

Depression and Anxiety in Voluntarily Unemployed People: A Systematic Review

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ABSTRACT

Background: *Unemployment impacts people's physical and psychological well-being, and gender and age affect mental health among the unemployed. Despite the correlation between unemployment and negative mental health outcomes being largely investigated in scientific literature, research on voluntarily unemployed individuals is scarce. A systematic review was performed on studies evaluating mental health outcomes in voluntarily unemployed adults.*

Methods: *Following the PRISMA statements, three databases were screened; research articles written in English investigating the relationship between mental health outcomes and employment status were included. The quality of articles was assessed using the Newcastle-Ottawa Scale. Results: The initial search yielded 727 records; 4 studies were included in this systematic review. One study reported voluntarily unemployed people as less depressed than employed and unemployed people, one as more depressed than employed but less than unemployed people, one reported voluntarily unemployed people as less anxious but more depressed than employed and less anxious and depressed than unemployed people, one study reported voluntarily unemployed men as depressed and anxious more often than employed men. Further research should investigate mental health outcomes in voluntarily unemployed people and strategies to bring back these individuals into the workforce.*

1. INTRODUCTION

The impact of unemployment on people's health is a pressing issue that deserves attention. In particular, understanding how age and gender affect mental health issues among unemployed people is crucial to develop effective support systems and interventions.

Numerous studies have explored the relationship between unemployment and health outcomes,

particularly mental health. A meta-analysis conducted by Milner et al found that unemployment was significantly associated with a higher risk of suicide, even after adjusting for prior mental health conditions [1]. Moreover, unemployment is associated with increased rates of depression, anxiety, and other mental health disorders [2].

Unemployment can profoundly affect mental well-being, and this impact can vary across different

age groups [3]. Younger individuals who are unemployed may experience feelings of anxiety, stress, and uncertainty about their future prospects. The lack of financial stability and the pressure to establish a career can take a toll on their mental health. Unemployment is a significant social and economic issue with far-reaching consequences, including its impact on people's health [3]. Norström et al., 2014 performed a systematic review focusing on effects in age subgroups. THEY found that age was one of the factors influencing the relationship between unemployment and self-assessed health [4].

Older individuals may face additional challenges in finding employment, which can contribute to poorer health outcomes, considering the impact that age has on mental health [5]. Unemployment among older people has been associated with depressive symptoms [6] and late-life depression [7]. Furthermore, older adults tend to be less skilled in technology use [8], which could have further distanced unemployed older individuals from the occupational world during the COVID-19 pandemic due to the shift towards remote working, which has in and itself impacted mental and physical health of workers [9].

Gender differences also seemingly play a role in the relationship between mental health and unemployment, with men being more affected by unemployment than women [10, 11], in contrast to the working population, where women are more affected by mental health problems than men [12].

Other factors have been reported to influence negatively the mental health of unemployed people, such as the presence of family responsibilities, which affected men especially, causing poorer mental health outcomes [10]. Furthermore, social class may mediate the relationship between unemployment and mental health [10].

As highlighted by the European Psychiatric Association guidelines, poor mental health is not the only outcome associated with unemployment, especially within economic crises: alcohol abuse, somatoform disorders, as well as mood and anxiety disorders have been associated with economic crises [13].

In the context of unemployment and mental health, mentioning a possible "reverse causality" effect is paramount. It has been reported that jobs

with a negative effect on the mental health of workers lead to higher turnover, which means that in some cases, poor mental health could be the cause of unemployment rather than the contrary [14, 15]. However, studies performed using the fixed-effect model indicate that unemployment negatively affects mental health with a causal process [16,17]. A longitudinal study by Fergusson et al. reported that exposure to unemployment accounted for a median of 10.8% of the risk of negative mental health outcomes [17].

A different category of non-working people than unemployed are NEETs. The acronym NEET stands for "Not in Education, Employment, or Training" and indicates the disengagement of young people from entering adult life, the labour market, and the possibility of accessing it through education or training [18]. This class represents a particular subcategory of people who are unemployed both for voluntary and involuntary reasons. Gariépy et al. Highlighted that the NEET population could face a higher rate of anxiety, behaviour problems, alcohol use and psychological distress compared to the general population, as well as a higher rate of cannabis use, drug use and suicidal ideation [19].

