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**Temporary Disabilities due to Mental Health Problems
in a Sample of Spanish Employees (2018-2023):
Prevalence, Duration, and Economic Impact**

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Madrid

2023/2024

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1. Abstract

This study investigates the prevalence, duration, and associated costs of work absences due to mental health reasons among Spanish workers. Utilizing a dataset from Ibermutua, the study analyzes 69,372 cases of Temporary Disability due to Common Contingencies (TDCCs) related to mental health from 2018 to 2023. Relationships between individual and occupational factors and the six most prevalent mental health conditions are examined, focusing on their impact on absence duration and economic costs. The most common diagnoses were anxiety disorders (50.34%), stress-related disorders (18.43%), and single-episode major depression (10.53%). Although women exhibited a higher prevalence of mental health-related absences, no significant gender differences were found in absence duration. Age was directly proportional to absence duration, with the 60+ age group experiencing the longest durations. Statistically significant differences were observed in the distribution of mental health conditions across age, salary, contract type, occupation, and economic activity. The average duration of absences was 154 days, with a total economic impact of €466,191,594.98. These findings highlight the significant burden of mental health issues on the Spanish workforce and emphasize the need for targeted interventions and policies to promote mental well-being, facilitate early return to work, and mitigate the economic impact of these absences. Future research should focus on developing comprehensive models of mental health-related absences, such as the Job Demands-Resources model, considering individual and occupational factors, to inform effective prevention and management strategies.

Key words: economic impact; mental health; prevalence; temporary disability; work absences

2. Introduction

Mental illnesses are the second most common cause of temporary disability (TD) globally, surpassed only by musculoskeletal disorders (Gostoli et al., 2022; Vicente-Herrero et al., 2013). This situation poses a significant challenge for public health, impacting absenteeism, productivity, days off work, and economic costs (Duchaine et al., 2020; Gostoli et al., 2022; WHO, 2003). In this context, the results of a survey conducted by the European Agency for Safety and Health at Work (EU-OSHAS, 2013) gain particular significance, revealing that half of the workforce in the European Union considers occupational stress, which is often associated with mental health issues, as a common difficulty.

In the Spanish context, recent data reveal a concerning trend in the field of occupational mental health. The Ministry of Inclusion, Social Security, and Migration (2022) reported a significant increase of 34.9% in sick leave from 2021 to 2022, amounting to a total of 573,308 monthly absences. According to information provided by Asepeyo (2022), a Spanish mutual insurance company specializing in occupational accidents and diseases, it is estimated that approximately 11.2% of the work absences registered among its affiliates are related to neuropsychiatric disorders in the active population. When this proportion is extrapolated to the Ministry's global data, it suggests that there could have been around 770,527 work absences due to mental health issues in 2022. However, obtaining an accurate estimate of these figures is a considerable challenge, given the scarcity of available data and the lack of consensus in this field. Nonetheless, regardless of the accuracy of these figures, the growing concern is evident: a study by the Confederación Salud Mental España and Fundación Mutua Madrileña (2023) indicates that 74.7% of Spaniards perceive a deterioration in the country's mental health in recent years.

The growing prevalence of mental disorders among workers is becoming a source of concern due to its direct impact at various levels (LaMontagne et al., 2014). These disorders affect not only the individual employee but also significantly impact the productivity of organizations (Björkenstam et al., 2021; Mauramo et al., 2018). Moreover, they influence health and workers' compensation entities and put pressure on social welfare systems (LaMontagne et al., 2014). In this context, mental disorders constitute a significant economic and socio-health burden, as they are a frequent cause of work absenteeism due to Temporary Disability (TD) (Lobato, 2010).

2.1. Factors Related to Mental Health Problems at Work

Given the growing concern over the high prevalence of absenteeism, as well as their implications at both organizational (Bliese et al., 2017; Cox & Griffiths, 2010) and social levels, various authors have explored the factors influencing the risk of these phenomena through theoretical models or the analysis of variables in isolation.

Job Demands-Resources Model

The Job Demands-Resources model (JD-R model), widely recognized in the field of occupational stress and engagement (Bakker & Demerouti, 2016; Bakker et al., 2023; Demerouti et al., 2001), is a synthesis and expansion of various preceding theories (Hackman & Oldham, 1976; Herzberg, 1966; Hobfoll et al., 2018; Karasek, 1979; Siegrist, 1996). This model explores the impact of job demands and resources, both individual and organizational, on employee well-being and performance, with a particular emphasis on burnout (Bakker & Demerouti, 2016; Bakker et al., 2023).

Furthermore, the model emphasizes that not all job demands, such as high workload and intense pressure, are necessarily perceived as threats. Some may be seen as beneficial challenges that promote learning and the achievement of personal goals, especially if they are not excessive or chronic (Cavanaugh et al., 2000; Lepine et al., 2005). It also highlights how the presence or absence of individual and organizational resources impacts the effect of these demands (Bakker & Demerouti, 2016; Bakker et al., 2023).

Consequently, a lack of resources is associated with low engagement and work commitment, while their presence can reduce the risk of burnout (Bakker & Demerouti, 2016; Bakker et al., 2023). This, in turn, can decrease the likelihood of workplace discomfort evolving into mental health issues, among other consequences (Hlado & Harvankova, 2024).

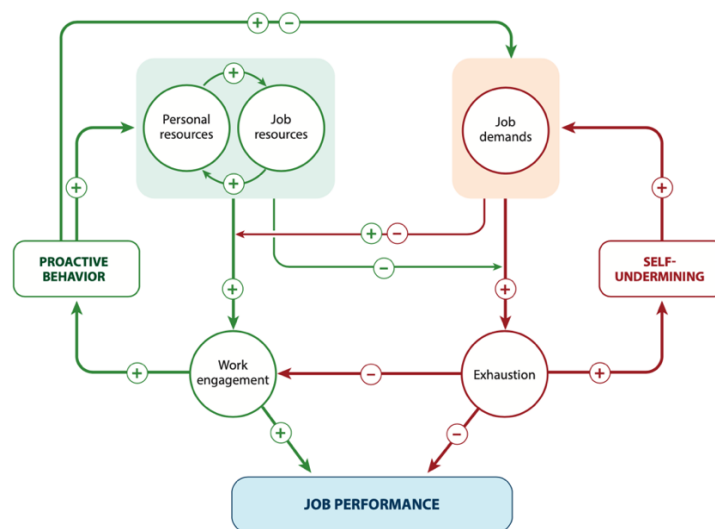
The JD-R model also considers mediating variables, such as proactive behaviors (e.g., job crafting) or self-undermining, which influence engagement and the risk of burnout (Bakker et al., 2023) (Figure 1).

Furthermore, the model underscores the importance of analyzing employee well-being and performance from both top-down and bottom-up perspectives. It highlights how organizational decisions and employee actions are interrelated, and how this interplay is influenced by external factors. These factors include the home environment, as well as macrosystemic events like the COVID-19 pandemic, which have significantly altered work dynamics and negatively impacted employees' mental health (Bakker et al., 2023).

Lastly, the adoption of work modalities such as teleworking, where the boundary between work and personal space becomes blurred (Samridhi & Lavina, 2021), further complicates the separation of demands and resources between the professional and private spheres (Bakker et al., 2023). This shift has exacerbated challenges in maintaining mental health and well-being in the workforce, which is why many companies report difficulties in addressing their employees' mental health issues (Doki et al., 2016).

Figure 1.

The Job demands–resources model (JD-R model). Data from Bakker et al. (2023).



In conclusion, the JD-R model is crucial for understanding the origins of workplace discomfort, especially the phenomenon of burnout. According to the authors, when employees perceive that job demands are excessively high and difficult to meet, or face obstacles in meeting them, this increases their job-related stress. If this discomfort is not managed appropriately, it can manifest, among other things, in a deterioration of mental health (Bakker & Demerouti, 2016; Bakker et al., 2023; Hlado & Harvankova, 2024), which could lead to a Temporary Disability due to mental health reasons.

Building on this notion, this study aims to extend the horizons of the JD-R Model by focusing on the prevalence of Temporary Disabilities due to Common Contingencies (TDCC) related to mental health problems, providing a deeper analysis of the impact of such conditions in the workplace.

Therefore, in addition to the variables considered in the JD-R model, this study seeks to better understand other factors associated with the prevalence of workplace absenteeism outside the scope of the JD-R. At an individual level, variables such as gender and age will be examined. At the occupational level, elements such as salary, job position, company size, type of contract, and economic sector will be analyzed. The study also takes into account the impact of the COVID-19 pandemic by considering the year and specific months of TDCC initiation in relation to the different stages of the pandemic in Spain.

The objective is to identify how these variables are related to temporary disabilities due to mental health reasons, determine which groups are more susceptible to them, and characterize these absences. In this way, the study seeks to bridge the JD-R model and the understanding of broader health problems in the workplace context, thanks to the variables present in the sample provided by Ibermutua, a Spanish mutual insurance company specializing in occupational accidents and diseases. The data is related to Temporary Disabilities due to Common Contingencies (TDCC) associated with mental health problems.

Individual Variables and Their Relationship with Mental Health Issues in the Workplace

At the sociodemographic level, there is evidence suggesting that certain variables, such as female gender, may increase susceptibility to mental health-related sick leaves. Women report greater severity in symptoms of anxiety and depression (Ribeiro et al., 2021; Salameh et al., 2020), poorer self-perceived health, and a higher frequency of mental health diagnoses during the COVID-19 pandemic (Henares et al., 2020). These differences could be partly attributed to greater gender inequality, related to factors such as sexual abuse, domestic violence, unpaid caregiving work, low social status, lack of access to reproductive rights and education (Yu, 2018), and even holding intermediate professional titles (Spoorthy et al., 2020).

However, the debate surrounding gender as a risk factor for mental health-related sick leaves continues due to the overrepresentation of women in research (Frank et al., 2022; Gaillard et al., 2020; Gómez-García et al., 2019; Łaszewska et al., 2020), especially in the healthcare (Taylor et al., 2022) and education sectors (Madigan et al., 2023). Furthermore, there are empirical studies (Rivière et al., 2020) and systematic reviews that either find no evidence or report contradictory results regarding gender as a risk factor (Blank et al., 2008; Gaillard et al., 2020; Hascher & Waber, 2021), thus, the evidence remains inconsistent (Yu, 2018).

Regarding the relationship between age and the risk of burnout in healthcare professionals and educators, the results are also contradictory. Some studies suggest that younger professionals with less experience are more prone to burnout (Karakoc et al., 2016; Suleiman-Martos et al., 2020). However, other researchers propose that it is the lack of experience and stress management strategies, rather than age itself, that increases this risk (Bilge, 2006; Cañadas-De la Fuente et al., 2014).

Conversely, some studies identify a higher risk of burnout at middle ages, particularly between 38 and 40 years in the healthcare sector (Quattrin et al., 2006) and between 40 and 49 years in teaching (Otero-López et al., 2006). Despite these findings, some authors do not find a significant relationship with age and do not reach a consensus (Gosseries et al., 2012; Hascher & Waber, 2021; Molina-Praena et al., 2018).

Nevertheless, it has been noted that older professionals generally have a lower risk of burnout, except when exposed to novel formats like teleworking, where they seem have a higher prevalence of absenteeism compared to other age groups (Hall et al., 2023). Additionally, when returning to work after a sick leave, advanced age is identified as a risk factor for a longer duration before rejoining the workforce (Blank et al., 2008; Catalina-Romero, 2013; Ervasti et al., 2017), although this is not observed in all studies (Blank et al., 2008).

It has been found that having a history of mental health issues, such as a previous diagnosis of anxiety or depression, doubles the risk of a new sick leave within one year compared to those without such diagnoses. Furthermore, individuals who have experienced a previous sick leave for injuries or illnesses unrelated to mental health have a fourfold increased risk of suffering from depression and anxiety in the same period, compared to those without a history of sick leave (Gaspar et al., 2020). Moreover, the severity of the mental disorder plays a crucial role in the

return-to-work process. A severe diagnosis of mental disorder, such as schizophrenia, compared to milder ones such as adjustment disorder, is also identified as a risk factor for a longer duration to return to work (Sakakibara et al., 2019).

Occupational Variables and Their Role in Mental Health in the Workplace

Regarding work variables, factors such as job insecurity (Matilla-Santander et al., 2019), economic uncertainty and deprivation (Lu & Lin, 2021; Sinclair et al., 2021), as well as low income (Bränström et al., 2023; Matilla-Santander et al., 2019; Suleiman-Martos et al., 2020) seem to be related to a higher prevalence of sick leaves due to mental health issues. In terms of occupation, most studies focus on healthcare professionals and teachers, finding higher prevalence rates in these sectors (Otero-López et al., 2006; Suleiman-Martos et al., 2020). On the other hand, company size does not appear to have a significant relationship with the prevalence of mental health-related sick leaves (Doki et al., 2016).

Contextual Variables and Their Impact on Workplace Mental Health

At the contextual level, studies have indicated that extraordinary macrosystemic events, such as the COVID-19 health crisis, have had a significant impact on employees' mental health (Maraqa et al., 2020; Rahman et al., 2023; Wetzel et al., 2023).

