Stock Market Participation - Does Mindset Matter?*

Fiona Hoellmann† & Elissa A.M. Iorgulescu‡

March 19, 2025

Abstract

The question of why many individuals choose not to invest in the stock market despite its historically high expected returns remains an open challenge in household finance. Traditional finance models fail to account for psychological barriers that shape financial decision-making. This study examines how mental health conditions, including depression, and anxiety, influence stock market participation by altering cognitive functions, risk perception, and decision-making processes. Using data from the German Socio-Economic Panel, we find that better mental health is positively associated with stock market participation, while depression and excessive worrying significantly reduce the likelihood of investing. In contrast, moderate anxiety appears to increase participation, suggesting that some individuals may engage with financial markets as a form of risk management. These findings remain highly robust across alternative model specifications and mental health measures.

*Early stage, please do not distribute.

†Fiona.Hoellmann@wiwi.uni-muenster.de, Finance Center Münster, University of Münster, PhD Student

‡Elissa.Iorgulescu@wiwi.uni-muenster.de, Finance Center Münster, University of Münster; University of Hohenheim, PhD Student

1 Motivation

Why do many individuals avoid investing in the stock market despite its historically high returns? This question remains a central puzzle in household finance. Standard economic models predict that rational investors should participate in financial markets to maximize expected returns, however, a substantial number of households choose not to invest in stocks at all (Haliassos & Bertaut, 1995). Traditional explanations such as transaction costs, information frictions, and individual risk preferences fail to fully explain why even sufficiently wealthy households abstain from market participation. Recent research suggests that non-investors tend to overestimate the costs associated with entering financial markets (Duraj, Grunow, Chaliasos, Laudenbach, & Siegel, 2024). As financial market participation increasingly determines wealth accumulation, retirement retirement security, and intergenerational mobility - especially during periods of high inflation, when cash holdings lead to a decline in real purchasing power - the question arises: what drives these persistent misperceptions?

This paper proposes that mental health is an important factor in explaining financial decision-making, one that has been systematically overlooked in traditional economic models. Mental health conditions can shape financial decision-making through neurobiological mechanisms that affect risk perception and reward anticipation.[1]

Recent theoretical advances reinforce the importance of mental health in shaping economic and financial behavior. Abramson, Boerma, and Tsyvinski (2024) develop a model showing how features of mental illness - negative

[1]For instance, reduced prefrontal cortex activity, common in depression and anxiety, impairs logical reasoning and risk evaluation, leading to greater uncertainty avoidance (Holmes & Wellman, 2009; Koenigs & Tranel, 2007; Miller & Cohen, 2001). Amygdala hyperactivity, often observed in individuals with chronic stress, increases sensitivity to financial uncertainty, discouraging market participation (Hsu, Bhatt, Adolphs, Tranel, & Camerer, 2005; Phelps & LeDoux, 2005). Additionally, lower dopamine levels in depression reduce motivation and reward anticipation, diminishing the appeal of long-term financial gains (Kuhnen & Chiao, 2009; McClelland, Patel, Stier, & Brown, 1987). A comprehensive discussion of neurobiological mechanisms affecting financial decision-making can be found in McClelland et al. (1987) and Koenigs and Tranel (2007).

thinking, rumination, and self-reinforcing inaction - systematically alter economic behaviors. Their findings suggest that mental health influences not only subjective well-being but also concrete financial outcomes through identifiable psychological mechanisms.

Building on this perspective, we hypothesize that mental health conditions impose psychological fixed costs that deter stock market participation, a possibility that remains largely unexplored in traditional finance models. Using longitudinal data from the German Socio-Economic Panel (SOEP), this paper empirically explores how different mental health conditions affect the likelihood of stock market participation. To do so, we employ a logit regression framework that controls for socioeconomic and demographic factors including wealth, income, education, and risk preferences. Furthermore, we extend our analysis by incorporating granular measures of mental health, distinguishing between conditions such as depression, anxiety, and excessive worry to isolate specific psychological barriers to stock market entry.

Our findings provide compelling evidence that mental health significantly influences financial decision-making. Individuals with better mental health exhibit substantially higher probabilities of stock market participation, while those experiencing depression and chronic worry are notably less likely to invest. Interestingly, moderate levels of anxiety correlate positively with market participation, potentially reflecting anxiety-driven motivations to manage future financial risks. These results remain robust across alternative model specifications, controlling for macroeconomic conditions and individual characteristics.

The implications of these findings extend beyond individual investment decisions. Recent studies document concerning trends of deteriorating mental health with rising rates of depression, anxiety, and psychological distress across various countries, particularly among younger generations (Blanchflower & Bryson, 2024; Blanchflower, Bryson, Lepinteur, & Piper, 2024; Twenge & Blanchflower, 2025; Udupa, Twenge, McAllister, & Joiner, 2023). Although these trends have been extensively studied in relation to well-being and social outcomes, there is a significant gap in understanding the potential consequences for financial behaviors and wealth accumulation. If worsening mental health systematically reduces stock market participation, younger

generations may face increasing financial disparities that deepen over time, impacting retirement security and intergenerational wealth transfer.