Despite the correlation between unemployment and negative mental health outcomes being largely investigated in scientific literature, as already described, research on voluntarily unemployed, also known as inactive individuals, is scarce. Voluntarily unemployed people voluntarily leave their employment and do not seek another job. Therefore, voluntary unemployment is not due to the unavailability of a job but due to a decision made by the person leading them to not seek employment. In 2018, 39% of the world's working-age population was outside the labour force (25% of the male and 52% of the female working-age population), and the most represented age demographics were over 64 years (around 80%) and under 24 years (around) of age [20].

Recognizing voluntarily unemployed people is difficult, as they are often discouraged workers who tend to be either young and feeling disconnected from the job market or at the end of their occupational life and would rather distance themselves from working until retirement rather than start anew. However, it has been reported that 6% of the

people outside the labour force are potential workers, and this percentage is even higher in younger people; furthermore, over half of the people outside the labour force are available for work, although not actively seeking employment [20], identifying voluntarily unemployed people as “discouraged workers”.

The aim of this systematic review is to investigate mental health outcomes (depression and anxiety) in voluntarily unemployed people compared to unemployed or employed people.

This systematic review focuses on voluntarily unemployed people to assess what is already known about the psychological wellbeing of this population. Being outside the workforce implies less opportunity to reach this population, with difficulty assessing their psychological well-being. This review is motivated by the need to assess the impact of unemployment is a decision made by the person themselves rather than imposed upon them by external factors, comparing their mental health outcomes with unemployed and employed people.

Furthermore, this review aims to assess the need to implement policies and interventions to ensure the mental well-being of voluntarily unemployed people by investigating if worse mental health outcomes are present in this marginalized population.

2. METHODS

This systematic review was performed adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statements [21].

Three databases were searched: PubMed, ISI Web of Knowledge, and Scopus. A query was developed following the PECO model, establishing the Population (P) as voluntary unemployed people, the Exposure (E) as unemployment, Comparison (C) as employed and involuntarily unemployed people, and the Outcome (O) as anxiety or depression.

The query used to perform the bibliographic search was: (“voluntarily unemployed” OR unemploy* OR jobless OR unoccupied OR inactive OR “discouraged work*”) AND (anxiety OR depression). Results were filtered by language (English language only) and time period (records published within the last 10 years only).

The research was restricted to articles investigating anxiety and depression traits in voluntarily unemployed people and published up until May 2023, when the initial search was performed. Two researchers screened the records using blind methodology, and at the end of the screening process, all conflicts were resolved by discussing the studies with a third researcher. Studies were excluded from the review if they did not use validated questionnaires to measure anxiety or depression. Non-research articles (commentaries, letters, and editorials) were excluded from the systematic review. The initial screening by title and abstract was performed through the website Rayyan [22]. A study was selected for a more detailed review if it fulfilled the following criteria: (i) One of the aims of the study was to investigate mental health, particularly depression or anxiety; (ii) the manuscript was published in English; (iii) it was a full-text article; (iv) the subject studied was voluntarily unemployed people [23].

A quality assessment was performed for the included studies using the Newcastle-Ottawa Scale (NOS) [24], and the following aspects were considered: selection score (representativeness of the sample, sample size, non-respondents, ascertainment of risk factor), comparability score, outcome score (assessment of outcome, statistical analysis performed). The score is 0-5 for selection, 0-2 for comparability, 0-3 for outcome, 0-10 overall. Studies with a score of 8 or higher were considered of good methodological quality, studies with 5-7 were considered of fair methodological quality, and studies under 4 points were considered of poor methodological quality.

The studies were considered heterogeneous regarding the population studied, outcome measures, time period, and confounding factors. To perform a meta-analysis, it was impossible to pool the data statistically, so we performed a “best evidence” synthesis instead [25, 26]. The studies were classified according to the type of study design. The prospective cohort study was judged as the preferred design, followed by the case-control study and then by the cross-sectional study. The studies were then ranked by their methodological quality score. The overall evaluation of the degree of evidence of a causal relationship between mental health outcomes and

voluntarily unemployed people was then reported considering the following levels of evidence [26].