2.2. Duration and Economic Impact of Mental Health-Related Sick Leaves

In addition to influencing the prevalence of mental health-related sick leaves, the various individual, occupational, contextual, and JD-R variables discussed earlier, among others, also have a direct impact on both organizational and societal levels. On the one hand, there is an observed increase in absenteeism rates due to mental health concerns (Gaillard et al., 2020), as well as elevated levels of job dissatisfaction (Moriani & Herruzo, 2006). On the other hand, such sick leaves tend to be notably prolonged, ranking among the longest in terms of work absence duration, comparable to those caused by musculoskeletal disorders. In Spain, the average duration of mental health-related sick leaves is reported to range from 97 days (Fremap, 2022) to 134 days (Asepeyo, 2022). Additionally, the duration for men is approximately 4 days shorter than for women (Fremap, 2022).

Regarding the duration of these sick leaves, a study conducted in Norway, by Hasting et al. (2022), using 2000 data on the active workforce, found that the average duration of mental health-related sick leaves is 124 days for women and 125 days for men. This compares with sick leaves for musculoskeletal problems, which have an average duration of 106 and 102 days respectively. However, the average duration of temporary disabilities can vary across studies. For example, Vicente-Herrero et al. (2013) reported that in Spain during 2011, among the active workforce, the average duration of temporary disability for schizophrenic disorders was 84 days, for bipolar disorder 100 days, and for anxiety disorders, mood disorders, and adjustment disorders 65 days. In contrast, a previous study in Spain, focusing on the active workforce, indicated that the average duration of sick leave for anxiety disorders was 83 days, based on data between 2004 and 2007, although 25% of these sick leaves reached 148 days (Catalina-Romero et al., 2013).

Recent research in the Netherlands, using a sample of the active workforce and focusing on data from 2015 to 2019, such as the study conducted by Wolvetang et al. (2022), shows that absenteeism due to burnout averages 163 work days, with a cost of €30,770 per episode for employers. In comparison, absenteeism for other stress-related illnesses (workers' complaints, exhaustion and other stress reactions) averages 101 work days, costing €19,151 per case. Notably, during this period, women experienced a higher average duration of absenteeism than men by 37 days.

The long duration of these sick leaves implies major economic costs, including lost productivity from work absence and sickness absence (Dewa et al., 2020). Regarding the economic impact of mental disorders, it is important to distinguish between direct and indirect costs. Direct costs encompass healthcare expenditures such as medical care, hospitalizations, medication, and diagnostic tests. Indirect costs, on the other hand, are related to productivity and encompass reduced employment, absenteeism, presenteeism, and premature mortality. Although there are discrepancies about the exact magnitude of each cost type, it is generally accepted that indirect costs tend to be greater compared to direct costs, representing a significant portion of total costs (Ruiz-Rodríguez et al., 2017; Sousa et al., 2022).

Specifically, the CostDep study conducted among the active population in Catalonia in 2006, estimated that the direct costs of depression amounted to €155.6 million (21.2%) and the indirect costs to €579.8 million (78.8%) (Salvador-Carulla et al., 2011). Another study carried out in Spain by Oliva-Moreno et al. (2006) indicated that in 2002, expenditures for anxiety, dissociative and somatomorph disorders in the active population, specifically those who received hospital care,

consisted of 53.22% indirect costs (€420 million) and 46.74% direct costs (€367 million). Regarding generalized anxiety disorder, the ANCORA study conducted in Spain in 2006 on the general adult population, showed that direct healthcare costs accounted for 20% of the total, while indirect costs reached 80% (Rovira et al., 2012). Additionally, a study by Sousa et al. (2022) in Portugal, which utilized population and demographic structure data from 2017, examined treatment-resistant depression and major depression with suicidal risk. It revealed that direct costs constituted only 2.7% (€30.8 million), while indirect costs accounted for 97.3% (€1,071.1 million), primarily due to loss of work productivity in the general population. This shows that although the precise impact is not definitively established, the costs are notably high and fluctuate based on the type of diagnosis.

Moreover, the average annual and productivity cost in people with mental disorders is significantly higher than in people without mental disorders, due to factors such as unemployment, early retirement, absenteeism, and lost working hours (Łaszewska et al., 2020; Oliva-Moreno et al., 2006; Rovira et al., 2012; Ruiz-Rodríguez et al., 2017; Salvador-Carulla et al., 2011; Sousa et al., 2022). This is partly because productivity expenditure is especially high when a person returns to work after a mental health-related sick leave, averaging 6.4 weeks of adaptation, compared to 1.3 weeks for musculoskeletal sick leaves (Bernfort et al., 2021).

At the social level, it is predicted that costs associated with mental health conditions may rise to \$6.1 trillion USD by 2030, mainly due to productivity losses resulting from work absence, sickness absence, and presenteeism (Bloom et al., 2012; Gaillard et al., 2020). Presenteeism is a phenomenon that occurs when employees continue working despite facing health limitations that should prompt rest and absence from work (Aronsson et al., 2000; Dew et al., 2005; Johns, 2010).

In conclusion, the complexity of quantifying and estimating the prevalence, cost, and duration of mental health-related sick leaves, as well as the difficulties in understanding their origin, make this issue a globally concerning one (Gaillard et al., 2020). In fact, these worries not only affect the individual and the organization, but also the household (Bakker et al., 2023), society, and all interconnected systems, due to the socioeconomic and health impact resulting from their reciprocal influence (Bronfenbrenner, 1979). Therefore, it is crucial to conduct studies exploring prevalences and relationships between numerous variables to develop effective customized interventions in the future, tailored to individuals' profiles and holistically integrating individual, occupational, and social wellbeing. In this context, it is very important to identify which groups and variables have a higher risk of experiencing a prolonged mental health-related sick leave, as

well as attempt to estimate the economic impact of some of its consequences, such as justified absenteeism.

2.3. Objectives

Utilizing a dataset from Ibermutua, encompassing Spanish workers across various occupational sectors who have incurred Temporary Disabilities due to Common Contingencies (TDCC) for mental health reasons from January 2018 to December 2022, this study aims to achieve the following objectives:

- (i) Analyze the prevalence, demographic distribution, and temporal trends of mental health-related TDCCs, examining the duration of sick leave across diagnoses and individual and occupational variables. Additionally, calculate the relative prevalence of mental health-related TDCCs in 2023, considering the number of affiliates and their mental health-related sick leaves during that year with respect to gender, age, and the National Classification of Economic Activities (CNAE).
- (ii) Investigate the relationships between individual and occupational variables and the six principal mental health diagnoses in TDCCs, examining differences in episode frequency, diagnosis category, and duration.
- (iii) Assess the economic impact of justified absenteeism due to mental health-related TDCCs, including the total cost and average per person for each year from 2018 to 2023, and the cumulative total cost and overall average per person for the entire period. For the period 2018-2022, analyze the cumulative impact segmented by the six main diagnostic groups, the National Classification of Economic Activities (CNAE), and the National Classification of Occupations (CNO).

3. Method

3.1. Participants

From an average of approximately 1,326,334 workers affiliated with Ibermutua between 2018 and 2023, the sample for this study consists of 69,372 individuals who experienced Temporary Disabilities due to Common Contingencies (TDCC) for mental health reasons across the 52

Spanish provinces from January 2018 to December 2023. Diagnoses within these records were categorized in accordance with the International Classification of Diseases, Tenth Revision (ICD-10).

In this study, we exclusively selected affiliates who were on sick leave for TDCC related to mental health. We excluded cases where the diagnoses by Spain's National Health System or insurance company doctors were not linked to mental health problems. The selection of participants followed specific inclusion criteria established by Ibermutua's medical director, with strict adherence to data anonymization.

3.2. Variables

In this study, the dependent variables are Mental Health-Related Temporary Disabilities for Common Contingencies (TDCC). The following variables have been selected, with data collected by Spain's National Health System and Ibermutua:

Dependent Variables: Mental Health-Related TDCC

- Year of TDCC Initiation: The calendar year and specific month in which an employee's TDCC first began, considering the different stages of the COVID-19 pandemic in Spain (e.g., lockdown period from March 14, 2020, to June 21, 2020, and the subsequent 'new normal' measures).
- TDCC Duration (Days): The number of days an employee is absent from work due to a temporary disability, from the start date of the leave to the date of discharge.
- Diagnosis Type (ICD-10 Code): The classification of mental health diagnoses according to the ICD-10 code assigned by the Spain's National Health System physician.
- Episode Count: The number of mental health-related absence episodes per individual.

Covariates

Individual Variables:

- Age: The age of the individual at the time of the TDCC.
- Gender: The self-reported gender of the participant.

Occupational Variables:

- Type of Contract: The nature of the employment contract.
- Daily Contribution Regulatory Base (Salary): The employee's daily salary.
- Company Size (Number of Employees): A measure of the scale of an organization determined by the total count of individuals employed by the company.
- National Classification of Occupations (CNO): The employee's job position.
- National Classification of Economic Activities (CNAE): The economic sector in which the company operates.

3.3. Study Design

The study design is a retrospective ex post facto single-group study.

3.4. Procedure

In this descriptive study, the researchers analyzed an anonymized database provided by Ibermutua, which includes records of Temporary Disabilities due to Common Contingencies (TDCC) related to mental health disorders from 2018 to 2023. The work leave instances were categorized using the tenth revision of the International Classification of Diseases (ICD-10), as recorded by the attending physician in the Spanish public health system.

To ensure the ethical integrity of the research, exclusively anonymized data were used, thereby protecting the privacy and anonymity of the subjects involved and mitigating any potential ethical risks. This approach underscores the study's firm commitment to the confidentiality and security of information, principles that were rigorously maintained throughout the investigative process.

The dissemination and publication of the results will be carried out with a firm commitment to transparency and honesty, aligning with the current norms of publication and citation. This procedure reflects our dedication to integrity and responsibility in presenting the findings.

Finally, it is noteworthy that the study received approval from the Ethics Committee of the Pontifical University of Comillas, under Dictamen 32/23-24, which validates its adherence to the fundamental ethical principles required in scientific research.

3.5. Data Analysis

In this study, we will conduct various analyses using different subsets of the data. For the descriptive analysis and examination of prevalence and duration, we will use the data from 2018-2022 (48,025 TDCCs). For the calculation of the relative proportion of absences attributable to mental health issues in 2023, we will use the data from that year (21,347 TDCCs) along with the total number of Ibermutua affiliates in 2023.

To address the first objective of our study, we will extract basic descriptive statistics and perform descriptive analyses of the sample of participants from 2018 to 2022 (48,025 TDCCs). This will involve a detailed examination of all information pertinent to the prevalence and duration of absences due to TDCC as a result of mental health issues. In addition to measures such as mean and standard deviation, we will also employ non-parametric measures such as the median to provide a more robust understanding of the data distribution, particularly in cases where outliers may be present, which can skew the results and deviate from a normal distribution. Through this process, we aim to provide a comprehensive summary of the data, thereby laying a foundational understanding of the key characteristics related to mental health's impact on TDCC.

Furthermore, using the total number of affiliates in Ibermutua in 2023, we will calculate the proportion of absences in relative terms that are attributable to mental health issues during the same year with respect to gender, age, and the National Classification of Economic Activities (CNAE) (21,347 TDCCs). This analysis will provide valuable context for understanding the scale and impact of mental health-related absences within the overall affiliated population.

Concerning the second objective, we will examine the relationship between the frequency of work absence episodes, the six principal diagnostic categories, and their respective durations, while also taking into account individual and occupational variables. To methodically analyze these categorical data, we will employ the Chi-square test to determine the presence of associations or independence between the categorical variables.

Furthermore, a one-way ANOVA will be conducted to discern statistically significant differences in the means of quantitative variables and to explore potential interactions between categorical factors. The substantial sample size of our study ($N = 48,025$ TDCC records from 2018-2022 and $N = 43,639$ for the six main diagnoses from 2018-2022) enhances the robustness of the ANOVA

against deviations from normality, as per the Central Limit Theorem, allowing us to proceed with this analysis despite any potential non-normality. Moreover, for descriptive and practical purposes, a sample is considered large when $n \geq 30$ (Pardo et al., 2009), which corroborates the reliability of our statistical methodology. Additionally, the assumption of variance homogeneity (homoscedasticity) has been verified, further affirming the suitability of employing ANOVA for our data.

Moreover, we will conduct Student's T-tests to ascertain whether statistically significant mean differences exist in age, daily contribution regulatory base (salary) and the duration of mental health-related absences with respect to gender.

Lastly, to address the third objective, we will retrospectively evaluate the economic impact of justified absenteeism using the data from 2018-2023. In this analysis, we will consider the duration and costs associated with TDCC due to mental health issues for each year, taking into account the daily contribution base, which varies depending on the type of user, their sector, and job position.

Furthermore, our analysis will extend to calculate costs based on various parameters. These include yearly trends and the six main diagnostic classifications of TDCCs, as well as classifications by National Occupation (CNO) and Economic Activities (CNAE). However, when analyzing the costs associated with the six main diagnostic classifications, CNO, and CNAE, we will limit our data to the period from 2018-2022. This is to ensure the accuracy and reliability of our findings, avoiding any potential biases introduced by active sick leaves in 2023, which may affect calculations that take into account the total duration. To maintain the integrity of our analysis, we will exclude any instances with missing data from our calculations.

