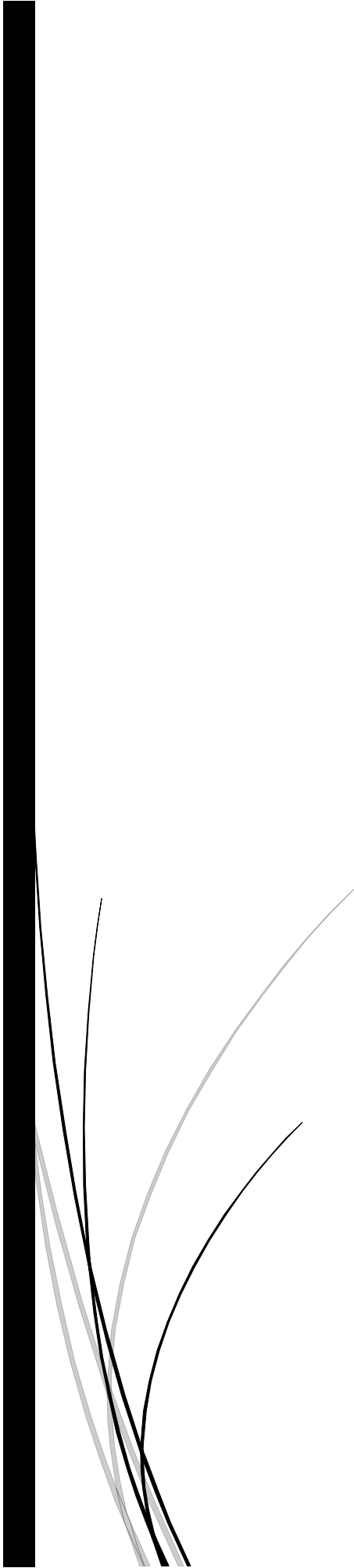




I SUFFER FROM DEPRESSION AND ANXETY; CAN I BLAME MY JOB? :

A SYSTEMATIC REVIEW OF THE
LINK BETWEEN
ORGANIZATIONAL STRESS AND
MENTAL ILLNESS

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Abstract

The mental illness phenomenon continues to generate concern among policy makers and academics alike. Due to the inherent financial impact on organizations addressing the causal relationship between occupational stress and employee mental health becomes critical. Our objective in this study was to identify, through a systematic review, whether the current breath of academic literature has identified a concrete link between work stress and clinically diagnosed mental illness. Furthermore, we investigated workplace stress as a contributor of this phenomenon as a public health issue and whether the impact of this issue on younger generations has been addressed. The results of our study revealed that within the occupational health context, the research focuses on Common Mental Disorders and does not address severe mental illness as a potential consequence. Moreover, the scientific research does not sufficiently address the public health issue within their analysis and future implications of this phenomenon on younger generations entering the workforces is nonexistent.

I. Introduction

The Constitution of the World Health Organization (WHO), establishes the right to attain and enjoy the highest possible standard of physical and mental health as a fundamental aspect of individual human rights (OHCHR, 2019). Mental health, like all other aspects of individual health, can be impacted by a variety of factors such as individual attributes and environmental factors (WHO, 2019). According to recent statistics, approximately 264 million individuals globally experience or live with mental illness related to depression and anxiety disorders (WHO, 2019). In the United States, statistics showed that 1 in 5 adults live with a mental illness in varying degrees of severity (NIMH, 2019, CDC 2019) with similar ratios reported in Canada and Australia (Woods et al 2019; Szeto & Dobson, 2013) as well as within the EU (Coupaud, 2016; Wells, Denny & Cunningham, 2011). Furthermore, the issue of poor mental health is not limited to industrialized countries but also a matter of increasing concern in developing nations (ILO, 2016; Kortum, Leka & Cox, 2010).

Accordingly, the growing phenomenon of poor mental health and increasing recorded cases of diagnosable mental illness among the general population has garnered the attention of policy makers and academics alike due to its economic, social and political impacts (Bhugra, 2016; ILO 2019). From an academic perspective, the scientific research on mental health and mental illness is primarily focused in the fields of medicine and psychology; however, given the inherent impact of this issue in a business context, academics have engaged in extensive research within the context of the workplace environment since the early 1990's (ILO 2016; Tennant 2001).

Given the relevance of mental illness in society and its flow on effects into the business and organizational context it becomes important to understand to what extent occupational stress contributes to this ongoing phenomenon. Whilst there is a breath of academic literature outlining the causal relationship between work stressors and symptoms of poor mental health, it remains unclear whether occupational stress is a direct contributor to employees developing severe mental illness. The purpose of this

research is to determine whether the present academic literature, within the business and occupational health context, addresses this potential link.