- Strong evidence: consistent results in ≥ 2 strong/moderate quality studies.
- Moderate evidence: consistent results in one strong/moderate quality study and at least one weak-quality study or consistent results in ≥ 2 weak-quality studies.
- Insufficient evidence: only one available study or inconsistent results in ≥ 2 studies.

This study was conducted as part of the research (Im)perfetti sconosciuti. “(Im)perfect strangers: a trans-disciplinary study on the phenomenon of inactivity among adult men,” is funded by the Catholic University of the Sacred Heart through the Line of Intervention of University Interest Research (year 2022).

3. RESULTS

The initial search resulted in 727 records; after removing 368 duplicates, 359 articles were screened by title and abstract. After the initial exclusion, 76 records were assessed by full text, and 4 studies were included in this systematic review. Studies were selected if voluntarily unemployed people were included in the sample, and the mental health outcomes investigated in the study were assessed for this population as a separate sub-group.

The PRISMA flowchart with the detailed inclusion process is reported in Figure 1.

The included studies were assessed using the NOS. Three of the studies report evidence of an association of mental health with occupational status and good methodological quality (8 points on the NOS scale) [27–29]; the fourth study is strongly suggestive of an association of mental health with

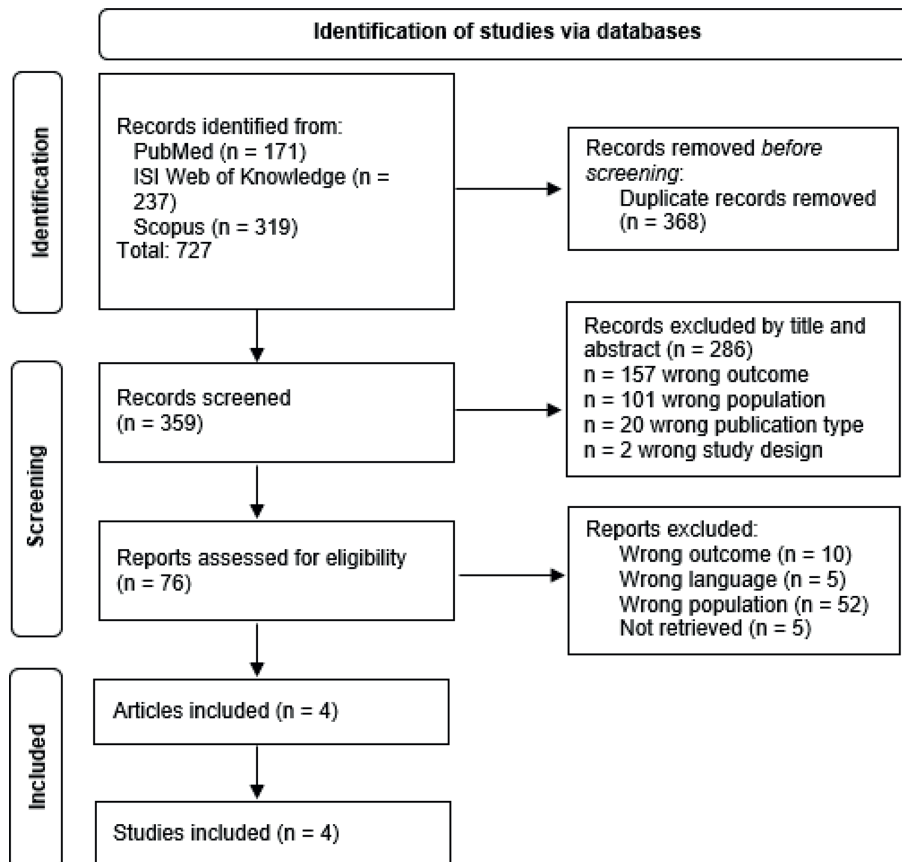


Figure 1. PRISMA Flowchart.