All these analyses will be conducted using IBM SPSS Statistics 29.

4. Results

4.1. Prevalence, Duration, and Demographic Analysis of Mental Health-Related TDCCs (2018-2022), with 2023 Comparative Insights.

From the initial study sample of 69,376 cases, 4 participants were excluded due to data inconsistencies, specifically for presenting a biologically implausible age (124 years) and having missing data on the remaining variables of interest. After this data cleaning process, the final study sample comprised 69,372 cases of temporary disability due to common contingencies related to mental health (TDCCs) over a five-year period (48,025 TDCCs from 2018 to 2022, and 21,347 TDCCs in 2023). The highest proportion of TDCCs relative to the total number of sick leave cases was observed in 2021 (5.31%) and 2023 (5.04%), respectively, while 2019 had the lowest representation (1.31%). In the case of 2018, the proportion is unknown due to the unavailability of that information. Additionally, the highest percentage of mental health-related sick leave cases relative to the total number of affiliates was observed in 2023 (1.55%), with an upward trend over the years (Table 1).

To ensure clarity and avoid potential biases in the data, the sample analyzed for the calculations of prevalence, duration, relationships between variables, and economic costs comprises data from 2018-2022 (48,025 TDCCs), as all the sick leaves in this period had concluded at the time of conducting this study. The year 2023 was excluded from these analyses because, of the 21,347 registered sick leaves, 4,974 remained active at the time of the analysis, which could result in an apparently lower average duration than the actual one. However, to determine the prevalence of TDCCs in relative terms with respect to the number of affiliates in 2023, only the data from that year (21,347 TDCCs) was used because the same years must be compared. Lastly, to calculate the percentage of sick leaves due to mental health compared to the rest of the sick leaves registered in Ibermutua, only the information from 2019-2023 could be utilized because the data from 2018 was not available (Table 1).

Table 1.*Temporary Disability Cases at Ibermutua (2018-2023): Mental Health vs. All Conditions*

Year	Insured Workers (Mental Health Attrition Rate (%))	Total Temporary Disabilities	Total Temporary Disabilities Due to Mental Health Reasons	Mental Health Incidence (%)
2018	Not available	Not available	818	---
2019	1,324,621 (0.32)	327,783	4,280	1.31%
2020	1,271,526 (0.78)	244,860	9,955	4.07%
2021	1,309,846 (1.12)	276,656	14,690	5.31%
2022	1,346,836 (1.36)	374,381	18,282	4.88%
2023	1,378,845 (1.55)	423,530	21,347	5.04%

Note. Mental health attrition rate refers to the proportion of mental health-related sick leave cases in the sample relative to the total number of insured workers.

Between 2018 and 2022, the age distribution of the study population ranged from 16 to 85 years, with a mean age of 44.46 ± 11.17 years. When stratified by sex, the mean age was 44.67 ± 11.07 years in males and 44.32 ± 11.23 years in females (Figure 2). Considering the total number of affiliates in 2023 and the number of mental health-related sick leaves in the same year, the age group with the highest proportion of mental health-related sick leave in relative terms was the 25 to 29 years old group (2.01%), followed by the 30 to 34 years old group (1.99%) and the 65 years old and above group (1.93%). In contrast, the group with the lowest proportion of sick leave was the 55 to 59 years old group (1.23%) (Table 2). However, when examining the cumulative data of mental health-related sick leaves from 2018 to 2022, the group with the highest number of sick leaves was the 45 to 49 years old group (15.50%), while the group with the lowest number was the 16 to 24 years old group (2.59%) (Table 3).

The Student's T-test showed statistically significant differences in age between males and females ($T = 3.45$; $df = 48,023$; $p < 0.001$; Cohen's $d = 0.03$). Despite this statistical significance, the small effect size suggests that the difference in average age, while statistically reliable, is quite minimal. This indicates that females had a slightly lower average age compared to males in the sampled population, yet the practical significance of this difference might be limited.

From 2018 to 2022, the gender distribution in the study indicated a higher prevalence of females (28,160 cases; 58.64%) compared to males (19,865 cases; 41.36%) (Table 3). Moreover, this

higher proportion of women in absolute terms is also greater in relative terms when considering the number of insured workers and the number of mental health-related sick leave cases in 2023, with twice as many sick leave cases observed in women (2.18%) compared to men (1.10%) (Table 2).

During the same period (2018-2022), the average sick leave duration was 153.67 days with a median of 81 days. Specifically, females had an average duration of 153.05 days with a median of 83 days, while males had an average duration of 154.28 days with a median of 80 days. The Student's T-test revealed no statistically significant differences in the duration of sick leave between males and females ($T = 0.78$; $df = 48,023$; $p > 0.05$; Cohen's $d = 0.01$), suggesting that the average duration of sick leave was similar across genders in the analyzed sample. Furthermore, the duration of sick leave was found to be directly proportional to the participants' age (Table 3).

Figure 2.

Age-Specific Distribution of Temporary Mental Health Disabilities: A Demographic Analysis (2018-2022)

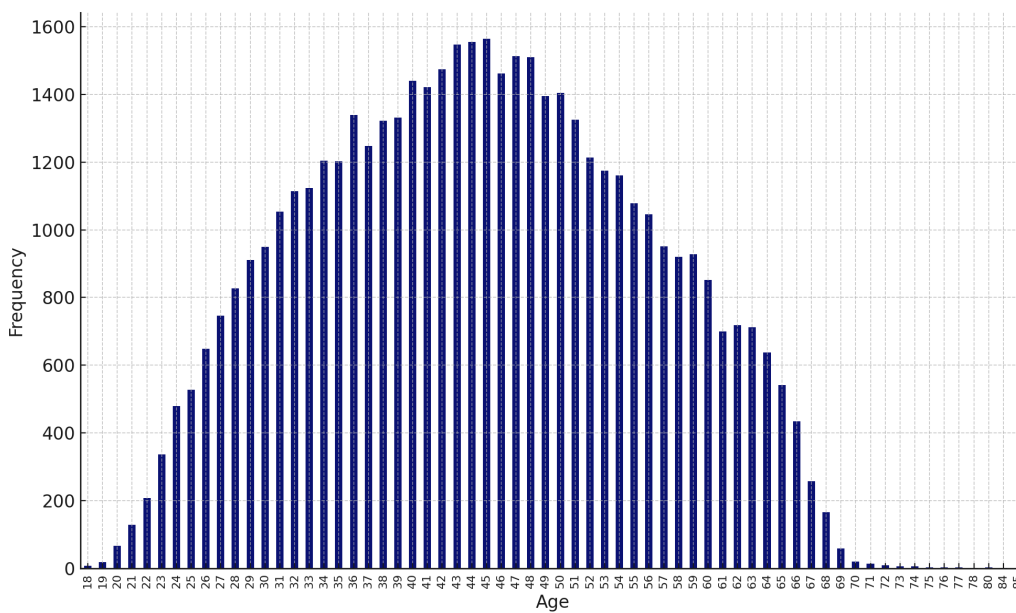


Table 2.*Mental Health Attrition Rate and Number of TDCCs in 2023 by Sex and Age Group of Insured Workers*

	Insured Workers 2023 (Mental Health Attrition Rate (%))	TDCCs 2023
Sex		
Male	806,302 (1.10)	8,889
Female	572,532 (2.18)	12,458
Age (range 16-85 years old)		
From 16 to 24 years old	82,169 (1.62)	1,330
From 25 to 29 years old	116,873 (2.01)	2,346
From 30 to 34 years old	139,082 (1.99)	2,773
From 35 to 39 years old	157,070 (1.87)	2,937
From 40 to 44 years old	191,048 (1.55)	2,962
From 45 to 49 years old	216,556 (1.37)	2,969
From 50 to 54 years old	192,845 (1.29)	2,480
From 55 to 59 years old	155,428 (1.23)	1,917
From 60 to 64 years old	102,364 (1.28)	1,310
65 years old and above	16,754 (1.93)	323

Note. Mental health attrition rate refers to the proportion of mental health-related sick leave cases in the sample relative to the total number of insured workers.

Table 3.*Demographic and Temporal Distribution of Temporary Disability Cases due to Mental Health Conditions (2018-2022)*

	N (%)	Average Duration (days)	Median
Sex			
Male	19,865 (41.36)	154.28	80
Female	28,160 (58.64)	153.05	83
Total	48,025 (100)	153.67	81
Age (range 16-85 years old)			
From 16 to 24 years old	1,243 (2.59)	81.44	30
From 25 to 29 years old	3,662 (7.63)	102.99	49
From 30 to 34 years old	5,446 (11.34)	121.53	60
From 35 to 39 years old	6,443 (13.42)	135.16	71
From 40 to 44 years old	7,439 (15.49)	146.98	78
From 45 to 49 years old	7,446 (15.50)	156.66	81.5
From 50 to 54 years old	6,279 (13.07)	171.47	98

From 55 to 59 years old	4,925 (10.26)	186.01	113
From 60 to 64 years old	3,620 (7.54)	213.80	148
65 years old and above	1,522 (3.17)	221.41	177
TDCCs Initiation Year			
2018	818 (1.18)	148.24	81.5
2019	4,280 (6.17)	148.74	86
2020	9,955 (14.35)	165.11	88
2021	14,690 (21.18)	163.30	86
2022	18,282 (26.35)	150.84	74
2023*	21,347 (30.77)	---	---

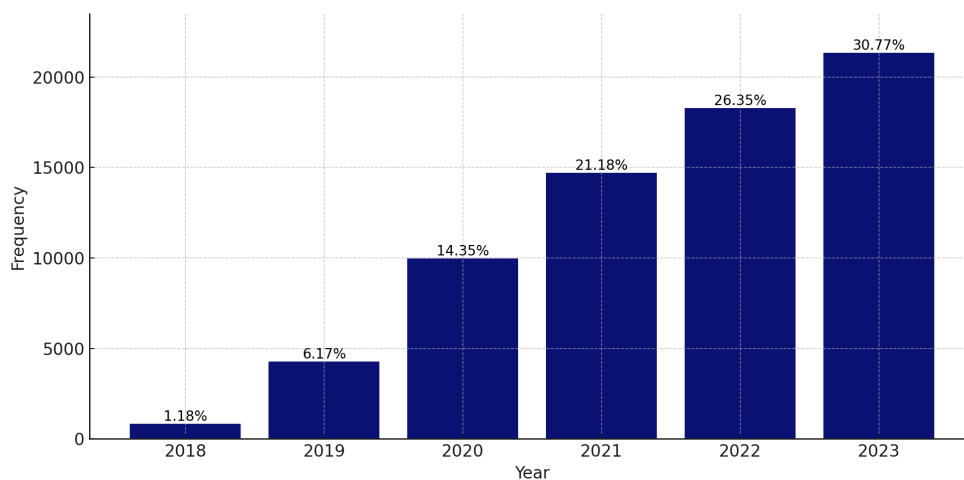
Note. Mental health attrition rate refers to the proportion of mental health-related sick leave cases in the sample relative to the total number of insured workers.

*In 2023, the average duration of disability leaves appears shorter compared to other years due to 4,954 participants remaining on temporary disability leave at the end of the study period, with their absences not yet concluded. As a result, the calculated average duration for 2023 may not accurately reflect the true duration of absences. Therefore, we have excluded this year from the analyses and used only the 2023 disability leave data to compare with the number of affiliates in that year, allowing us to determine the prevalence percentages in relative terms.

Annual trend analysis revealed that the year 2023 recorded the highest number of cases (21,347; 30.77%), marking a progressive increase since 2018 (Table 3; Figure 3). However, the average duration and median of TDCCs were significantly higher in 2020 (165.11; 88 days) and 2021 (163.30; 86 days) compared to 2022 (150.84; 74 days) (Table 3).

Figure 3.