Our study contributes to the behavioral finance literature in three key ways. First, we show that mental health acts as a psychological fixed cost, systematically shaping investment behavior by influencing risk tolerance, decision fatigue, and financial engagement. Second, we argue that ignoring mental health in financial decision-making models introduces omitted variable bias, potentially misattributing the effects of psychological barriers to purely economic factors. Third, our findings challenge traditional financial education approaches, suggesting that improving financial literacy alone is insufficient to boost stock market participation among individuals facing mental health conditions.

Consequently, addressing the mental health dimension of financial decision-making requires targeted interventions beyond conventional financial education programs. Approaches that combine financial guidance with psychological support, such as stress management or cognitive behavioral therapy, may prove more effective at increasing market participation.

Prior research has demonstrated that even small non-monetary barriers - such as information acquisition costs and perceived complexity - can significantly deter individuals from investing (Duraj et al., 2024; Vissing-Jorgensen, 2004).[2] We extend this literature by identifying mental health as an additional, critical psychological barrier (e.g., fixed costs) shaping financial decisions.

By integrating insights from psychology, behavioral economics, and finance, this study provides a more comprehensive understanding of the barriers to financial market participation. As mental health challenges continue

[2]A comprehensive review of the factors influencing households' participation decisions can be found in Beshears, Choi, Laibson, and Madrian (2018) and Kaustia, Conlin, and Luotonen (2023). Closely related to our research, Bogan and Fertig (2013) examines mental health and portfolio choice. However, our focus differs in two key ways: first, we conceptualize mental health as a continuous scale rather than a binary illness indicator, capturing variations in mindset rather than simply distinguishing between healthy and ill individuals; second, our focus is on stock market participation rather than general portfolio allocation.

to rise globally, recognizing and addressing these psychological barriers becomes essential: not merely for improving individual financial outcomes but also for ensuring broader economic inclusion and intergenerational equity.

The remainder of this paper is as follows. Section 2 discusses the conceptual framework underpinning our hypothesis. Section 3 outlines the data. The methodology and principal findings are summarized in Section 4. Finally, Section 5 concludes with implications for future research.

2 Conceptual Framework

Mental health conditions have persistent and adverse effects on economic outcomes, including employment, income, and long-term financial stability. These effects arise through reduced productivity, occupational downgrading, and health-related job exits (Hakulinen et al., 2019; Mojtabai et al., 2015; Ridley, Rao, Schilbach, & Patel, 2020). Beyond these direct economic consequences, mental health influences core economic preferences including risk-taking, time discounting, and social preferences, as well as beliefs about one's own capabilities and external risks (Ridley et al., 2020).

These psychological mechanisms might also be relevant for financial decision-making, where individuals must evaluate complex risk-return trade-offs and investment outcomes under uncertainty. For example, anxiety heightens sensitivity to threats, potentially leading to risk overestimation (Armstrong & Olatunji, 2012), while depression reinforces negative expectations about future outcomes (Gotlib & Joormann, 2010). These psychological barriers created by mental health conditions could systematically alter how individuals perceive and evaluate the costs and benefits of stock market participation.

Vissing-Jorgensen (2004) argue that fixed participation costs in financial decision-making extend beyond direct monetary barriers (e.g., brokerage fees and information acquisition costs). Non-monetary factors that deter stock holdings are perceived complexity, cognitive limitations, and psychological burdens (Campbell, 2006).

The participation costs can be categorized into several components: (1) Initial participation costs, which represent the time and effort required to understand basic investment principles, assess risk and return, and determine

an optimal asset allocation. They also include logistical barriers, such as setting up investment accounts. (2) Recurring participation costs reflect the ongoing effort needed to monitor the market, evaluate portfolio adjustments, and execute trades. This framework highlights the crucial role of cognitive effort and information processing in determining participation costs. Further, the level of this cost depends on the individual's beliefs, with recent evidence showing that non-investors systematically overestimate both initial and recurring participation costs (Duraj et al., 2024).

Following Vissing-Jorgensen (2004), we argue that these *perceived* fixed costs vary across individuals and propose that differences in mental health contribute to this heterogeneity. Specifically, mental health conditions introduce psychological barriers that systematically increase *perceived* participation costs and discourage stock market entry.

This conceptual framework leads to several testable implications:

1. Mental health issues have persistent and adverse effects on stock market participation.

2. The impact of mental health on participation will persist even after controlling for income, education, and other demographics, indicating a unique psychological barrier.

3. Individuals experiencing depression, anxiety, or chronic stress due to excessive worrying will exhibit lower stock market participation rates.

By incorporating mental health into the stock market participation framework, this paper offers a novel perspective on the puzzle of limited market participation that traditional finance models struggle to explain. In the next sections, we empirically test these psychological mechanisms and quantify their impact on household financial decision-making, providing insights into an important but understudied determinant of investment behavior.

3 Data

This study utilizes data from the 2002, 2007, 2012, 2015, 2019, and 2020 waves of the German Socio-Economic Panel (SOEP), a longitudinal house-

hold survey covering the period from 1984 to 2022. The SOEP provides detailed information on individual demographics, mental health, financial behaviors, and socioeconomic background, making it well-suited for analyzing the relationship between mental health and stock market participation. By offering both socioeconomic and health-related variables, the dataset allows for an integrated approach to studying how psychological well-being shapes financial decision-making.

The dependent variable in this study is stock market participation, measured as a binary indicator that takes the value one if an individual reports investing in the stock market at the corresponding survey year point and zero otherwise. As mental health status is very personal, we focus or analysis in individual instead of household level.