Table 1. Data extraction from included studies.

| Authors | Country | Study timeframe | Sample size | Mental health outcomes | Correlation between mental health outcomes and employment status | | | |
|----------------------|-----------------|-----------------|-------------|------------------------|--|-------------------------------|------------------------|--------------------|
| | | | | | Analysis | Correlation | p-value | |
| Buffel et al. (2015) | 20 EU countries | 2006 and 2012 | 51679 | Depression (CES-D) | Regression model | Voluntarily unemployed | -0.876 (M); -0.213 (F) | <0.001 (M); NS (F) |
| | | | | | | Unemployed | 2.150 (M); 1.202 (F) | <0.001 |
| | | | | | | Employed | 1 | |
| Gathergood (2012) | UK | 1991-2009 | 107035 | Depression (GHQ12) | Regression model | Voluntarily unemployed | 0.16 | NS |
| | | | | | | Unemployed | 1.05 | <0.01 |
| | | | | | | Employed | 1 | |
| Yao and Wu (2021) | USA | 2020 | 1576770 | Anxiety (GAD-2) | Odds ratio | Voluntarily unemployed | 0.948 | <0.001 |
| | | | | | | Unemployed | 1.203 | <0.001 |
| | | | | | | Employed | 1 | |
| | | | | Depression (PHQ-2) | Odds ratio | Voluntarily unemployed | 1.123 | <0.001 |
| | | | | | | Unemployed | 1.311 | <0.001 |
| | | | | | | Employed | 1 | |

occupational status and presents fair methodological quality (6 points in the NOS scale) [30] and did not assess mental health outcomes through validated tools, but by asking participants if they felt anxious or depressed, this study is therefore not reported in the quantitative synthesis but will be discussed qualitatively.

The three studies synthesized quantitatively reported on mental health outcomes in voluntarily unemployed people, comparing them with employed and unemployed people. This comparison of the results and the main characteristics of the included studies are reported in Table 1.

The best evidence synthesis from the studies included in this systematic review highlighted that voluntarily unemployed participants were more depressed than employed participants in three of the included studies [28-30], while one found they were less depressed [27] (insufficient evidence). All four studies investigating depression highlighted that voluntarily unemployed people were less depressed than unemployed people [27-30] (strong evidence).

The two studies investigating anxiety reported that voluntarily unemployed people were less anxious than employed and unemployed people [29, 30] (moderate evidence).

The study performed by Buffel et al [27] in 2015 gathered data from 20 European Union countries from two surveys distributed in 2006 and 2012. The authors evaluated depression in participants using the Center for Epidemiologic Studies Depression Scale (CES-D), on a sample of 51,679 people. The scores of the CES-D were highest in voluntarily unemployed people (“unemployed and not seeking a job”), followed by unemployed and job-seeking participants, and lowest in employed people, meaning that voluntarily unemployed people had the highest levels of depression. Results from the model developed by Buffel et al. comparing these three categories and controlling for the most factors are reported in Table 1 (these results refer to Buffel et al., Table 4, Model 3). Unemployed participants seeking a job were more depressed than employed people, while voluntarily unemployed participants were less

depressed than unemployed people ($p < 0.001$ for males, not significant correlation for females).

This study has many strengths: the large sample, the depression assessment is performed through a validated tool, the impact of the economic crisis in many EU countries at the time of the survey was taken into account, and gender differences in depression prevalence are also evaluated. However, the authors acknowledge that the study design does not make it possible to draw final conclusions about causation; furthermore, the cross-sectional design does not allow for the evaluation of the long-term consequences of the economic crisis.

The 2012 research by Gathergood [28] gathered data from 1991-2009 and had 107035 participants from the UK. The authors evaluated depression in participants using the 12-Item General Health Questionnaire (GHQ-12). The GHQ-12 scores of employed participants were compared to the scores of unemployed participants and voluntarily unemployed participants; the results are reported in Table 1. The authors highlighted that unemployed individuals were more depressed than employed people ($p < 0.01$); however, despite voluntarily unemployed people being less depressed than employed people (as reported in Table 1), the correlation between voluntarily unemployed participants and the GHQ-12 score was not statistically significant.

Interestingly, the authors measure the variation of the GHQ12 scores in participants who enrolled in multiple waves of the survey distributed in the UK from 1991 to 2009, reporting an increase in the score (meaning the psychological health worsened) of 0.04 for the employed 0.55 for voluntarily unemployed people, and 1.12 for unemployed people, highlighting that unemployed participants are more at risk for the progression of depressive symptoms in the long term. However, the authors acknowledge that the likelihood of becoming unemployed shortly may greatly impact the questionnaire scores, but no questions regarding perceived expectations of unemployment were gathered.

