agree with the following statements? (0 = does not agree

at all; 10 = totally agree)

- (10.1) Each individual should decide when he/she wants to end his/her life.
- (10.2) Society should implement measures to reduce the number of suicides.

12. During the last year, all things considered, how satisfied are you with... (0 = Completely dissatisfied ... 10 = Completely satisfied).

13. What is your highest level of education?
    ☐ Primary school education
    ☐ High school or folk high school education
    ☐ Higher education (under three years)
    ☐ Higher education (three years or more)

14. How many people are included in your household?

15. How many members of your household are under 18 years of age?

16. How much is your household's total income before tax per month? (in SEK)

17. Your country of birth: _____