To assess the robustness of our results, we extend the sample to include observations where mental health status and stock market participation are not reported in the same year. To achieve this, we apply linear interpolation and lag imputation, enabling us to incorporate data from 2002, 2007, 2012, 2017, and 2019. Additionally, by lagging mental health measures, we reduce the risk of reverse causality, ensuring that mental health conditions precede investment decisions.

The key independent variable is mental health, assessed through self-reported psychological well-being measures. This study relies on two standardized indicators from the SOEP: the Mental Component Summary (MCS) and the Mental Health Score. Both measures are derived from the SF-12v2 health questionnaire, a widely used tool for assessing health-related quality of life. The MCS is a composite measure of overall mental well-being, incorporating aspects such as emotional stability, social functioning, and vitality. It is constructed using exploratory factor analysis (PCA, varimax rotation) and follows a norm-based scoring approach (NBS), standardized to the SOEP 2004 population (Mean = 50, SD = 10). In contrast, the Mental Health Score is a more specific indicator of psychological distress, capturing self-reported symptoms of anxiety, depression, and emotional well-being. It is constructed using z-transformation, making it particularly useful for detecting short-term fluctuations in mental health.

By leveraging both broad and specific mental health measures, this study

analyzes the effects of overall emotional well-being (MCS) and psychological distress (Mental Health Score) on stock market participation. While the MCS provides a general assessment of mental health trends over time, the Mental Health Score is more sensitive to short-term variations in distress (Andersen, Mühlbacher, Nübling, Schupp, & Wagner, 2007).

In addition to these aggregate measures, the second part of the analysis examines specific mental health conditions by incorporating disaggregated data on symptoms such as depression, anxiety, and excessive worrying. These indicators are based on responses to the SOEP question:

> *"Over the last two weeks, how often have you been bothered by any of the following problems?"*
>
> - *Little interest or pleasure in doing things*
> - *Feeling down, depressed, or hopeless*
> - *Feeling nervous, anxious, or on edge*
> - *Unable to stop or control worrying*

Responses are recorded on a *four-point scale* ranging from *0 (never) to 3 (always)*, enabling us to analyze the *intensity effects* of mental health conditions on financial decision-making. By distinguishing between *different psychological symptoms*, this approach allows us to *identify which specific aspects of mental distress* serve as the strongest barriers to stock market participation.

This level of detail allows for a more precise examination of how different mental health symptoms influence stock market participation and how changes in these conditions over time affect financial decision-making.

A key advantage of the SOEP dataset is its ability to track individual-level mental health changes over time, allowing for a more dynamic analysis of stock market participation. The dataset enables the identification of specific psychological barriers that might deter investment behavior. Its rich socioeconomic data further allows for controlling for income, education, financial literacy, and risk preferences, making it possible to isolate the impact of mental health on stock market decisions. By drawing on this longitudinal

and detailed dataset, this study provides a comprehensive examination of how mental health functions as an economic barrier to stock market entry.

Figures 1 and 2 illustrate the unconditional correlations between mental health levels, age, and gender. Across the entire sample period, men consistently report higher average mental health scores compared to women. In terms of age, individuals 65 and older exhibit the highest mental health levels, followed by those in the 55-65 age group, while the lowest mental health levels are observed among individuals aged 25-35.

These patterns underscore the importance of our research. If poor mental health acts as a barrier to stock market participation, this is particularly concerning for younger individuals, as early investment is crucial for long-term wealth accumulation and retirement security. Similarly, the finding that women systematically report lower mental health scores is significant, as it may contribute to gender disparities in financial security and investment behavior. Given that women are at a higher risk of old-age poverty, understanding the role of mental health in financial decision-making is essential for addressing long-term economic inequalities.

Figure 1: Mental Health across age groups.