Annual Frequencies of Temporary Mental Health Disabilities: A Five-Year Overview (2018-2023)

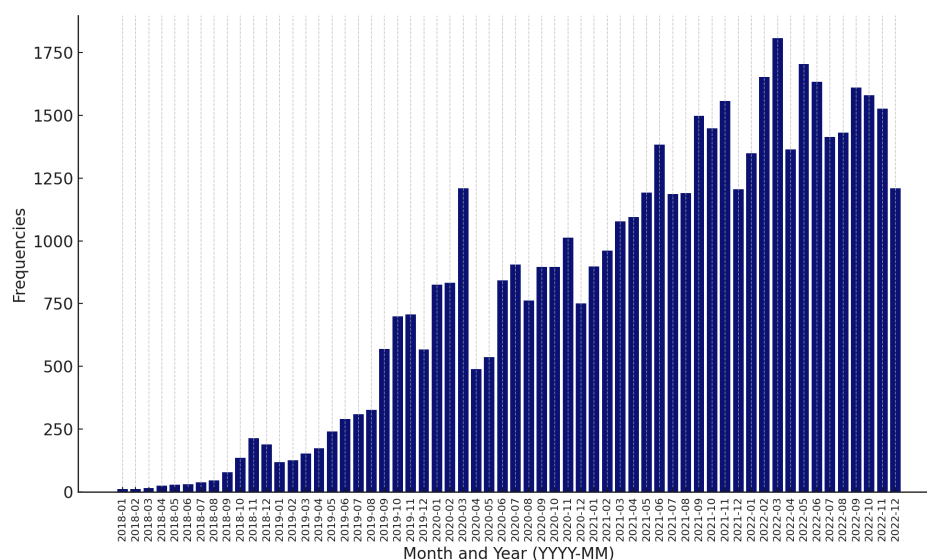


From January 2018 to December 2022, a progressive increase was observed in the number of temporary disabilities due to mental health reasons. However, during the early months of the

COVID-19 pandemic, specifically in March and April 2020, there was a significant reduction in these temporary disabilities. This decrease might be associated with the collapse of Spain's healthcare system due to the health crisis and the implementation of lockdown measures (starting on March 14, 2020), which resulted in a diminished capacity to attend to and register new cases of temporary mental health disabilities. Moreover, the impact of COVID-19 is also reflected in the decline in the number of insured workers in 2020 compared to other years (Table 1). Following this period, a recovery and subsequent rise in the frequency of these disabilities were noted, along with fluctuations. Furthermore, it is worth noting that there was a decrease in July, August, and December of both 2021, and 2022, possibly influenced by seasonal patterns (Figure 4).

Figure 4.

Temporal Trends in Temporary Mental Health Disabilities: A Longitudinal Analysis of Frequency Data (2018-01 to 2022-12)



Regarding the types of diagnoses between 2018 to 2022, other anxiety disorders (F41), reaction to severe stress and adjustment disorders (F43), and major depressive disorders, single episode (F32) were the most prevalent, accounting for 24,174 (50.34%), 8,853 (18.43%), and 5,055 (10.53%) cases, respectively. These conditions reflected an average duration of approximately 129.25, 166.82, and 193.23 days, with medians of 62, 98, and 126 days, respectively. Additionally, the distribution among males and females, considering the percentage distribution of each diagnostic type, was relatively homogeneous across the diagnostic categories, with the exception of other anxiety disorders (F41), where the percentage of females was 3% higher in relative terms. Furthermore, the average number of episodes per individual was 4.91 ± 5.70 . Taken together, when considering the median duration to exclude outliers, the three diagnoses with the longest durations were obsessive-compulsive disorder (F42), bipolar disorder (F31), and major

depressive disorder, recurrent (F33). These disorders exhibited median durations of 197.5 days, 188.5 days, and 172.5 days, respectively (Table 4).

With respect to socioeconomic and occupational parameters, the majority of cases were associated with permanent contracts (62.97%), and the average daily contributory regulatory base (salary) was $\text{€}53.39 \pm 26.85$. The average daily contributory regulatory base for males was $\text{€}59.10 \pm 28.21$, while for females it was $\text{€}48.56 \pm 25.56$ (Table 5). The Student's T-test revealed statistically significant differences in the daily contributory regulatory base (salary) between males and females ($T = 43.14$; $df = 47,589$; $p < 0.001$; Cohen's $d = 0.41$), suggesting a moderate effect size and indicating that males have a higher average salary compared to females in the sampled population.

The National Classification of Occupations (CNO) revealed that workers in crafts and related trades (14.96%) and plant and machine operators and assemblers (16.72%) constituted the most significant categories. A notable portion of the sample included unskilled workers over 18 years old (12.57%) or with missing values in their occupational classification (13.41%), suggesting a potential underrepresentation of certain sectors in the sample. This was coupled with variations in the duration of TDCCs depending on the job position, with shorter durations observed in higher positions compared to others. Regarding the size of the company and the number of employees, the variability was quite heterogeneous ($SD = 539.44$) (Table 5).

Lastly, in terms of the National Classification of Economic Activities (CNAE), those affected were primarily employed in wholesale and retail trade; repair of motor vehicles and motorcycles (Section G) (17.74%), followed by administrative and support services activities (Section N) (11.49%), and accommodation and food service activities (Section I) (10.02%) (Table 5). However, when considering the proportion of sick leave cases in each sector in relative terms, taking into account the number of affiliates in 2023 and the number of mental health-related sick leave cases that year, we can observe that the most prevalent sectors were administrative and support service activities (Section N) (2.33%), human health and social work activities (Section Q) (2.30%), public administration and defense; compulsory social security (Section O) (2.20%), and accommodation and food service activities (Section I) (2.20%), while the least prevalent sector was activities of households as employers; undifferentiated goods- and services-producing activities of households for own use (Section T) (0.66%) (Table 6). The average and median durations of TDCCs varied significantly across different work sectors (Table 5).

Table 4.*Gender Distribution, Duration, and Prevalence of Mental Health Diagnoses Leading to Temporary Disability: A Comprehensive Analysis (2018-2022)*

	N (%)	Male (%)	Female (%)	Mean ± SD	Average Duration (days)	Median
Type of Diagnoses*						
F41: Other anxiety disorders	24,174 (50.34)	9,600 (48.33)	14,574 (51.75)		129.25	62
F43: Reaction to severe stress and adjustment disorders	8,853 (18.43)	3,605 (18.15)	5,248 (18.64)		166.82	98
F32: Major depressive disorder, single episode	5,055 (10.53)	2,075 (10.45)	2,980 (10.58)		193.23	126
F34: Persistent mood [affective] disorders	2,880 (6.00)	1,112 (5.60)	1,768 (6.28)		150.66	87
F33: Major depressive disorder, recurrent	1,538 (3.20)	618 (3.11)	920 (3.27)		230.27	172.5
F06: Other mental disorders due to known physiological condition	1,141 (2.38)	434 (2.18)	707 (2.51)		154.97	84
F39: Mood [affective] disorder, unspecified	786 (1.64)	303 (1.53)	483 (1.72)		136.13	72
F40: Phobic anxiety disorders	462 (0.96)	186 (0.94)	276 (0.98)		200.98	125
F60: Specific personality disorders	369 (0.77)	171 (0.86)	198 (0.70)		190.54	112
F31: Bipolar disorder	360 (0.75)	188 (0.95)	172 (0.61)		245.47	188.5
F10: Alcohol-related disorders	287 (0.60)	233 (1.17)	54 (0.19)		197.12	112
F20: Schizophrenia	239 (0.50)	172 (0.87)	67 (0.24)		220.15	138
F14: Cocaine-related disorders	170 (0.35)	153 (0.77)	17 (0.06)		240.21	167.5
F29: Unspecified psychosis not due to a substance or known physiological condition	162 (0.34)	103 (0.52)	59 (0.21)		209.65	122
F42: Obsessive-compulsive disorder	136 (0.28)	88 (0.44)	48 (0.17)		235.64	197.5
Number of Episodes (range 1-109 episodes)		5.48 ± 6.55	4.50 ± 4.97	4.91 ± 5.70		

*Diagnoses with a frequency below 130 were excluded from the analysis.

Table 5.*Socioeconomic Parameters and Occupational Distribution of Temporary Disability Cases (2018-2022)*

	Overall (Mean ± SD)		Male (Mean ± SD)	Female (Mean ± SD)	
Daily Contribution Regulatory Base (Salary)	53.39 ± 26.85		59.10 ± 28.21	48.56 ± 25.56	
Company Size (Number of Employees)	204.09 ± 539.44				
	N (%)	Male (%)	Female (%)	Average Duration (days)	
Type of contract					
Permanent Contract	30,240 (62.97)	12,510 (62.98)	17,730 (62.96)	148.80	81
Temporary Contract	6,459 (13.45)	2,428 (12.22)	4,031 (14.31)	111.44	47
Specific Contract	3,937 (8.20)	1,763 (8.87)	2,174 (7.72)	128.45	55
Missing Values	7,389 (15.39)	3,164 (15.93)	4,225 (15.00)	223.21	159
National Classification of Occupations (CNO)					
Managers and Directors	2,505 (5.22)	882 (4.44)	1,623 (5.76)	128.46	67
Scientific and Intellectual Professionals	2,272 (4.73)	618 (3.11)	1,654 (5.87)	126.98	73
Middle-level Technicians and Professionals	1,804 (3.76)	906 (4.56)	898 (3.19)	142.97	77
Administrative Support Staff	1,406 (2.93)	530 (2.67)	876 (3.11)	135.77	69
Service Workers and Shop and Market Sales Workers	5,538 (11.35)	1,868 (9.40)	3,670 (13.03)	139.03	72
Skilled Agricultural Workers	2,211 (4.60)	1,000 (5.03)	1,211 (4.30)	158.01	88
Craft and Related Trades Workers	7,178 (14.96)	1,460 (7.35)	5,718 (20.31)	141.09	72
Plant and Machine Operators and Assemblers	8,029 (16.72)	5,539 (27.88)	2,490 (8.84)	148.27	75
Elementary Occupations	4,604 (9.59)	2,090 (10.52)	2,514 (8.93)	136.89	65
Unskilled Workers over 18 Years Old	6,039 (12.57)	2,300 (11.58)	3,739 (13.28)	145.19	70

Missing Values	6,439 (13.41)	2,672 (13.45)	3,767 (13.38)	230.75	167
National Classification of Economic Activities (CNAE)					
Section A – Agriculture, Forestry, and Fishing	1,034 (2.15)	503 (2.53)	531 (1.89)	212.27	159
Section B – Mining and Quarrying	37 (0.08)	33 (0.17)	4 (0.01)	156.19	87
Section C – Manufacturing	4,806 (10.01)	2,852 (14.36)	1,954 (6.94)	148.86	77
Section D – Electricity, Gas, Steam, and Air Conditioning Supply	51 (0.11)	34 (0.17)	17 (0.06)	188.78	87
Section E – Water Supply; Sewerage, Waste Management, and Remediation Activities	276 (0.57)	199 (1.00)	77 (0.27)	143.35	89.5
Section F – Construction	2,374 (4.94)	1,919 (9.66)	455 (1.62)	153.49	75
Section G – Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	8,521 (17.74)	3,082 (15.51)	5,439 (19.31)	159.39	86
Section H – Transportation and Storage	3,209 (6.68)	2,304 (11.60)	905 (3.21)	162.40	85
Section I – Accommodation and Food Service Activities	4,812 (10.02)	1,566 (7.88)	3,246 (11.53)	144.32	74
Section J – Information and Communication	2,825 (5.88)	1,193 (6.01)	1,632 (5.80)	146.72	77
Section K – Financial and Insurance Activities	710 (1.48)	214 (1.08)	496 (1.76)	164.23	99
Section L – Real Estate Activities	349 (0.73)	94 (0.47)	255 (0.91)	179.91	111
Section M – Professional, Scientific, and Technical Activities	2,774 (5.78)	970 (4.88)	1,804 (6.41)	145.11	78
Section N – Administrative and Support Service Activities	5,516 (11.49)	2,226 (11.21)	3,290 (11.68)	157.45	82
Section O – Public Administration and Defense; Compulsory Social Security	2,314 (4.82)	901 (4.54)	1,413 (5.02)	156.98	91
Section P – Education	2,266 (4.72)	467 (2.35)	1,799 (6.39)	133.67	71
Section Q – Human Health and Social Work Activities	3,524 (7.34)	537 (2.70)	2,987 (10.61)	139.11	70.5
Section R – Arts, Entertainment, and Recreation	862 (1.79)	354 (1.78)	508 (1.80)	171.30	109
Section S – Other Service Activities	1,455 (3.03)	358 (1.80)	1,097 (3.90)	149.82	80

Section T – Activities of Households as Employers; Undifferentiated	297 (0.62)	53 (0.27)	244 (0.87)	189.37	100
Goods- and Services-Producing Activities of Households for Own Use					
Section U – Activities of Extraterritorial Organizations and Bodies	8 (0.02)	2 (0.01)	6 (0.02)	102.38	35.5
Missing Values	5 (0.01)	4 (0.02)	1 (0.00)	514.40	609

Table 6.

Mental Health Attrition Rate and Number of TDCCs in 2023 by National Classification of Economic Activities (CNAE)

	Insured Workers 2023 (Mental Health Attrition Rate (%))	TDCCs 2023
National Classification of Economic Activities (CNAE)		
Section A - Agriculture, Forestry, and Fishing	53,208 (0.70)	375
Section B - Mining and Quarrying	1,422 (1.27)	18
Section C - Manufacturing	161,425 (1.29)	2,090
Section D - Electricity, Gas, Steam, and Air Conditioning Supply	1,287 (1.24)	16
Section E - Water Supply; Sewerage, Waste Management, and Remediation Activities	6,609 (1.39)	92
Section F - Construction	130,416 (0.88)	1,145
Section G - Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	254,009 (1.44)	3,657
Section H - Transportation and Storage	90,777 (1.59)	1,442
Section I - Accommodation and Food Service Activities	115,504 (2.20)	2,539
Section J - Information and Communication	75,211 (1.64)	1,236
Section K - Financial and Insurance Activities	16,285 (1.58)	257
Section L - Real Estate Activities	13,035 (1.27)	166
Section M - Professional, Scientific, and Technical Activities	109,510 (1.16)	1,269
Section N - Administrative and Support Service Activities	104,981 (2.33)	2,449
Section O - Public Administration and Defense; Compulsory Social Security	40,382 (2.20)	890
Section P - Education	69,457 (1.44)	997
Section Q - Human Health and Social Work Activities	67,115 (2.30)	1,543
Section R - Arts, Entertainment, and Recreation	32,926 (1.33)	438
Section S - Other Service Activities	42,581 (1.45)	616
Section T - Activities of Households as Employers; Undifferentiated Goods- and Services-Producing Activities of Households for Own Use	16,040 (0.66)	106
Section U - Activities of Extraterritorial Organizations and Bodies	257 (1.56)	4

Note. Mental health attrition rate refers to the proportion of mental health-related sick leave cases in the sample relative to the total number of insured workers.