The study performed by Yao and Wu [29] in 2021 in the USA gathered 2020 data from 1576770 participants, evaluating anxiety through the Generalized Anxiety Disorder 2-item (GAD-2) scale and depression through the Patient Health

Questionnaire-2 (PHQ-2). The authors highlighted, for anxiety, a decrease in risk for voluntarily unemployed people compared with employed participants ($p < 0.001$) and an increase for unemployed people compared with employed participants ($p < 0.001$); for depression, an increased risk was highlighted for both voluntarily unemployed and unemployed participants compared to employed people ($p < 0.001$), although for unemployed people the risk was higher.

The study, conducted during the COVID-19 pandemic, highlighted that the voluntarily unemployed had lower expectations of job loss in the family (91.09% answered they did not expect job loss in the family, versus 72.41% of working and 45.64% of unemployed people), and had better food security (73.20% reported that food was always enough, versus 62.77% of working and 39.37% of unemployed participants). However, health and access to care were reported as good or excellent by a higher percentage of working people (87.36%) compared to involuntarily (69.86%) or voluntarily (78.82%) unemployed. However, this study had a few limitations: the voluntarily not working participants had a higher mean age (67.04 years) compared to working (43.74 years) or unemployed (44.47 years) participants, and they had fewer children on average (0.25) than working (0.81) or unemployed (0.89) participants. These could have acted as confounding factors in the mental health scores. Furthermore, the COVID-19 pandemic may have affected participants' psychological well-being, which could have worked as an additional confounding factor in the study by Yao and Wu.

The study performed by Aydiner-Avsar et al. in 2021 evaluated anxiety and depression in the USA in 2013 and 2014 by asking the participants if they were feeling anxious or depressed (not using validated tools) [30]. The total sample size was not reported; the authors only reported the number of participants feeling anxious or depressed. The authors highlighted that unemployed men and women reported feeling depressed and anxious more often than employed people ($p < 0.001$), while only voluntarily unemployed men reported feeling depressed and anxious more often than employed men ($p < 0.001$), but this correlation was not statistically significant for voluntarily unemployed women.

This study has accounted for many sociodemographic factors that may influence mental health in relation to employment status (such as marital status and age) and highlighted the effects of these factors on the mental health of participants, showcasing that older age and being divorced or separated were risk factors for both anxiety and depression. However, as mentioned, the authors did not use validated tools to assess mental health outcomes.

4. DISCUSSION

This systematic review investigated mental health outcomes in voluntarily unemployed individuals. Four manuscripts were included in the review. The studies highlighted that voluntarily unemployed people were less depressed than unemployed but more than employed people, except for one study, which found that they were less depressed than both other subgroups. Furthermore, voluntarily unemployed people were less anxious than employed and unemployed people in the two studies investigating this outcome.

The results of this review are in line with previous literature regarding depression incidence in unemployed people [2, 3, 6]. Voluntarily unemployed people have been highlighted to be less depressed than unemployed but more than employed people. This could be due to the fact that, unlike involuntarily unemployed people, they may not face the same loss in sense of identity, purpose and future vision that has been associated with job seeking unemployment [31]. This could be due to the fact that unemployed people face constant rejection during the job searching process, while voluntarily unemployed people do not have to endure the same straining path, simply by distancing themselves from the occupational world. However, this does not appear to completely erase the negative mental health outcomes associated with job loss, since in three out of four studies voluntarily unemployed people were more likely to report being depressed than employed people. The same sense of identity and purpose loss may therefore apply to voluntarily unemployed people even though they distance themselves from the labor market; the relationship and causation of voluntarily unemployed workers' depression with job loss rather than job seeking should be further investigated.

The results from this review showcased anxiety being reported less often in voluntarily unemployed workers. This is consistent with previous literature, which has highlighted that anxiety in workers tend to be correlated with job insecurity and uncertainty about the future [32, 33]. It seems consequential that, in voluntarily unemployed people that are not seeking employment in the near future, anxiety does not play an important role in their psychological wellbeing. Furthermore, considering voluntarily unemployed as people who have distanced themselves from the occupational world, it could be that anxiety lessens over time. In further research, an evaluation of anxiety in people who have recently left the job market as opposed to people who have been outside it for a longer time could help understand if this hypothesis is true.