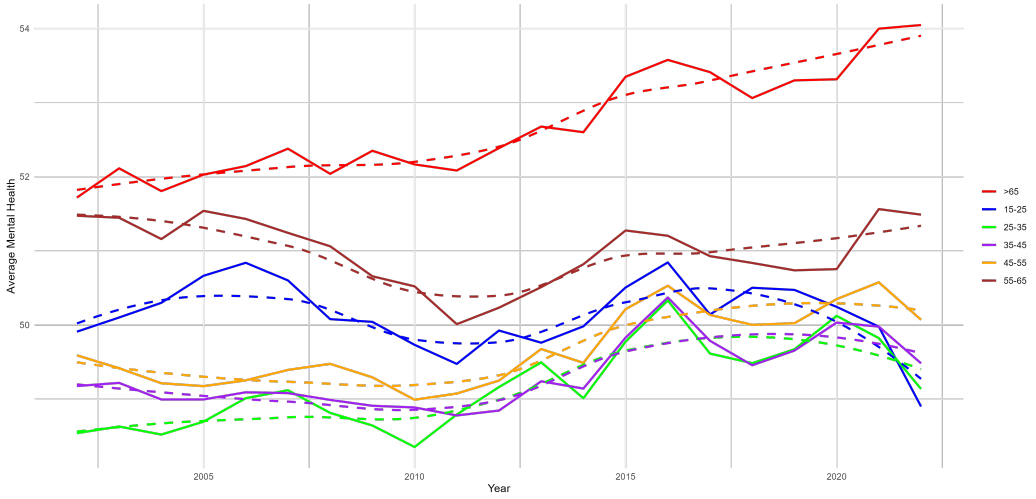
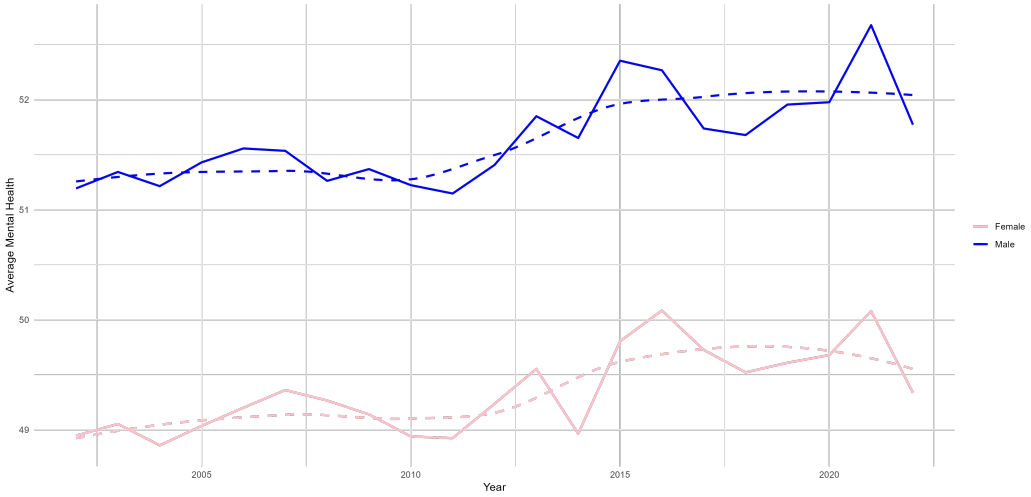


Figure 3 presents the unconditional differences in mental health levels be-

Figure 2: Mental Health across gender.



tween stock owners and non-stock owners. Across the entire sample period, individuals who participate in the stock market consistently report higher mental health scores than those who do not invest. From a descriptive perspective, this provides initial evidence that mental health issues may act as a barrier to stock market participation, highlighting the need for further investigation into the psychological factors influencing investment behavior.

Table 1 presents summary statistics for the overall sample (Panel A), as well as for stockholders (Panel B) and non-stockholders (Panel C).

Panel A provides an overview of the full sample, where 22.7% of the individual-year observations report stock ownership. The sample consists of 46.2% men, with an average age of 51.2 years. The mean years of education is 12.0, and the average monthly labor income is 1,095 EUR. The average mental health scores are 50.57 and 50.56, respectively.

Panel B, which focuses on stockholders, reveals clear differences compared to non-stockholders. Stockholders are more likely to be male, with 51.8% of this group being men, compared to 45.1.% in the non-stockholding group. They also tend to have higher educational attainment, averaging 13.5 years of education, compared to 11.5 years for non-stockholders. Their average labor

Table 1: Summary Statistics

Panel A
Overall Sample

Statistic	Mean	Median	St. Dev.	Min	Max	N
pstocks	0.227	0	0.419	0	1	71,221
risk_aversion	4.806	5	2.283	0	10	71,221
education_years	12.045	11.500	3.507	0.000	18.000	71,221
labor_income	1,095.084	645	1,530.101	0	124,219	71,221
MH	50.573	50.264	8.681	19.731	68.583	71,221
MCS	50.569	52.034	8.965	7.451	78.264	71,221
tot_assets	134,873.000	40,000.000	571,387.700	0.000	71,350,000.000	71,221
tot_liabilities	20,227.310	0.000	74,944.270	0.000	8,000,000.000	71,221
age	51.204	51	17.108	18	102	71,221
sex	0.462	0	0.499	0	1	71,221