4.2. Comparative Analysis of Six Principal Mental Health Diagnoses in TDCCs (2018-2022): Examining Variability in Episode Frequency, Diagnosis Category, and Duration Across Individual and Occupational Variables.

To investigate the differences in mean age among the six main psychiatric diagnoses, an ANOVA was conducted. The analysis revealed significant associations between the six psychiatric diagnostic categories and age ($F=195.08$; $p < 0.001$; $\eta^2 = 0.02$). Nonetheless, this modest effect size hints at the possibility of unaccounted variables influencing these relationships.

Furthermore, the study examined the differences in the daily contribution regulatory base and the number of workers across the six psychiatric diagnostic categories using ANOVA. Significant differences were found in the daily contribution regulatory base ($F= 15.63$; $p < 0.001$; $\eta^2 = 0.002$) and the number of workers ($F = 12.60$; $p < 0.001$; $\eta^2 = 0.001$) among the six psychiatric diagnostic categories. However, the very small eta squared values suggest that the diagnostic categories explain only a small fraction of the variance in these variables.

To explore the association between psychiatric diagnoses and gender, a Chi-square test was employed. The test indicated a statistically significant association between psychiatric diagnoses and gender ($\chi^2 = 9.22$; $df = 5$; $p > 0.05$; Cramer's $V = 0.01$), suggesting a different distribution of psychiatric diagnoses across genders. However, the effect size was very small, indicating that the influence of gender on the distribution of diagnostic types was minimal.

Additionally, Chi-square tests were used to examine the associations between psychiatric diagnoses and types of contracts, the National Classification of Economic Activities (CNAE), and the National Classification of Occupations (CNO). Statistically significant associations were found between psychiatric diagnoses and types of contracts ($\chi^2 = 36.71$; $df = 10$; $p < 0.001$; Cramer's $V = 0.02$), National Classification of Occupations (CNO) ($\chi^2 = 142.05$; $df = 45$; $p < 0.001$; Cramer's $V = 0.03$), and National Classification of Economic Activities (CNAE) ($\chi^2 = 528.74$; $df = 100$; $p < 0.001$; Cramer's $V = 0.05$). Although these associations are statistically significant, their small effect sizes suggest the potential presence of other influential factors not captured in this study. These unidentified factors might affect how psychiatric diagnoses are distributed across different types of contracts, social security contribution groups, and business sectors in the sampled population.

Descriptive statistics were used to examine the average ages associated with different diagnoses. The disorder with the highest mean age is major recurrent depressive disorder, single episode

(F33), averaging 49.42 years (± 10.91). Conversely, the diagnosis with the youngest mean age corresponds to other anxiety disorders (F41), at 43.27 years (± 11.00) (Table 7).

Regarding the daily contribution regulatory base, the diagnosis with the highest average contribution base was reaction to severe stress and adjustment disorders (F43) (54.30 ± 27.59). Conversely, the diagnosis with the lowest average was other mental disorders due to known physiological condition (F06) (47.94 ± 22.91). However, as can be seen, both diagnoses exhibited very high standard deviations (Table 7).

An examination of the number of Temporary Disability Certificate Cases (TDCCs) revealed a fluctuating temporal trend over the years. Notably, the mean duration of TDCCs was higher in 2020 and 2021, with peaks observed in disorders such as other anxiety disorders (F41), reaction to severe stress and adjustment disorders (F43), persistent mood (affective) disorders (F34), and major depressive disorder, recurrent (F33). However, a significant decrease in the mean and median duration of TDCCs was recorded in 2022, with the exception of other mental disorders due to known physiological conditions (F06). This diagnostic category exhibited durations surpassing those observed in 2019. In fact, for this category, the mean duration in 2022 exceeded even that of 2020 (Table 7).

When considering the type of employment contract, it is important to note that the highest prevalence of TDCCs is found in full-time contracts across all principal psychiatric diagnostic categories (Table 7).

Upon examining the National Classification of Occupations (CNO), our study revealed a consistent pattern in the distribution of TDCC prevalence, both in a broad context and across the six most prevalent diagnostic categories. Nevertheless, despite the clear definition of the three groups with the highest prevalence: plant and machine operators and assemblers, craft and related trades workers, and unskilled workers over 18 years old, the order varies depending on the type of diagnosis. For instance, in the case of the categories other anxiety disorders (F41), reaction to severe stress and adjustment disorders (F43), major depressive disorder, single episode (F32), major depressive disorder, recurrent (F33), and other mental disorders due to known physiological conditions (F06), the most prevalent group was plant and machine operators and assemblers. However, for the diagnosis of persistent mood [affective] disorders (F34), the most prevalent group was craft and related trades workers (Table 7).

Lastly, an analysis of the National Classification of Economic Activities (CNAE) unveiled distinct variations in certain types of diagnoses. For instance, in major depressive disorder, single episode

(F32), the manufacturing sector (Section C) exhibited a higher prevalence at 10.92% (552 TDCCs), in comparison to administrative and support service activities (Section N) at 10.05% (508 TDCCs). Regarding persistent mood (affective) disorders (F34) and major recurrent depressive disorder (F33), the accommodation and food service activities sector (Section I) ranked as the third most prevalent, with 10.38% (299 TDCCs) and 12.22% (352 TDCCs) with respect to administrative and support service activities (Section N). In cases of other mental disorders due to known physiological conditions (F06), the accommodation and food service activities sector (Section I) was the second most prevalent, with 13.94% (159 TDCCs). Nevertheless, the most prevalent sector overall remained wholesale and retail trade, including the repair of motor vehicles and motorcycles (Section G), consistently holding this position for these main diagnoses (Table 7).

Table 7.

An In-Depth Statistical Overview of Mental Health-Related Temporary Disabilities in the Workplace: Demographics, Contract Types, and Temporal Patterns (2018-2022)

	F41: Other anxiety disorders (N= 24,172)	F43: Reaction to severe stress and adjustment disorders (N= 8,853)	F32: Major depressive disorder, single episode (N= 5,055)	F34: Persistent mood [affective] disorders (N= 2,880)	F33: Major depressive disorder, recurrent (N= 1,538)	F06: Other mental disorders due to known physiological condition (N= 1,141)
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Age (range 16-85 years old)	43.27 ± 11.00	45.13 ± 11.03	47.04 ± 11.45	46.25 ± 11.15	49.42 ± 10.91	45.21 ± 10.81
Daily Contribution (Salary)	53.20 ± 26.98	54.30 ± 27.59	51.71 ± 27.00	52.90 ± 28.46	52.86 ± 29.01	47.94 ± 22.91
	Mean / Median	Mean / Median	Mean / Median	Mean / Median	Mean / Median	Mean / Median
TDCCs Initiation Year (days duration)						
2018	110.35 / 57	231.61 / 141	156.53 / 94	145.98 / 92	256.61 / 224	111.36 / 84
2019	126.30 / 67	162.18 / 92	161.17 / 116	139.23 / 91	208.07 / 177	125.41 / 58
2020	137.10 / 65	180.22 / 100.5	203.58 / 131	160.58 / 92	235.17 / 166.5	155.31 / 88
2021	135.87 / 65	180.12 / 112	208.78 / 126	163.27 / 92	250.49 / 186	170.00 / 85
2022	121.34 / 57	147.44 / 86	188.63 / 131	140.72 / 81	217.64 / 169	157.50 / 89
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
TDCCs Initiation Year (number of cases)						
2018	370 (1.53)	41 (0.46)	163 (3.22)	113 (3.92)	28 (1.82)	22 (1.93)
2019	1,919 (7.94)	626 (7.07)	509 (10.07)	342 (11.88)	199 (12.94)	157 (13.76)
2020	4,871 (20.15)	1,766 (19.95)	1,012 (20.02)	627 (21.77)	332 (21.59)	294 (25.77)

2021	7,495 (31.00)	3,092 (34.93)	1,357 (26.84)	713 (24.76)	439 (28.54)	305 (26.73)
2022	9,519 (39.38)	3,328 (37.59)	2,014 (39.84)	1,085 (37.67)	540 (35.11)	363 (31.81)
Type of contract						
Permanent Contract	15,820 (65.44)	5,659 (63.92)	2,941 (58.18)	1,827 (63.44)	834 (54.23)	650 (56.97)
Temporary Contract	3,467 (14.34)	1,084 (12.24)	536 (10.60)	357 (12.40)	156 (10.14)	141 (12.36)
Specific Contract	2,000 (8.27)	685 (7.74)	411 (8.13)	203 (7.05)	100 (6.50)	100 (8.76)
National Classification of Occupations (CNO)						
Managers and Directors	1,222 (5.06)	508 (5.74)	245 (4.85)	167 (5.80)	92 (5.98)	49 (4.29)
Scientific and Intellectual Professionals	1,218 (5.04)	472 (5.33)	187 (3.70)	116 (4.03)	62 (4.03)	39 (3.42)
Middle-level Technicians and Professionals	959 (3.97)	324 (3.66)	174 (3.44)	116 (4.03)	63 (4.10)	32 (2.80)
Administrative Support Staff	769 (3.18)	240 (2.71)	138 (2.73)	82 (2.85)	38 (2.47)	24 (2.10)
Service Workers and Shop and Market Sales Workers	3,049 (12.61)	1,062 (12.00)	473 (9.36)	327 (11.35)	137 (8.91)	89 (7.80)
Skilled Agricultural Workers	1,176 (4.86)	389 (4.39)	195 (3.86)	137 (4.76)	60 (3.90)	41 (3.59)
Craft and Related Trades Workers	3,853 (15.94)	1,275 (14.40)	651 (12.88)	458 (15.90)	174 (11.31)	156 (13.67)
Plant and Machine Operators and Assemblers	4,161 (17.21)	1,485 (16.77)	779 (15.41)	444 (15.42)	201 (13.07)	193 (16.91)
Elementary Occupations	2,439 (10.09)	778 (8.79)	461 (9.12)	263 (9.13)	105 (6.83)	131 (11.48)
Unskilled Workers over 18 Years Old	2,951 (12.21)	1,102 (12.45)	673 (13.31)	340 (11.81)	173 (11.25)	144 (12.62)
National Classification of Economic Activities (CNAE)						

Section A - Agriculture, Forestry, and Fishing	327 (1.35)	205 (2.32)	196 (3.88)	51 (1.77)	84 (5.46)	48 (4.21)
Section B - Mining and Quarrying	18 (0.07)	6 (0.07)	5 (0.10)	2 (0.07)	1 (0.07)	0 (0.00)
Section C - Manufacturing	2,410 (9.97)	929 (10.49)	552 (10.92)	243 (8.44)	140 (9.10)	113 (9.90)
Section D - Electricity, Gas, Steam, and Air Conditioning Supply	29 (0.12)	8 (0.09)	3 (0.06)	1 (0.03)	4 (0.26)	1 (0.09)
Section E - Water Supply; Sewerage, Waste Management, and Remediation Activities	126 (0.52)	55 (0.62)	41 (0.81)	12 (0.42)	10 (0.65)	10 (0.88)
Section F - Construction	1,107 (4.58)	429 (4.85)	247 (4.89)	151 (5.24)	87 (5.66)	63 (5.52)
Section G - Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	4,309 (17.83)	1,637 (18.49)	884 (17.49)	522 (18.12)	259 (16.84)	193 (16.91)
Section H - Transportation and Storage	1,740 (7.20)	534 (6.03)	308 (6.09)	181 (6.28)	86 (5.59)	60 (5.26)
Section I - Accommodation and Food Service Activities	2,387 (9.88)	818 (9.24)	506 (10.01)	299 (10.38)	160 (10.40)	159 (13.94)
Section J - Information and Communication	1,501 (6.21)	482 (5.44)	273 (5.40)	170 (5.90)	93 (6.05)	42 (3.68)
Section K - Financial and Insurance Activities	328 (1.36)	124 (1.40)	91 (1.80)	48 (1.67)	42 (2.73)	16 (1.40)
Section L - Real Estate Activities	153 (0.63)	61 (0.69)	43 (0.85)	39 (1.35)	16 (1.04)	10 (0.88)
Section M - Professional, Scientific, and Technical Activities	1,440 (5.96)	505 (5.70)	275 (5.44)	151 (5.24)	88 (5.72)	67 (5.87)
Section N - Administrative and Support Service Activities	2,810 (11.63)	980 (11.07)	508 (10.05)	352 (12.22)	169 (10.99)	113 (9.90)

Section O - Public Administration and Defense; Compulsory Social Security	1,175 (4.86)	498 (5.63)	237 (4.69)	132 (4.58)	49 (3.19)	58 (5.08)
Section P - Education	1,119 (4.63)	434 (4.90)	233 (4.61)	150 (5.21)	88 (5.72)	51 (4.47)
Section Q - Human Health and Social Work Activities	1,903 (7.87)	687 (7.76)	342 (6.77)	192 (6.67)	86 (5.59)	65 (5.70)
Section R - Arts, Entertainment, and Recreation	457 (1.89)	147 (1.66)	77 (1.52)	65 (2.26)	19 (1.24)	16 (1.40)
Section S - Other Service Activities	705 (2.92)	268 (3.03)	178 (3.52)	96 (3.33)	40 (2.60)	44 (3.86)
Section T - Activities of Households as Employers; Undifferentiated Goods- and Services-Producing Activities of Households for Own Use	124 (0.51)	44 (0.50)	52 (1.03)	22 (0.76)	17 (1.11)	12 (1.05)
Section U - Activities of Extraterritorial Organizations and Bodies	5 (0.02)	1 (0.01)	2 (0.04)	0 (0.00)	0 (0.00)	0 (0.00)

4.3. Economic Impact of Justified Absenteeism Due to Mental Health-Related TDCCs

To estimate the economic impact of temporary disability leaves, our methodology conformed to standard practices within the Spanish context. The compensatory structure is delineated as follows: the initial three days of absence incur no payment. From the fourth through the fifteenth day, employers cover at least 60% of the daily regulatory base, a figure that may increase to 100% at the employer's discretion. Due to the unavailability of specific data regarding each company's actual payments, we conservatively assumed the provision of the minimum 60%. On the sixteenth day extending to the twentieth, mutual insurance companies assume responsibility, providing 60% of the daily contribution regulatory base (salary). For periods of leave exceeding twenty days, the contribution from mutual insurance increases to cover 75% of the daily contribution regulatory base.