Moreover, the home country's economic status may play an important role in mental health outcomes related to occupational status. Buffel et al highlighted that in countries with worse economic crises, the gap in depression between voluntarily unemployed and unemployed people became larger [27]. The authors suggest that this may be because seeking a job during a recession is harder, and this could affect unemployed people negatively; on the contrary, voluntarily unemployed people may feel less stigmatized during a recession if lay-offs increase and more people are in the same situation of unemployment, whether voluntarily or not. The relationship between mental health outcomes in voluntarily unemployed people and the economic status of the country – in addition to personal economic status – could be investigated in future studies to assess the influence of country-scale economics on the mental health of people who choose not to seek employment. This would be especially interesting in the current occupational landscape, considering the surge in resignations registered during the COVID-19 pandemic [34, 35].

Two of the studies included in this systematic review highlighted that voluntarily unemployed men are significantly more depressed and anxious than employed men, while this correlation was not significant in women [27, 30]. This is consistent with previous literature findings regarding unemployed men [10, 11]. In future studies, it would be

interesting to further analyse gender differences in voluntarily unemployed people to assess if the relationship between gender and mental health is consistent and if it is similar to that of unemployed people.

A higher risk of depression and anxiety has been showcased in older, voluntarily unemployed people [30], and depressive feelings have been reported to progress more in the long term in unemployed people [28]. This is also consistent with previous literature [5-9]. As voluntarily unemployed people are harder to reach and are not surveilled by occupational physicians, a progression of negative mental health outcomes in time may be difficult to recognize and prevent. Underlining a progression over time highlights the importance of reaching and leading back into the occupational world voluntarily unemployed people who may have been discouraged from seeking occupation in a prompt and timely manner to ensure that negative mental health symptoms can be recognized early and this progression can be prevented.

As emerged from this systematic review, the literature currently available focusing on the issue of voluntarily unemployed people is scarce, and even for the studies included in this review, the main focus was unemployment and mental health, with the voluntary or involuntary status being investigated through one item in which the participants expressed they were not seeking employment at the time.

Further research should investigate the socio-demographic characteristics of people not seeking employment to establish the causes of the voluntarily unemployed people's alienation from the occupational world and their perspectives while living outside of the labour market – and therefore, supposedly without a fixed income. Furthermore, this population subgroup should be investigated to establish strategies to ease young people's transition into the labour market or lead voluntarily unemployed back into the occupational world.

This review has some strengths, as it was carried out following the PRISMA guidelines and using a systematic methodology; it includes studies performed over an extended time period (ten years)

that took into account the changes in the economic climate during the data gathering period. However, it also had a few limitations. Due to the scarcity of studies performed on this topic, only 4 studies were included in the review; furthermore, the heterogeneity of the tools used to assess mental health outcomes in the three included studies that used validated tools did not allow the researchers to perform a meta-analysis.

5. CONCLUSION

Three of the four studies in this systematic review highlighted that voluntarily unemployed people were less depressed than unemployed but more than employed people; the fourth study highlighted that they were less depressed than both. Furthermore, voluntarily unemployed people were less anxious than employed and unemployed people in the two studies investigating this outcome.

The available literature on this issue is poor. Further research should investigate the causes of negative mental health outcomes in voluntarily unemployed people and strategies to bring back, when possible, these individuals into the workforce.