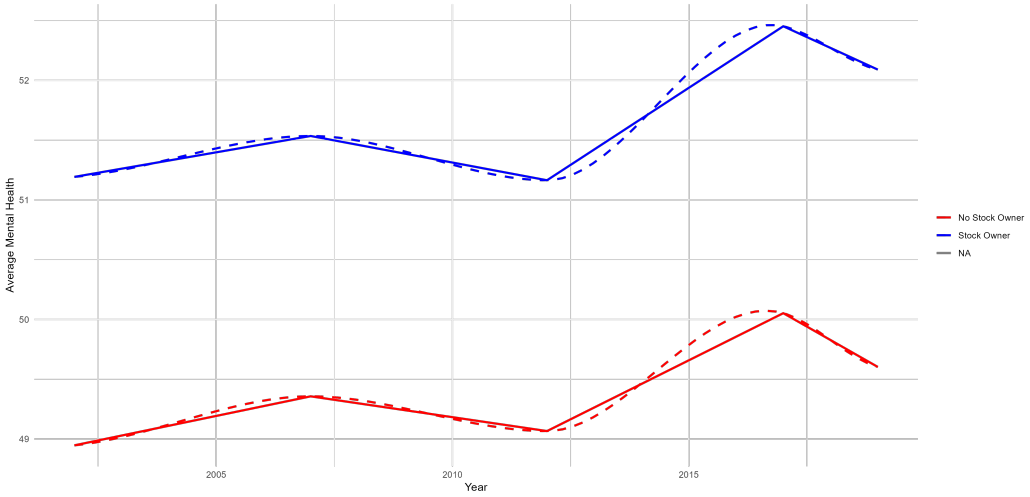
Panel B
Stock Owners

Statistic	Mean	Median	St. Dev.	Min	Max	N
pstocks	1.000	1	0.000	1	1	20,758
risk_aversion	4.874	5	2.107	0	10	20,758
education_years	13.526	13.000	3.369	0.000	18.000	20,758
labor_income	1,556.413	1,200	2,177.720	0	124,219	20,758
MH	51.759	53.317	8.309	19.731	68.583	20,758
MCS	51.532	53.045	8.532	6.093	76.801	20,758
tot_assets	273,968.400	143,000.000	1,111,267.000	0.000	71,350,000.000	20,758
tot_liabilities	31,508.290	0.000	128,707.100	0.000	8,000,000.000	20,758
age	51.780	52	15.473	17	98	20,758
sex	0.517	1	0.500	0	1	20,758

Panel C
No-Stock Owners

Statistic	Mean	Median	St. Dev.	Min	Max	N
pstocks	0.000	0	0.000	0	0	70,316
risk_aversion	4.667	5	2.363	0	10	70,316
education_years	11.521	11.500	3.372	0.000	18.000	70,316
labor_income	914.141	450	1,206.088	0	50,000	70,316
MH	50.114	50.264	9.145	19.731	68.583	70,316
MCS	50.079	51.544	9.375	3.533	78.264	70,316
tot_assets	90,316.970	15,000.000	265,200.800	0.000	23,720,000.000	70,316
tot_liabilities	17,228.010	0.000	62,597.910	0.000	5,250,000.000	70,316
age	49.716	49	17.566	17	102	70,316
sex	0.451	0	0.498	0	1	70,316

Figure 3: Mental Health across Stockowners and No Stockowners.



income (1,556 EUR) is higher than that of non-stockholders (914 EUR), and they hold substantially greater financial assets, with a mean total wealth of 273,968 EUR, compared to 90,316 EUR among non-stockholders.

Importantly, stockholders also exhibit better mental health outcomes. Their MH score is 51.76, noticeably higher than the 50.11 reported by non-stockholders. The MCS score, capturing overall mental well-being, is 51.53 for stockholders, compared to 50.08 for non-stockholders. These differences suggest that mental health might play a crucial role in financial decision-making, potentially influencing whether individuals engage in stock market participation.

Panel C presents statistics for non-stockholders, who tend to be younger (average age: 49.7 years), have lower levels of education, and report higher risk aversion (4.67 vs. 4.87 for stockholders). The financial disparities between stockholders and non-stockholders are striking, as non-stockholders accumulate fewer financial assets and earn lower labor incomes, reinforcing the economic divide between investors and non-investors.

These descriptive findings highlight the central motivation of our study: while economic factors such as income and wealth differences certainly con-

tribute to stock market participation, mental health may act as a moderator that further amplifies these disparities. If poor mental health discourages individuals from investing, this effect could be particularly problematic for young people, who stand to benefit the most from early financial market participation. Similarly, since women report systematically lower mental health scores and are less likely to hold stocks, understanding how mental health interacts with economic factors could provide new insights into gender disparities in financial security.

Beyond its moderating role, omitting mental health from financial decision-making models introduces a potential omitted variable bias. Mental health and an individual's cognitive framework are likely to shape economic preferences, risk perception, and long-term financial planning, all of which are crucial determinants of stock market participation. Ignoring these psychological dimensions may lead to misattributing the effects of mental health to purely economic factors, overlooking an important channel through which financial inequalities emerge. By examining mental health as a moderating factor, we aim to uncover whether it systematically reinforces the observed socioeconomic differences between stockholders and non-stockholders and, more broadly, how psychological well-being interacts with financial decision-making.

4 Methodology and Results

In the first part of our analysis, we examine the impact of mental health on stock market participation by estimating a logit regression model. This approach is well-suited for binary outcome variables and enables us to control for a broad range of socioeconomic and demographic factors, allowing for a more nuanced understanding of the relationship between mental health and financial behavior.

$$A_{it} = MH'_{it-1}\alpha + X'_{it}\beta + \varepsilon_{it}^{own} \tag{1}$$

Here, the dependent variable, A_{it}, is a binary indicator that takes the value one if individual i reports stock ownership in survey year t and zero otherwise.

The key explanatory variable, MH_{it-1}, represents one of our two lagged mental health measures, allowing us to examine whether prior mental health status influences subsequent financial decision-making.

Table 2 presents the regression results examining the relationship between mental health and stock market participation. The reported coefficients represent the percentage change in the odds of stock market participation associated with a one-unit increase in the respective independent variable.

Our findings indicate a significant positive effect of mental health on stock market participation. Specifically, a one-point increase in the mental health score is associated with a 0.5% increase in the likelihood of being a stockholder. This effect remains highly robust across different model specifications, including alternative scalings of mental health and the inclusion of time fixed effects and demographic controls. Across all specifications, the estimated coefficients for mental health range between 0.0041 and 0.0069, depending on the applied interpolation or lag imputation method. Similarly, the results for the MCS (Mental Component Summary) remain consistent with coefficients between 0.0031 and 0.0055, reinforcing the finding that better mental health is positively associated with stock market participation. The demographic controls, including gender, age, income, total wealth, total liabilities, education, and risk aversion, are accounted for in the adjusted models. The inclusion of year fixed effects further strengthens the reliability of our estimates by controlling for macroeconomic shocks and temporal trends that might influence financial behavior.