To accurately determine the annual economic impact of temporary disability leaves, we consider the start and end dates of each leave within a given year. If a leave spans across two years, the associated costs are allocated to the respective years based on the duration in each year. Importantly, when a leave extends into the following year, the calculation of the economic impact continues seamlessly from the previous year, taking into account the number of days already elapsed and the corresponding compensation percentages. This methodology ensures a precise representation of the financial burden, even when leaves extend across multiple years, by maintaining continuity in the calculation of costs.

The analysis of the economic impact of temporary disability cases due to mental health from 2018 to 2023 reveals a consistent upward trend in both the total and average costs over the years. The total summation of costs incurred by the company shows a significant increase from €270,857.38 in 2018 to €7,434,959.17 in 2023. Similarly, the total costs borne by the mutual insurance company increased significantly from €1,716,527.58 in 2018 to €101,036,387.11 in 2023 (Table 8)

This upward trend is mirrored in the average cost per person, with the company's costs per person remaining relatively stable around €352 but showing a slight increase to €369.04 in 2023. In contrast, the average cost per person for the mutual insurance company exhibited a more substantial rise from €2,768.59 in 2018 to €4,597.37 in 2023 (Table 8).

Overall, the cumulative total costs for the period amounted to €466,191,594.98, with the company's total at €23,387,321.28 and the mutual insurance company's total at €297,625,126.75. The average cost per person across the entire period for the company was €351.97, whereas for the mutual insurance company, it was €3,846.32 (Table 8).

Table 8.

Annual Economic Impact of Temporary Disability Cases due to Mental Health: Total and Average Costs per Person (2018-2023)

Year	Total Summation of Costs (Company): TDCCs (€)	Average Cost per Person: TDCCs (Company): TDCCs (€)	Total Summation of Costs (Mutual Insurance Company): TDCCs (€)	Average Cost per Person: TDCCs (Mutual Insurance Company): TDCCs (€)	Total Sum of Costs: TDCCs (€)
2018	270,857.38	352.22	1,716,527.58	2,768.59	2,920,385.82
2019	1,358,888.29	341.26	10,538,785.22	3,161.95	17,438,906.83
2020	3,307,906.75	347.54	34,542,580.74	3,721.06	55,142,159.15
2021	4,937,066.60	352.19	63,569,994.07	4,296.72	99,448,439.66
2022	6,077,643.09	349.59	86,220,852.03	4,532.21	133,848,289.37
2023	7,434,959.17	369.04	101,036,387.11	4,597.37	157,393,414.15
<i>Total</i>	23,387,321.28	351.97	297,625,126.75	3,846.32	466,191,594.98

Note. Given that the economic impact analysis is performed annually, the calculation for 2023 includes all leaves of absence that occurred during that year, irrespective of whether they extend and remain active into 2024.

Furthermore, concerning the total costs by diagnosis type, it was observed that the most prevalent diagnoses are also associated with the highest costs (other anxiety disorders [F41]). Additionally, the diagnosis with the highest average cost per person was major depressive disorder, recurrent (F33), which also corresponded to the longest average duration of sick leave (€8,725.35) (Table 9).

Table 9.

Cost Analysis of Top Six ICD-10 Diagnoses in Temporary Disability Cases Related to Mental Health: A Breakdown of Total and Average Costs (2018-2022)

Top Six ICD-10 Diagnoses (number of TDCCs)	Total Summation of Costs: TDCCs (€)	Average Cost per Person: TDCCs (€)
<i>F41: Other anxiety disorders (22,616 TDCCs)</i>	120,141,052.06	5,312.21
<i>F43: Reaction to severe stress and adjustment disorders (8,562 TDCCs)</i>	57,427,564.29	6,707.26
<i>F32: Major depressive disorder, single episode (4,943 TDCCs)</i>	36,651,483.9	7,414.83
<i>F34: Persistent mood [affective] disorders (2,756 TDCCs)</i>	15,926,951.5	5,779.01
<i>F33: Major depressive disorder, recurrent (1,496 TDCCs)</i>	13,053,123.77	8,725.35
<i>F06: Other mental disorders due to known physiological condition (1,101 TDCCs)</i>	6,112,932.81	5,552.16

Note. The total number of sick leave cases per diagnosis type and the overall total do not match the values in Table 4 because cases with a total cost of 0 have been excluded due to having a sick leave duration of less than 3 days or lacking the relevant information.

Considering the National Classification of Occupations (CNO), the group with the highest total cost was plant and machine operators and assemblers (€49,690,578.03 [7,620 TDCCs]), although the group with the highest average cost per person was managers and directors (€8,887.22 [2,408 TDCCs]) (Table 10).

Table 10.

Occupational Cost Analysis of Temporary Disability Cases due to Mental Health: National Occupation Classification (CNO) (2018-2022)

National Classification of Occupations (CNO) (number of TDCCs)	Total Cost (€)	Average Cost per Person (€)
<i>Managers and Directors: (2,408 TDCCs)</i>	21,400,421.0	8,887.22
<i>Scientific and Intellectual Professionals: (2,195 TDCCs)</i>	16,178,980.6	7,370.83
<i>Middle-level Technicians and Professionals: (1,742 TDCCs)</i>	15,037,266.72	8,632.19

<i>Administrative Support Staff: (1,344 TDCCs)</i>	8,709,311.07	6,480.14
<i>Service Workers and Shop and Market Sales Workers: (5,192 TDCCs)</i>	33,974,157.77	6,543.56
<i>Skilled Agricultural Workers: (2,104 TDCCs)</i>	12,435,242.41	5,910.29
<i>Craft and Related Trades Workers: (6,738 TDCCs)</i>	32,768,749.58	4,863.28
<i>Plant and Machine Operators and Assemblers: (7,620 TDCCs)</i>	49,690,578.03	6,521.07
<i>Elementary Occupations: (4,356 TDCCs)</i>	21,255,181.32	4,879.52
<i>Unskilled Workers over 18 Years Old: (5,624 TDCCs)</i>	25,644,846.17	4,559.89

Note. The total number of sick leave cases per CNO category and the overall total do not match the values in Table 5 because cases with a total cost of 0 have been excluded due to having a sick leave duration of less than 3 days or lacking the relevant information.

In terms of the National Classification of Economic Activities (CNAE), the sector that incurred the highest total cost was wholesale and retail trade; repair of motor vehicles and motorcycles (Section G) (€47,924,497.46 [8,090 TDCCs]). However, the sector with the highest average cost per person was electricity, gas, steam, and air conditioning supply (Section D) (€9,903.77 [49 TDCCs]), followed by mining and quarrying (Section B) (€9,109.2 [37 TDCCs]) (Table 11).

Table 11.

Cost Analysis of Temporary Disability Cases by Economic Activity: National Classification of Economic Activities (CNAE) (2018-2022)

National Classification of Economic Activities (CNAE) (number of TDCCs)	Total Cost (€)	Average Cost per Person (€)
<i>Section A - Agriculture, Forestry, and Fishing: (1,011 TDCCs)</i>	6,215,764.48	6,148.13
<i>Section B - Mining and Quarrying: (37 TDCCs)</i>	337,040.39	9,109.2
<i>Section C - Manufacturing: (4,522 TDCCs)</i>	30,477,178.42	6,739.76
<i>Section D - Electricity, Gas, Steam, and Air Conditioning Supply: (49 TDCCs)</i>	485,284.51	9,903.77
<i>Section E - Water Supply; Sewerage, Waste Management, and Remediation Activities: (267 TDCCs)</i>	2,027,012.84	7,591.81
<i>Section F - Construction: (2,271 TDCCs)</i>	14,908,883.19	6,564.9

<i>Section G - Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles: (8,090 TDCCs)</i>	47,924,497.46	5,923.92
<i>Section H - Transportation and Storage: (3,036 TDCCs)</i>	23,997,663.44	7,904.37
<i>Section I - Accommodation and Food Service Activities: (4,562 TDCCs)</i>	20,568,375.78	4,508.63
<i>Section J - Information and Communication: (2,696 TDCCs)</i>	17,239,503.77	6,394.47
<i>Section K - Financial and Insurance Activities: (677 TDCCs)</i>	5,318,527.28	7,856.02
<i>Section L - Real Estate Activities: (340 TDCCs)</i>	2,392,409.8	7,036.5
<i>Section M - Professional, Scientific, and Technical Activities: (2,632 TDCCs)</i>	17,432,533.04	6,623.3
<i>Section N - Administrative and Support Service Activities: (5,116 TDCCs)</i>	27,744,055.98	5,423.0
<i>Section O - Public Administration and Defense; Compulsory Social Security: (2,233 TDCCs)</i>	19,469,916.2	8,719.17
<i>Section P - Education: (2,161 TDCCs)</i>	12,934,717.92	5,985.52
<i>Section Q - Human Health and Social Work Activities: (3,355 TDCCs)</i>	17,265,538.25	5,146.21
<i>Section R - Arts, Entertainment, and Recreation: (829 TDCCs)</i>	4,816,292.68	5,809.76
<i>Section S - Other Service Activities: (1,407 TDCCs)</i>	7,018,685.13	4,988.4
<i>Section T - Activities of Households as Employers; Undifferentiated Goods- and Services-Producing Activities of Households for Own Use: (279 TDCCs)</i>	1,232,336.11	4,416.98
<i>Section U - Activities of Extraterritorial Organizations and Bodies: (8 TDCCs)</i>	51,208.93	6,401.12

Note. The total number of sick leave cases per CNAE sector and the overall total do not match the values in Table 5 because cases with a total cost of 0 have been excluded due to having a sick leave duration of less than 3 days or lacking the relevant information.

5. Discussion

The aim of this study was to examine the prevalence, duration, and associated costs of work absences due to mental health reasons in a national sample encompassing workers from all autonomous communities in Spain between 2018 and 2022. Additionally, a comparative analysis was conducted to assess the relative prevalence of these absences in 2023 based on gender, age, and the National Classification of Economic Activities (CNAE) in relation to Temporary Disability due to Common Contingencies (TDCCs) attributed to mental health causes and the number of affiliated workers of Ibermutua, including the calculation of the economic impact for that year. Our findings indicate that this phenomenon represents a significant concern at the national level and could potentially extend to a global scale, aligning with previous research identifying mental disorders as a primary cause of absenteeism, both globally and nationally, in terms of prevalence, duration, and associated costs (Bernfort et al., 2021; Björkenstam et al., 2021; Catalina-Romero et al., 2013; Dewa et al., 2020; Gaillard et al., 2020; Gostoli et al., 2022; Hasting et al., 2022; LaMontagne et al., 2014; Mauramo et al., 2018; Ruiz-Rodríguez et al., 2017; Sousa et al., 2022; Vicente-Herrero et al., 2013; Wolvetang et al., 2022; Łaszewska et al., 2020).

However, despite the global consensus regarding the concern over these figures, accurately quantifying them remains challenging due to a lack of agreement. This is because other mutual insurance companies, such as Asepeyo, estimate mental health-related sick leave at 11.2% of all registered sick leave cases (Asepeyo, 2022), while in this study, temporary disabilities due to mental health reasons represented a maximum of 5.31% in 2021 (Table 1).