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REFERENCES

- Milner A, Page A, LaMontagne AD. Cause and effect in studies on unemployment, mental health and suicide: a meta-analytic and conceptual review. *Psychol Med*. 2014;44(5):909-917. Doi: 10.1017/S0033291713001621
- Cornelius LR, van der Klink JLL, Groothoff JW, Brouwer S. Prognostic factors of long term disability due to mental disorders: a systematic review. *J Occup Rehabil*. 2011;21(2):259-274. Doi: 10.1007/s10926-010-9261-5
- Bartelink VHM, Zay Ya K, Guldbbrandsson K, Bremberg S. Unemployment among young people and mental health: A systematic review. *Scand J Public Health*. 2020;48(5):544-558. Doi: 10.1177/1403494819852847
- Norström F, Virtanen P, Hammarström A, Gustafsson PE, Janlert U. How does unemployment affect self-assessed health? A systematic review focusing on subgroup effects. *BMC Public Health*. 2014;14:1310. Doi: 10.1186/1471-2458-14-1310
- Zhao Y, Wu X, Tang M, et al. Late-life depression: Epidemiology, phenotype, pathogenesis and treatment before and during the COVID-19 pandemic. *Front Psychiatry*. 2023;14:1017203. Doi: 10.3389/fpsy.2023.1017203
- Badrasawi M, Zidan S. Prevalence and correlates of depressive symptoms in older people in the West Bank, Palestine: cross-sectional study. *East Mediterr Health J Rev Sante Mediterr Orient Al-Majallah Al-Sibhiyah Li-Sbarq Al-Mutawassit*. 2021;27(3):260-268. Doi: 10.26719/2021.27.3.260
- Park H, Hwangbo Y, Nam Y. The Effect of Employment and Occupational Factors on Late-Life Depression in Korea. *J Occup Environ Med*. 2018;60(9):e492-e497. Doi: 10.1097/JOM.0000000000001403
- Schlomann A, Memmer N, Wahl HW. Awareness of age-related change is associated with attitudes toward technology and technology skills among older adults. *Front Psychol*. 2022;13:905043. Doi: 10.3389/fpsyg.2022.905043
- Gualano MR, Santoro PE, Borrelli I, et al. TElewoRk-RelAted Stress (TERRA), Psychological and Physical Strain of Working From Home During the COVID-19 Pandemic: A Systematic Review. *Workplace Health Saf*. 2023;71(2):58-67. Doi: 10.1177/21650799221119155
- Artazcoz L, Benach J, Borrell C, Cortès I. Unemployment and mental health: understanding the interactions among gender, family roles, and social class. *Am J Public Health*. 2004;94(1):82-88. Doi: 10.2105/ajph.94.1.82
- Strandh M, Hammarström A, Nilsson K, Nordenmark M, Russel H. Unemployment, gender and mental health: the role of the gender regime. *Sociol Health Illn*. 2013;35(5):649-665. Doi:10.1111/j.1467-9566.2012.01517.x
- Santoro PE, Borrelli I, Gualano MR, et al. Occupational hazards and gender differences: a narrative review. *J Sex- Gend-Specif Med*. 2022;8(3):154-162.
- Martin-Carrasco M, Evans-Lacko S, Dom G, et al. EPA guidance on mental health and economic crises in Europe. *Eur Arch Psychiatry Clin Neurosci*. 2016;266(2):89-124. Doi: 10.1007/s00406-016-0681-x
- Fukui S, Rollins AL, Salyers MP. Characteristics and Job Stressors Associated With Turnover and Turnover Intention Among Community Mental Health Providers. *Psychiatr Serv*. 2020;71(3):289-292. Doi: 10.1176/appi.ps.201900246
- Kim J, Shin Y, Tsukayama E, Park D. Stress mindset predicts job turnover among preschool teachers. *J Sch Psychol*. 2020;78:13-22. Doi: 10.1016/j.jsp.2019.11.002
- Stauder J. Unemployment, unemployment duration, and health: selection or causation?. *Eur J Health Econ*. 2019;20(1):59-73. Doi:10.1007/s10198-018-0982-2
- Fergusson DM, McLeod GF, Horwood LJ. Unemployment and psychosocial outcomes to age 30: A fixed-effects regression analysis. *Aust N Z J Psychiatry*. 2014;48(8):735-742. Doi: 10.1177/0004867414525840
- Bynner J, Parsons S. Social Exclusion and the Transition from School to Work: The Case of Young People Not in Education, Employment, or Training (NEET). *J Vocat Behav*. 2002;60(2):289-309. Doi: 10.1006/jvbe.2001.1868
- Gariépy G, Danna SM, Hawke L, Henderson J, Iyer SN. The mental health of young people who are not in education, employment, or training: a systematic review and meta-analysis. *Soc Psychiatry Psychiatr Epidemiol*. 2022;57(6):1107-1121. Doi: 10.1007/s00127-021-02212-8
- International Labour Organization. Persons outside the labour force: How inactive are they really? ILOSTAT. Published August 7, 2019. Accessed July 14, 2023. <https://ilostat.ilo.org/persons-outside-the-labour-force-how-inactive-are-they-really/>
- Jensen LK. Knee osteoarthritis: influence of work involving heavy lifting, kneeling, climbing stairs or ladders, or kneeling/squatting combined with heavy lifting. *Occup Environ Med*. 2008;65(2):72-89. Doi:10.1136/oem.2007.032466
- Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372:n71. Doi: 10.1136/bmj.n71
- Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan—a web and mobile app for systematic reviews. *Syst Rev*. 2016;5(1):210. Doi: 10.1186/s13643-016-0384-4
- Wells G, B Shea, D O'Connell, et al. The Newcastle-Ottawa Scale (NOS) for assessing the quality of non-randomised studies in meta-analyses. *Ott Hosp Res Inst*. Published online 2014. Accessed April 19, 2023. https://www.ohri.ca/programs/clinical_epidemiology/oxford.asp
- Slavin RE. Best evidence synthesis: an intelligent alternative to meta-analysis. *J Clin Epidemiol*. 1995