Overall, these results suggest that mental health plays a critical role in financial decision-making. The robustness of the findings across different methodologies and specifications highlights that psychological factors should not be overlooked when analyzing stock market participation patterns.

We hypothesize that mental health conditions particularly depression, and anxiety, reduce stock market participation by increasing psychological fixed costs. Individuals experiencing these conditions are likely to exhibit higher risk aversion, lower reward anticipation, and impaired decision-making, making them less likely to engage in financial markets.

To further investigate the specific channels through which mental health affects investment behavior, the second part of our analysis extends the base-

line model by incorporating granular mental health indicators. Instead of using aggregate mental health scores, we introduce dummy variables capturing different levels of depression, anxiety, and worry, based on self-reported responses. Responses are recorded on a four-point scale ranging from 0 (never) to 3 (always), enabling us to analyze the intensity effects of mental health conditions on financial decision-making. By distinguishing between different psychological symptoms, this approach allows us to identify which specific aspects of mental distress serve as the strongest barriers to stock market participation.

Table 3 presents the results from our second set of regressions, which investigate the relationship between specific mental health symptoms and stock market participation. These specifications distinguish between different psychological conditions, allowing us to assess which aspects of mental distress act as barriers to financial market engagement.

Across all model specifications, the estimated coefficients for little joy remain insignificant, suggesting that this dimension of mental health does not meaningfully influence stock market participation. This finding indicates that general anhedonia alone—a reduced ability to experience pleasure—is not a primary determinant of investment behavior.

In contrast, depression exhibits a significant and negative effect on stock market participation, with the magnitude of the effect increasing with the severity of depressive symptoms. Individuals who report occasional depressive episodes ($depression_1$) are associated with a 16.5–22% lower likelihood of stock ownership, while those experiencing frequent depressive symptoms ($depression_3$) face an even steeper decline of 41–61% in participation likelihood, compared to individuals who report no depressive symptoms. These findings provide strong evidence that depressive symptoms increase psychological fixed costs, reducing individuals' willingness to engage in financial decision-making.

Interestingly, we observe a positive association between anxiety and stock market participation. Individuals who report experiencing occasional anxiety ($anxious_1$) are 22–27% more likely to participate in the stock market than those without anxiety symptoms. This effect remains highly robust across all model specifications. The finding is somewhat counterintuitive but may

reflect the fact that individuals with moderate levels of anxiety are more likely to engage with financial markets as a form of risk management. For instance, worry-prone individuals might view stock market participation as a hedging strategy against other financial risks, such as labor market volatility or future income uncertainty.

However, this pattern does not hold for excessive worrying, which exhibits a strong negative effect on stock market participation. Individuals who report frequent episodes of uncontrollable worrying ($worry_3$) are 31–47% less likely to invest in stocks compared to those with no such symptoms. This suggests that while moderate anxiety may encourage financial engagement, severe and persistent worrying leads to decision paralysis, reinforcing risk-avoidant behaviors.

Overall, the estimated effects remain highly robust across different model specifications, including variations in mental health scaling and the inclusion of time fixed effects and demographic controls. These findings further emphasize the role of mental health as a psychological fixed cost that moderates financial decision-making. By identifying which specific mental health symptoms act as barriers—or even facilitators—to stock market participation, this analysis provides a more nuanced understanding of the link between psychological well-being and economic behavior.

Table 2: Regression Results

This table presents the results of logit regressions examining the relationship between mental health and stock market participation. The reported coefficients represent the percentage change in the odds of stock market participation associated with a one-unit increase in the respective independent variable. In the Unadjusted sample, observations on stock market participation, mental health, and demographic controls are only available for 2002 and 2012. To extend the sample size, we apply Linear Interpolation and Lag Imputation, allowing us to include data from 2002, 2007, 2012, 2017, and 2019. Results remain robust across all specifications. The mental health variables (MCS (Mental Component Summary) and mental health) are a norm-based measures derived from the SF-12v2 health questionnaire. Higher values indicate better-than-average mental well-being (scores above 50), and lower values indicate worse-than-average mental well-being (scores below 50). Standard errors are clustered at household level to account for potential correlation in responses. Significance levels are indicated *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Demographics fixed effects include gender, age, income, total wealth, total liabilities, education and risk aversion.