Furthermore, the measurement of prevalence is not the only existing problem. Reaching a consensus on the average duration of mental health-related sick leave also appears to be difficult. In the present study, the average duration was 154 days, with annual variations (ranging from a maximum of 165 days in 2020 to a minimum of 148 days in 2018). However, other insurance companies have estimated it at 97 days (Fremap, 2022) and 134 days (Asepeyo, 2022). This variability in figures suggests that the average duration of this type of sick leave varies considerably depending on the individual characteristics of each person, making it challenging to quantify or estimate an exact and agreed-upon figure.

The analysis of the dataset (2018-2022) revealed that the most prevalent diagnoses for work absences due to mental health reasons were other anxiety disorders (F41), accounting for 50.34% of cases, followed by reaction to severe stress and adjustment disorders (F43) at 18.43%, and major depressive disorder, single episode (F32) at 10.53%. These three conditions collectively

represent approximately 79% of the diagnoses, underscoring their significant impact on occupational health. This distribution aligns with the established patterns of mental health challenges within the workforce, further emphasizing the need for focused interventions addressing these specific disorders.

Although there is a debate in the literature regarding the association between gender and the prevalence of temporary disabilities due to mental health reasons, with some authors suggesting its presence (Henares et al., 2020; Ribeiro et al., 2021; Salameh et al., 2020) and others not reaching a consensus (Blank et al., 2008; Gaillard et al., 2020; Hascher & Waber, 2021; Rivière et al., 2020), our study results cannot confirm the presence of statistically significant differences in this aspect. When comparing the number of insured workers with the number of cases of work incapacity related to mental health in 2023, women represented 2.18% and men 1.10%. While this may indicate the possibility of statistically significant differences, we cannot calculate or affirm them due to the lack of necessary data. Furthermore, the reason for the higher prevalence in women remains unknown and may be attributed to socioeconomic or social factors (Spoorthy et al., 2020; Yu, 2018), such as a less stigmatizing attitude towards disorders like generalized anxiety, potentially encouraging greater help-seeking behavior and treatment utilization (Bradbury, 2020). Nevertheless, despite the prevalence in women being up to twice that of men, these findings suggest that mental health challenges should be addressed in both genders, regardless of sex, while keeping in mind the contextual and social variables that may be contributing to this higher prevalence.

Furthermore, statistically significant differences were found in the distribution of the six most prevalent mental health condition diagnoses and gender in a sample of 43,639 participants. However, despite the statistically significant difference, the effect size was very small (Cramer's $V = 0.01$), indicating that the influence of sex on this distribution is minimal. This suggests that, although statistically significant, the practical difference in the proportions of diagnoses between men and women may not be clinically relevant or significant in terms of health policy. These primary diagnoses – other anxiety disorders (F41), reaction to severe stress and adjustment disorders (F43), major depressive disorder, single episode (F32), persistent mood [affective] disorders (F34), major depressive disorder, recurrent (F33), and other mental disorders due to known physiological condition (F06) – account for the majority of cases in the dataset (90.88%). The findings underscore the importance of addressing these mental health conditions in both genders, while considering the potential role of other factors beyond sex in the development and manifestation of these disorders.

Regarding gender and the duration of these sick leave cases, no statistically significant differences were found. This could encourage the consideration of such aspects when developing occupational health policies and intervention strategies.

Another statistically significant gender-related difference was the average age at which these sick leave cases occurred, with women being slightly younger than men. However, despite the statistical significance, the practical implications of this difference are minimal, with a very small effect size (Cohen's $d = 0.03$). These findings suggest that age may not be a key factor to consider when designing occupational health prevention or intervention strategies based on gender. Nevertheless, the results highlight the need for further investigation into gender differences in the age of mental health-related leaves, considering contextual and cultural factors that might explain these discrepancies (Yu, 2018). Additionally, the importance of developing personalized interventions for those suffering temporary disabilities due to mental health reasons, catering to their specific needs based on their individual context, is emphasized.

Regarding age, although there is also debate about which age group is at higher risk of mental health-related absences, results in the literature remain mixed (Gosseries et al., 2012; Hascher and Waber, 2021; Molina-Praena et al., 2018). This variability in relative prevalence by age group is consistent with the lack of consensus in the literature regarding which age range is at higher risk. In this study, it can be observed that, in relative terms based on the total number of insured workers and mental health-related sick leave cases in 2023, the group from 25 to 29 years old was the most prevalent (2.01%), along with the group from 30 to 34 years old (1.99%) and the group aged 65 years and above (1.93%). Moreover, the group with the lowest proportion of sick leave cases was from 55 to 59 years old (1.23%).

After identifying the age groups at highest risk, it can be observed that these range from young adulthood (from 25 to 34 years old) to the last stage prior to retirement (65 years old and above). This finding suggests that it would be interesting to consider this information when designing age-specific intervention and prevention plans for mental health-related sick leave. The aim would be to identify variables that increase the risk in one group compared to another, thus enabling the development of more effective strategies tailored to each age group. These strategies should be based on understanding how to intervene according to the most common demands at each developmental stage, while also adapting to each social reality. For example, the oldest group may face challenges related to retirement, feelings of monotony, boredom, and lack of ambition at work, while the younger groups may struggle with work and/or family demands as they seek to become independent or have already done so and would like to start and balance their family life in a work model where both members are employed.

On the other hand, our results support the idea that the over-60 age group has the longest delay in returning to work after a mental health-related leave (221.41 days; Table 3), although some authors do not confirm this trend (Blank et al., 2008). Nevertheless, it is important to consider that this delay can carry significant risks in the process of transitioning between life stages. The delay in returning to work can create in individuals a sense of stagnation in the previous life stage, which in turn can lead to long-term complications. These difficulties could originate from the lack of a sense of self-efficacy experienced during the process of returning to work.

When considering age and the six main diagnoses, statistically significant differences are observed in nearly all of them. Anxiety is more commonly diagnosed at younger ages (43.27 years old), while major depression prevails in older age groups (47.05 years old), although the age differences are not remarkably pronounced. These findings suggest that age-specific prevalence rates could be considered when designing prevention and intervention plans tailored to the age groups with the highest prevalence of each type of diagnosis.

Another aspect to highlight is that, although in this study relapses have been excluded due to unreliable results, it is important to investigate what happens with these types of patients and whether it matches the literature in terms of relapse implying longer duration and risk of recurrence (Gaspar et al., 2020). The absence of data on relapses limits the interpretation of the results in this regard, so it would be valuable for future studies to address this issue. Additionally, regarding gender and frequency of episodes, the results show that men have a higher average frequency of episodes compared to women (with men averaging 5.48 episodes and women 4.50 episodes, as shown in Table 4).

The findings indicate that while there is a general trend of more severe disorders being associated with longer leave durations, this relationship is not always consistent (Sakakibara et al., 2019). For instance, schizophrenia (F20), a severe condition, does not exhibit the longest mean duration (220.15 days), with bipolar disorder (F31), another severe disorder, surpassing it (245.47 days). Conversely, anxiety disorders (F41), the most prevalent and arguably among the least severe alongside adaptive disorders, show the shortest average duration (129.25 days). Notably, one of the most common diagnostic groups, F06, corresponds to the ambiguous label of "other mental disorders due to known physiological condition." These results underscore the need for further investigation into the association between disorder severity and leave duration, as well as for enhancing diagnostic accuracy in certain cases to enable more robust inferences. Moreover, the fact that 50.34% of sick leaves are attributed to the F41 category (anxiety disorders) emphasizes

the limited specificity and explanatory value of diagnostic labels when considering interventions for this patient population, highlighting an emerging challenge.

Although it is widely confirmed in the literature that job precariousness is a risk factor for mental health (Bränström et al., 2023; Lu & Lin, 2021; Matilla-Santander et al., 2019; Sinclair et al., 2021; Suleiman-Martos et al., 2020), in this study, there is insufficient information to confirm it, as most of the sample has full-time contracts and details about the type of jobs and working conditions are unknown. However, it is observed that most of the sample deviates from positions with more favorable conditions in terms of security, economic uncertainty, and income, such as groups 1 (directors and managers) and 2 (scientific and intellectual professionals), who together only account for 9.95% of the total sample. It is interesting to see how the average duration of leaves is shorter in these two groups (128.48 and 126.98, respectively), who have greater responsibility and, likely, more significant consequences when returning to work if they maintain a long period of leave, compared to other professional groups with less objective responsibility (Table 5). Moreover, when relating the daily contribution regulatory base to the type of diagnosis, sick leaves related to severe stress and adjustment disorders (F43) tend to be more common in profiles with a high contribution base (€54.30) (Table 7).

Furthermore, it is evident that the level of responsibility is reflected in the daily contribution regulatory base (salary), as groups with higher salaries exhibit a higher average cost per person. However, the total cost is more influenced by the number of leaves in each group than by the daily contribution regulatory base of affiliates with a TDCC for mental health reasons (Table 10). Similarly, in the case of the CNAE, the total cost primarily depends on the total number of leaves in each sector (Table 11). Regardless of the sector or job position, the existing literature (Doki et al., 2016) confirms that company size does not appear to have any relationship with the prevalence of mental health-related sick leaves, as evidenced by the substantial heterogeneity in our sample ($SD= 539.44$).

Upon examining the disparities in contribution bases between men and women, our national data reveals that men generally possess a higher average contribution base ($€59.10 \pm 28.21$) compared to women ($€48.56 \pm 25.56$). This difference is statistically significant and exhibits a large effect size (Cohen's $d = 0.41$). Notably, this gap persists despite the fact that women represent a larger proportion in senior positions such as directors, managers, and scientific and intellectual professionals (Table 5). However, the lack of detailed information regarding the specific roles within these categories hinders a more nuanced analysis. Furthermore, the higher percentage of women in roles with lower contribution bases makes it challenging to ascertain whether these differences are primarily attributable to gender factors or the types of employment. Nonetheless,

it is evident that the contribution base exerts the most substantial impact among all the variables analyzed, likely due to its close association with employment precarity.

However, it is pertinent to note that the small effect size observed (as indicated by the low values of Cohen's d , η^2 , and Cramer's V) suggests that, while the statistical significance of our findings is established, the practical or clinical importance of these differences may be limited. Specifically, the effect sizes for the differences in age, gender, daily contribution regulatory base (salary), number of workers, types of contracts, National Classification of Economic Activities (CNAE), and National Classification of Occupations (CNO) between the compared groups (males vs. females, or among the six psychiatric diagnostic categories) were generally small, with the exception of the differences in daily contribution regulatory base and gender (Cohen's $d = 0.41$). This consideration implies that other unmeasured factors could have an equal or greater impact on the distribution of psychiatric diagnoses and the origin of mental health-related work absences. Moreover, this observation underscores the importance of interpreting statistical significance with caution, particularly in the context of small effect sizes, to avoid overestimating the practical implications of the results.

In studies carried out on occupational health, the majority of the sample typically belongs to the education (Section P) and health sectors (Section Q) (Otero-López et al., 2006; Suleiman-Martos et al., 2020), which are usually among the most represented and studied clinically. However, in this case, thanks to the total number of insured workers in 2023 and the number of TDCCs in that same year, we can observe that the sectors with the highest prevalence in relative terms were administrative and support service activities (Section N) (2.33%), human health and social work activities (Section Q) (2.30%), public administration and defense; compulsory social security (Section O) (2.20%), and accommodation and food service activities (Section I) (2.20%), while the sector with the lowest prevalence was activities of households as employers; undifferentiated goods- and services-producing activities of households for own use (Section T) (0.66%). This shows that there are sectors with a high incidence that are not yet well explored in the literature. Nevertheless, work absences due to mental health reasons are a general problem affecting all sectors, regardless of some having a higher incidence than others.

The presented graph (Figure 4) clearly shows the impact of COVID-19 on the public health system, as reflected in the literature (Maraqa et al., 2020; Rahman et al., 2023; Wetzel et al., 2023), with an atypical decrease in the number of sick leaves recorded right at the beginning of the pandemic, in March and April. Furthermore, there was a decrease in the number of insured workers in 2020 (1,271,526) compared to the other years (Table 1). This highlights the effect of the health crisis not only on the mental health but also on the general well-being of workers. It is

also evident that 2020 was the year with the longest mental health-related sick leave durations, possibly not only due to the social situation but also because of the overburdened healthcare system when treating these patients. However, despite the upward trend in the number of sick leave cases, it appears that their duration is beginning to decrease, returning to durations similar to those observed before the pandemic (Table 3). Nevertheless, the average durations remain excessively high, reaching levels that have a more iatrogenic than protective function (Gjengedal et al., 2020; Gjengedal et al., 2021). This could be due to the employee experiencing a very low level of self-efficacy and, in some cases, an increased situation of job precariousness. These factors may result from the expenses involved and the reduction in daily contribution regulatory base (salary) for being on leave. Additionally, other adverse effects could stem from the importance of work in people's identity and how detrimental it can be to be without it for an extended period. However, further research is needed to confirm these potential explanations.