- Jan;48(1):9-18. Doi: 10.1016/0895-4356(94)00097-a. PMID: 7853053.
26. Collings TJ, Bourne MN, Barrett RS, du Moulin W, Hickey JT, Diamond LE. Risk Factors for Lower Limb Injury in Female Team Field and Court Sports: A Systematic Review, Meta-analysis, and Best Evidence Synthesis. *Sports Med.* 2021 Apr;51(4):759-776. Doi: 10.1007/s40279-020-01410-9. Epub 2021 Jan 5. PMID: 33400215.
 27. Buffel V, Van de Velde S, Bracke P. The mental health consequences of the economic crisis in Europe among the employed, the unemployed, and the non-employed. *Soc Sci Res.* 2015;54:263-288. doi:10.1016/j.ssresearch.2015.08.003
 28. Gathergood J. An instrumental variable approach to unemployment, psychological health and social norm effects. *Health Econ.* 2013;22(6):643-654. doi:10.1002/hec.2831
 29. Yao R, Wu W. Mental Disorders Associated with COVID-19 Related Unemployment. *Appl Res Qual Life.* 2022;17(2):949-970. Doi: 10.1007/s11482-021-09950-6
 30. Aydiner-Avsar N, Piovani C. The Gender Impact of Unemployment on Mental Health: A Micro Analysis for the United States. *Forum Soc Econ.* 2021;50(4): 505-529. Doi: 10.1080/07360932.2018.1535991
 31. Arena AF, Harris M, Mobbs S, Nicolopoulos A, Harvey SB, Deady M. Exploring the lived experience of mental health and coping during unemployment. *BMC Public Health.* 2022;22(1):2451. Doi: 10.1186/s12889-022-14858-3
 32. Lin SL. Generalized anxiety disorder during COVID-19 in Canada: Gender-specific association of COVID-19 misinformation exposure, precarious employment, and health behavior change. *J Affect Disord.* 2022;302: 280-292. Doi: 10.1016/j.jad.2022.01.100
 33. Peng M, Hu G, Dong J, Zhang L, Liu B, Sun Z. Employment-related anxiety and depression in senior college students in China. *Zhong Nan Da Xue Xue Bao Yi Xue Ban.* 2010;35(3):194-202. Doi: 10.3969/j.issn.1672-7347.2010.03.002
 34. Time [Internet]. 2021 [cited 2023 Jun 16]. Young People Are Leaving Their Jobs in Record Numbers— And Not Going Back. Available from: <https://time.com/6111245/young-workers-quitting/>
 35. Borrelli I, Santoro PE, Gualano MR, Moscato U, Rossi MF. Assessing the Great Resignation phenomenon: voluntary resignation of young Italian workers during the COVID-19 pandemic. *Ann Ig.* 2024;36(1): 88-98. Doi: 10.7416/ai.2023.2585