	Unadjusted		**Linear Interpolation**		**Lag Imputation**	
	(1)	(2)	(3)	(4)	(5)	(6)
mental_health	0.0167***	0.0041**	0.0218***	0.0069***	0.0186***	0.0061***
	(0.0014)	(0.0016)	(0.0012)	(0.0013)	(0.0010)	(0.0012)
Demographics F.E.		Y		Y		Y
Year F.E.	Y	Y	Y	Y	Y	Y
Observations	40984.0000	37721.0000	95717.0000	91075.0000	102229.0000	97283.0000
Pseudo R-squared						
mcs	0.0155***	0.0031*	0.0188***	0.0055***	0.0161***	0.0047***
	(0.0014)	(0.0017)	(0.0012)	(0.0014)	(0.0010)	(0.0012)
Demographics F.E.		Y		Y		Y
Year F.E.	Y	Y	Y	Y	Y	Y
Observations	40983.0000	37720.0000	95716.0000	91074.0000	102228.0000	97282.0000
Pseudo R-squared						

Table 3: Regression Results: Disaggregated Mental Health Data

This table presents the results of logit regressions examining the relationship between mental health indicators—little joy, depression, anxiety, and worry—and stock market participation. These indicators are based on responses to the question: "Over the last two weeks, how often have you been bothered by any of the following problems?" with answer choices ranging from 0 (never) to 3 (always). The reported coefficients represent the percentage change in the odds of stock market participation associated with a one-unit increase in the respective mental health variable. In the Unadjusted sample, data on stock market participation, mental health, and demographic controls are available only for 2019. To extend the sample size, we apply Linear Interpolation and Lag Imputation, allowing us to include data from 2015. Results remain robust across all specifications. Standard errors are clustered at household level to account for potential correlation in responses. Significance levels are indicated *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Demographics fixed effects include gender, age, income, total wealth, total liabilities, education and risk aversion.

	Unadjusted		**Linear Interpolation**		**Lag Imputation**	
	(1)	(2)	(3)	(4)	(5)	(6)
little_joy_1	-0.0450	-0.0320	-0.0090	0.0287	-0.0014	0.0429
	(0.0372)	(0.0448)	(0.0304)	(0.0345)	(0.0293)	(0.0331)
little_joy_2	-0.0667	0.0305	-0.0055	0.0895	-0.0511	0.0456
	(0.0764)	(0.0906)	(0.0605)	(0.0686)	(0.0584)	(0.0656)
little_joy_3	-0.0897	-0.0284	-0.0140	0.0695	-0.0557	0.0196
	(0.1149)	(0.1373)	(0.1113)	(0.1291)	(0.0943)	(0.1067)
depression_1	-0.3391***	-0.1647***	-0.3751***	-0.2180***	-0.3678***	-0.2206***
	(0.0443)	(0.0531)	(0.0354)	(0.0396)	(0.0342)	(0.0382)
depression_2	-0.5572***	-0.2336*	-0.7160***	-0.4572***	-0.6994***	-0.4332***
	(0.1032)	(0.1214)	(0.0866)	(0.0979)	(0.0810)	(0.0907)
depression_3	-0.7000***	-0.4113*	-0.8489***	-0.6131***	-0.8375***	-0.5912***
	(0.1746)	(0.2143)	(0.1682)	(0.2028)	(0.1405)	(0.1623)
anxios_1	0.2605***	0.2241***	0.2623***	0.2211***	0.2687***	0.2210***
	(0.0379)	(0.0465)	(0.0312)	(0.0363)	(0.0302)	(0.0350)
anxios_2	0.2009**	0.1678	0.2223***	0.2215***	0.1619**	0.1435*
	(0.0908)	(0.1104)	(0.0724)	(0.0826)	(0.0681)	(0.0778)
anxios_3	0.0840	0.1211	0.0231	0.0373	0.2100*	0.2471*
	(0.1497)	(0.1812)	(0.1438)	(0.1685)	(0.1202)	(0.1347)
worry_1	-0.1631***	-0.0636	-0.1566***	-0.0657	-0.1286***	-0.0377
	(0.0505)	(0.0593)	(0.0387)	(0.0426)	(0.0374)	(0.0411)
worry_2	-0.5283***	-0.5377***	-0.4302***	-0.3498***	-0.3765***	-0.2777***
	(0.1244)	(0.1550)	(0.0952)	(0.1086)	(0.0858)	(0.0965)
worry_3	-0.4137**	-0.2238	-0.4091**	-0.2005	-0.4701***	-0.3106*
	(0.1874)	(0.2139)	(0.1751)	(0.1949)	(0.1470)	(0.1602)
Demographics F.E.		Y		Y		Y
Year F.E.	Y	Y	Y	Y	Y	Y
Observations	25830.0000	20182.0000	40413.0000	34752.0000	44008.0000	38336.0000
Pseudo R-squared						

5 Conclusion

This study provides compelling evidence that mental health plays a crucial role in financial decision-making, particularly in stock market participation. Using longitudinal data from the German Socio-Economic Panel (SOEP), we find that individuals with better mental health are significantly more likely to invest in stocks, whereas those experiencing depression and chronic worrying are less likely to participate. Interestingly, moderate anxiety appears to have the opposite effect, increasing participation, potentially as a risk management strategy. These findings remain highly robust across different model specifications and mental health measures.

By analyzing mental health as a psychological fixed cost, this study offers new insights into behavioral finance. Our results show that ignoring mental health in financial decision-making models leads to omitted variable bias, misattributing the effects of psychological barriers to purely economic factors. This challenges the assumption that financial education alone is sufficient to increase stock market participation. Instead, we argue that targeted interventions—such as stress reduction programs or cognitive behavioral therapy—may be more effective in encouraging investment than conventional financial literacy initiatives.