The calculation of the economic impact of sick leaves for mental health reasons shows the high expenditure derived from this phenomenon, considering that the analyzed sample represents only a small proportion of the annual leaves for this reason in Spain and globally. Additionally, the estimated cost only reflects the indirect expense of justified absenteeism, without considering other direct costs such as hospitalization, public care, medication, diagnosis, etc., or other much higher indirect costs associated with presenteeism, premature mortality, job reduction, training, etc. (Ruiz-Rodríguez et al., 2017; Sousa et al., 2022). Moreover, mental health issues can sometimes manifest as physical symptoms, leading to sick leaves due to musculoskeletal disorders or other conditions that have their roots in psychological distress and are the result of somatization.

Although the average duration of mental health-related sick leave is returning to figures similar to those observed before the pandemic, the total economic cost remains very high and continues to grow due to the increasing number of cases. The increased prevalence of these absences can be attributed to several factors, including the impact of the COVID-19 pandemic on worker health and absence rates, as well as the rise in socioeconomic precariousness resulting from the economic crisis. The latter may have contributed to psychological repercussions such as delayed emancipation, which could potentially influence family relationships, personal identity, and the development of adequate functional autonomy. Moreover, older individuals might face complications when it comes to retirement, while those with young children may experience stressors related to providing for them and managing the demands that come with parenthood. It is also important to consider the potential impact this situation can have on dependent and vulnerable household members, as suggested by the possible rise in new incidents among the child and adolescent population, as well as the potential economic and emotional impact of having

to care for a dependent person. In a sense, these factors might represent limitations in the development of personal resources, possibly due to, among other variables, an excess of demands stemming from the individual's home and/or personal life, potentially contributing to the increased prevalence of mental health issues and related sick leave. Therefore, addressing these issues may require a multifaceted approach that considers the various social, economic, and psychological factors at play from a multilevel perspective.

This pattern is also observed in the six main diagnoses, where the average cost depends on the leave with the longest average duration (major depressive disorder, single episode, F33), while the total cost is determined by the type of sick leave with the highest frequency (other anxiety disorders, F41).

It is crucial to emphasize that the costs calculated in this study represent only a fraction of the total economic impact derived from sickness absences due to mental health disorders in workers protected by Ibermutua. In addition to the costs borne by the company and the mutual insurance company, we cannot overlook the economic impact on the individuals on sick leave and other direct and indirect costs that have not been accounted for.

Workers must face expenses arising from treatments and salary losses that vary according to the duration of the absences, types of contracts, and collective agreements. As outlined in the results section, employees experience 100% salary losses for the first three days of leave, 40% from the 4th to the 21st day, and 25% from the 21st day onward. These financial losses can have a significant impact on the economic well-being of employees, particularly those in lower-income brackets or with limited savings.

The company bears the responsibility for providing the benefit during the first 12 days of the sick leave, excluding the initial 3 days. Furthermore, the company is obligated to continue contributing to social security and professional training for the duration of the employee's contract. This implies that, in addition to the benefit, the company assumes salary costs, which are estimated to be approximately 32.2% of the contribution base when taking into account contributions to social security, professional contingencies, unemployment, and the Wage Guarantee Fund (FOGASA) in Spain.

Mutual insurance companies, on the other hand, manage the benefits and other treatments agreed upon with the company. Additionally, it is necessary to acknowledge the cost to the public health and social security system, which bears a significant portion of all the needs generated by these absences. Consequently, the expenses presented in this study constitute only a part of the total

costs entailed by sickness absences due to mental health disorders in workers protected by Ibermutua.

These data highlight the need to invest in the prevention and treatment of mental health problems focused on the workplace, not only for the well-being of workers and the greater likelihood of an early return to work (Rissanen et al., 2021), but also for the economic impact they entail globally, nationally, and even personally. Being absent from work for extended periods can lead to dynamics of precariousness, feelings of inefficacy or emptiness (Gjengedal et al., 2020; Gaillard et al., 2020; Łaszewska et al., 2020; Oliva-Moreno et al., 2006; Rovira et al., 2012; Ruiz-Rodríguez et al., 2017; Salvador-Carulla et al., 2011; Sousa et al., 2022), with negative consequences for mental, physical, and economic health of the individual.

Nevertheless, maintaining work activity provides a purpose, social interactions, and benefits for mental and physical health (Gjengedal et al., 2020), which can help overcome common mental disorders. However, being absent from work for long periods increases risk factors for mental health, such as isolation and avoidant behavior (Gjengedal et al., 2021). Therefore, it is crucial to develop clinical interventions focused on ensuring a return to work as soon as possible, avoiding iatrogenic effects and enhancing coping strategies that allow workers to handle work tasks and manage symptoms when resuming their activities.

In conclusion, this study shows the need to address mental health in the workplace from a comprehensive perspective, considering individual, organizational, and social factors. It is essential to carry out research that explores prevalences and relationships between various variables, such as age, gender, job position, and economic sector, in order to develop effective and appropriate interventions for each type of individual, tailored to their profiles and integrating individual, occupational, and social well-being in a holistic manner.

To achieve this goal, it is crucial to avoid the use of generic labels that lack explanatory power and, instead, address human health as a continuum, where there are moments of greater or lesser discomfort. In this way, the normalization and approach of these problems when they affect daily life are advocated, thus avoiding the medicalization of normal experiences and constant pathologizing self-observation. Similarly, it is important to adapt the approaches to occupational health problems to the needs of each person. This involves promoting both intervention and prevention through training, talks, or psychological interventions adapted to each individual, focusing on their well-being and return to employment (not necessarily to the same position and/or company). These initiatives should provide resources to employees to avoid falling into work absences and, in case they are already in this situation, facilitate an earlier return to work,

thus preventing further unintended harm and situations of learned helplessness that worsen not only the individual's situation, but also that of the company and society.

Considering that work acts as a protective factor, it is vital to advocate for policies that prevent excessively prolonged absences, which can inadvertently exacerbate the employee's condition, pushing them into a more vulnerable state, amplifying distress, and contributing to an increase in the incidence of permanent disabilities or extended periods of leave (Gjengedal et al., 2020; Gjengedal et al., 2021; Rissanen et al., 2021).

Although the origin of discomfort may be diverse and specific for each individual, not working for such a long time is a risk factor that perpetuates these leaves and complicates the situation (Gjengedal et al., 2020; Gjengedal et al., 2021; Rissanen et al., 2021), potentially jeopardizing the lives of workers on leave and perpetuating their discomfort and unfavorable situation (Matilla-Santander et al., 2019). In this context, interventions can focus on promoting job crafting behaviors, including work-family and family-work balance. Additionally, they can aim to strengthen the individual's personal resources, such as self-efficacy or adequate emotional expression. Furthermore, developing new psychological triage measures that adapt to current demands, considering the advent of artificial intelligence, telework, and the constant changes associated with the work world that generate uncertainty, fears, and the need for continuous updating and change, is crucial. In this way, not only would it be quantified how they adjust to these changes, but also whether they perceive them as challenging demands or excessive overloads.

In short, the implementation of policies and programs adapted to the needs of workers, as well as the promotion of healthy and equitable work environments, are key to improving the mental well-being of the working population and reducing the economic and social impact of leaves due to mental health reasons.

6. Theoretical and Practical Implications

The results of this study contribute to raising awareness and understanding of how mental health-related work absences are distributed in Spain, detailing the typical diagnoses, their durations, as well as the economic cost of justified absenteeism at the national level. These findings support and align with the Job Demands-Resources (JD-R) Model, which suggests that circumstances in which social and/or organizational demands exceed an individual's resources can lead to excessive

stress, potentially resulting in temporary disability leaves due to mental health reasons (Bakker & Demerouti, 2016; Bakker et al., 2023; Hlado & Harvankova, 2024).

Nevertheless, although the findings enhance our understanding of these types of absences, the study was unable to provide detailed information on the specific job demands and resources that are most closely associated with these mental health issues. This acknowledgment points to the need for continued research in this area, with the goal of developing more targeted interventions to prevent mental health problems and the resulting absenteeism. Furthermore, it aspires to contribute valuable insights to the Job Demands-Resources (JD-R) Model, offering a deeper understanding of how to balance organizational expectations with employee capabilities, thereby fostering a healthier work environment.

For organizations of any type, the results provide relevant information about which kinds of sick leaves tend to have a longer duration, which sectors show higher prevalence, how mental health-related sick leave is distributed according to gender and age, as well as highlighting the need to incorporate intervention and prevention plans to reduce the frequency and duration of these absences. Additionally, having such a large sample serves as a reference for future research requiring descriptive data to analyze, justify, or guide interventions in this field, particularly focused on specific types of diagnoses –such as anxiety, depression, and stress-related conditions, which together represent 79.3% of the cases–, sectors, job positions, age groups, among other variables.

7. Limitations

One of the main limitations of this study is that, despite the large sample size, it is not representative of the Spanish population at large, as it comprises affiliates from a single mutual insurance company (Ibermutua) and was not selected randomly.

Another significant limitation of this study is the exclusion of relapses due to the lack of reliable data, which could have led to errors in the results. The data used in this analysis comes from a database provided by an external entity (Ibermutua), and the available variables limit the scope of the analysis to a descriptive level. Furthermore, the small effect size observed in the study restricts the explanatory capability of more complex analyses. Although some variables show statistical significance, the extent of their practical or clinical applicability remains questionable. The nuanced nature of the effect size suggests that there may be other influential factors, not captured within our dataset, that have an equal or possibly more pronounced impact on the

patterns of psychiatric diagnoses and the genesis of mental health-related absences in the workplace. This insight highlights the need for a cautious interpretation of the results, acknowledging that our conclusions might represent only a fragment of a more complex interplay of variables.

The analysis was conducted using data from 2018 to 2022 because some of the sick leaves in 2023 (4,954 TDCCs) were still active and could potentially bias the average duration data. Although this decision resulted in a smaller sample size for data analysis, we deliberately excluded these active leaves from the duration calculations to avoid any potential biases. However, the 2023 data was still considered when calculating the relative prevalence with respect to the number of affiliates and the economic impact for that year. This approach ensures that the year 2023 is consistently included or excluded throughout the study, minimizing confusion and maintaining the accuracy and reliability of the findings. Nevertheless, the 2018-2022 sample (48,025 TDCCs) is more than sufficient to reflect the ascending trend of these sick leaves and increase awareness about these types of issues in the work environment, thereby mobilizing efforts towards favorable change.

Moreover, the progressive increase observed in temporary disabilities due to mental health reasons between January 2018 and December 2023 could be attributed to various factors. On the one hand, it is possible that this increase is related to the growth in the number of affiliations during this period until 2023 (1,378,845), which may have contributed to a higher number of recorded cases. On the other hand, it is also plausible that there has been a real increase in work absences due to mental health problems, possibly influenced by factors such as the impact of the COVID-19 pandemic on workers' mental health, as well as other individual, occupational, and/or contextual factors. However, due to the lack of information on the underlying cause of these types of absences in the subjects, it is not possible to determine with certainty whether this annual growth in the number of absences is solely due to the increase in the number of affiliations or if, on the contrary, it could be attributed to variables that, over the years, are acquiring more significant weight and greater presence, or a combination of both reasons.

Furthermore, as this is a study with a pre-provided sample, the antecedents and consequents of the analyzed variables are unknown, making it impossible to establish relationships of precedence and/or causality, thus limiting the analysis to covariation.

Finally, the generalizability of the results to other cultures or nations is limited, given that the study focuses on the Spanish context and the prevalence, duration, and economic impact of temporary disabilities due to mental health reasons could vary in other countries.

8. Suggestions for Future Research

It is recommended to conduct more comprehensive descriptive studies to understand whether the duration and impact of these absences depend on variables such as intervention policies, prevention measures, health and cultural practices, or even more individual-level variables.

Furthermore, future research should focus on the development, implementation, and evaluation of interventions and prevention programs tailored to the needs of workers with mental health issues. These initiatives could target variables from the JD-R model that have shown potential for correlation and intervention, such as job crafting behaviors, work-life balance, and individual resources. The aim would be to enhance coping capabilities for social and organizational demands, reduce the frequency and duration of absences, and lessen their economic impact.

Moreover, progress should be made in constructing a more comprehensive model of mental health-related absences, including an operational definition, characteristic variables, and factors affecting their prevalence, duration, and impact. For this purpose, utilizing diverse samples, longitudinal designs, and triangulating data with objective measures and situational evaluations will be essential. This approach will allow for a better understanding of the impact of sociodemographic factors, working conditions, organizational policies, and contemporary factors such as the increasing implementation of artificial intelligence and the rise of teleworking, which has surged during the COVID-19 pandemic, blurring the boundaries between work and personal life, on the prevention and management of these issues.

Finally, it is important to consider interventions tailored to different economic sectors and job positions, to effectively address the specific challenges and needs of each area in relation to mental health-related absences. Moreover, it is crucial to incorporate variables such as gender and age, which have shown differences in the incidence of these types of absences, as well as the possibility of including more stable personality variables in these interventions. In summary, the focus should be on developing operationalized approaches based on key explanatory variables, such as those in the JD-R model and the contemporary factors, while implementing interventions specific to economic sectors, job positions, gender, and age groups. These measures aim to decrease the prevalence, duration, and economic impact of mental health-related absences and to evaluate the effectiveness of these interventions.

9. Conflict of Interest

The authors of this article declare no conflict of interest.

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