Given the global rise in mental health challenges, particularly among young adults, understanding their economic consequences is essential. By integrating insights from psychology, behavioral economics, and finance, this study provides a more comprehensive framework for understanding barriers to financial market participation, with policy implications for investor protection and financial advising. Recognizing individuals mindset as a key determinant of economic behavior can help design more inclusive interventions, enabling a broader range of individuals, including those previously deterred by psychological barriers, to access the benefits of long-term wealth accumulation through stock market participation.

Acknowledgements

The authors declare that they have not received any financial support, funding, or research grants for this study. There are no financial relationships or potential conflicts of interest to disclose.

References

Abramson, B., Boerma, J., & Tsyvinski, A. (2024). Macroeconomics of mental health. *National Bureau of Economic Research*.

Andersen, H. H., Mühlbacher, A., Nübling, M., Schupp, J., & Wagner, G. G. (2007). Computation of standard values for physical and mental health scale scores using the soep version of sf-12v2. *Journal of Contextual Economics–Schmollers Jahrbuch*(1), 171–182.

Armstrong, T., & Olatunji, B. O. (2012). Eye tracking of attention in the affective disorders: A meta-analytic review and synthesis. *Clinical psychology review*, *32*(8), 704–723.

Beshears, J., Choi, J. J., Laibson, D., & Madrian, B. C. (2018). Behavioral household finance. In *Handbook of behavioral economics: Applications and foundations 1* (Vol. 1, pp. 177–276). Elsevier.

Blanchflower, D. G., & Bryson, A. (2024). The mental health of the young in latin america. *National Bureau of Economic Research*.

Blanchflower, D. G., Bryson, A., Lepinteur, A., & Piper, A. (2024). Further evidence on the global decline in the mental health of the young. *National Bureau of Economic Research*.

Bogan, V. L., & Fertig, A. R. (2013). Portfolio choice and mental health. *Review of Finance*, *17*(3), 955–992.

Campbell, J. Y. (2006). Household finance. *The journal of finance*, *61*(4), 1553–1604.

Duraj, K., Grunow, D., Chaliasos, M., Laudenbach, C., & Siegel, S. (2024). *Rethinking the stock market participation puzzle: A qualitative approach* (Tech. Rep.). IMFS Working Paper Series.

Gotlib, I. H., & Joormann, J. (2010). Cognition and depression: current status and future directions. *Annual review of clinical psychology*, *6*(1), 285–312.

Hakulinen, C., Elovainio, M., Arffman, M., Lumme, S., Pirkola, S., Keskimäki, I., ... Böckerman, P. (2019). Mental disorders and long-term labour market outcomes: nationwide cohort study of 2 055 720 individuals. *Acta Psychiatrica Scandinavica*, *140*(4), 371–381.

Haliassos, M., & Bertaut, C. C. (1995). Why do so few hold stocks? *the*

economic Journal, *105*(432), 1110–1129.

Holmes, A., & Wellman, C. L. (2009). Stress-induced prefrontal reorganization and executive dysfunction in rodents. *Neuroscience & Biobehavioral Reviews*, *33*(6), 773–783.

Hsu, M., Bhatt, M., Adolphs, R., Tranel, D., & Camerer, C. F. (2005). Neural systems responding to degrees of uncertainty in human decision-making. *Science*, *310*(5754), 1680–1683.

Kaustia, M., Conlin, A., & Luotonen, N. (2023). What drives stock market participation? the role of institutional, traditional, and behavioral factors. *Journal of Banking & Finance*, *148*, 106743.

Koenigs, M., & Tranel, D. (2007). Irrational economic decision-making after ventromedial prefrontal damage: evidence from the ultimatum game. *Journal of Neuroscience*, *27*(4), 951–956.

Kuhnen, C. M., & Chiao, J. Y. (2009). Genetic determinants of financial risk taking. *PloS one*, *4*(2), e4362.

McClelland, D. C., Patel, V., Stier, D., & Brown, D. (1987). The relationship of affiliative arousal to dopamine release. *Motivation and Emotion*, *11*, 51–66.

Miller, E. K., & Cohen, J. D. (2001). An integrative theory of prefrontal cortex function. *Annual review of neuroscience*, *24*(1), 167–202.

Mojtabai, R., Stuart, E. A., Hwang, I., Susukida, R., Eaton, W. W., Sampson, N., & Kessler, R. C. (2015). Long-term effects of mental disorders on employment in the national comorbidity survey ten-year follow-up. *Social psychiatry and psychiatric epidemiology*, *50*, 1657–1668.

Phelps, E. A., & LeDoux, J. E. (2005). Contributions of the amygdala to emotion processing: from animal models to human behavior. *Neuron*, *48*(2), 175–187.

Ridley, M., Rao, G., Schilbach, F., & Patel, V. (2020). Poverty, depression, and anxiety: Causal evidence and mechanisms. *Science*, *370*(6522), eaay0214.

Twenge, J., & Blanchflower, D. G. (2025). Declining life satisfaction and happiness among young adults in six english-speaking countries. *National Bureau of Economic Research*.

Udupa, N. S., Twenge, J. M., McAllister, C., & Joiner, T. E. (2023). In-

creases in poor mental health, mental distress, and depression symptoms among us adults, 1993–2020. *Journal of mood and anxiety disorders*, *2*, 100013.

Vissing-Jorgensen, A. (2004). Perspectives on behavioral finance: Does" irrationality" disappear with wealth? evidence from expectations and actions. *NBER macroeconomics annual*, *18*, 139–194.