II. Literature Review

The World Health Organization estimates that mental illness costs the global economy almost US\$1.0 trillion in loss of productivity (WHO, 2019). Studies show that symptoms of stress, anxiety and depression directly impact an organization's performance and increased incidences of workplace absence due to stress related illness or, inversely, presenteeism and sub-performance of job duties are an important source of productivity losses (WHO, 2013; Zwetsloot et al, 2010) to companies. Additionally, mental illness in the workplace contributes to higher direct and indirect costs to the organization associated with employee well-being management and implementation of occupational health and safety (OH&S) initiatives focused on addressing mental health hazards (Karanika-Murray & Weyman, 2013; Guest, 2017).

At a broader societal level, poor workplace health threatens the foundation of productive employment and socio-economic development (ILO, 2016) and has been identified as a contributing factor for increased levels of unemployment, particularly among younger generation employees, as statistics for individuals losing their jobs due mental ill health problems (Sifaki, 2019) continue to increase. The problem is heightened by a lack of awareness at an organizational level of how mental illness affects an individual's experience at work and their capacity to cope with job related stress (Carr et al, 2011; Newbegin, 2014; Follmer & Jones, 2017). Additionally, this lack of awareness exposes organizations to legal liability associated with employee claims arguing a causality between mental health symptoms and their work environment (Kobayashi & Middlemiss, 2009; Lockwood, Henderson & Stansfeld, 2015).

The workplace and employee health

Though mental illness cannot exclusively be attributed to work or employment, a consensus exists among academics that work is one of the primary domains [the other being family] from which adults derive main feelings of satisfaction and accomplishment (Tennant, 2001) and therefore continued exposure to workplace stressors can lead to poor employee mental health Wong, Poole & Agius 2015; Harrison & Stephens 2019) and that a causal relationship may exist between said stressors and individuals developing Common Mental Disorders or CMD's (Olsen et al. 2015).

Using the Demand-Control Model, Effort-Reward Imbalance Model and Work-Family Conflict Model (Wang et al, 2012) to analyze the relationship between work stress and employee health, scientific research within the field of occupational health has consistently highlighted work factors such as job strain, job insecurity, job dissatisfaction, bullying and low decision latitude [or low level of control] as key stressors associated with depressive mood and anxiety disorders among employees (Jun et al 2019; Extremera et al 2019; Olsen et al, 2015; Theorell et al, 2015; Szeto & Dobson, 2013; Tennant, 2001). Results also show an association between

environmental factors such as organizational culture, management and leadership, social capital and organizational changes (Loh et al. 2019; Firouzbakht et al. 2018) as a causes of poor employee mental health.

However, mental health is not solely determined by external factors but also by an individual's ability to self-manage their emotions, behaviors and interactions (WHO, 2013) as well as an employee's personality (Hammond, Gnilka & Ravichandran, 2019; Iliescu et al, 2017), self-esteem and self-efficacy are also contributors to perceived work stress levels and their association with higher risk of depressive symptoms (Szeto & Dobson, 2013; Lee, Joo & Choi, 2012; Herr et al, 2018).

The continuous growth of the mental health phenomenon as well as the business challenge that poor mental health in the workplace poses to organizations has led to increased implementation of workplace wellbeing programs (Harrison & Stephens 2019; Murray & Weyman, 2013), as well as a push in academic research to identify initiatives and frameworks that address the underlying organizational causes for stress among employees (Petrie et al, 2018) and generational differences as moderating factors for workplace stress management and adaptability (Yunita & Suptra 2019) with particular focus on the millennial generation as it becomes the prevalent generation entering global workforce (Hammond, Gnilka & Ravichandran 2019) and identified as a high vulnerability group for mental illness (MHA, 2019; NIMH, 2019; ILO, 2016; WHO, 2013)

Mental illness and mental health

Mental illness is defined as “a diagnosable psychological disorder characterized by dysregulation of mood, thought, and/or behavior” (Follmer & Jones 2017, p.327) and can include over 299 classifications of disorders. Under the current version of the American Psychiatric's Association (APA's) *Diagnostic and Statistical Manual of Mental Disorders* or “DSM-V (APA, 2019) these disorders can be classified into twenty distinct groupings (see Table 1) which have been established based on their similarities, scientific understanding of the disorder and principal features (APA, 2019).

Table 1. DSM-V Mental Disorder Grouping	
1. Neurodevelopmental Disorders	11. Elimination Disorders
2. Schizophrenia Spectrum and Other Psychotic Disorders	12. Sleep-Wake Disorders
3. Bipolar and Related Disorders	13. Sexual Dysfunctions
4. Depressive Disorders	14. Gender Dysphoria
5. Anxiety Disorders	15. Disruptive, Impulse Control and Conduct Disorders
6. Obsessive-Compulsive and Related Disorders	16. Substance Use and Addictive Disorders
7. Trauma- and Stressor-Related Disorders	17. Neurocognitive Disorders
8. Dissociative Disorders	18. Personality Disorders
9. Somatic Symptom Disorders	19. Paraphilic Disorders
10. Feeding and Eating Disorders	20. Other Disorders

The WHO defines mental health as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (WHO, 2013). This definition as it stands, moves away from the historic conceptualization of mental health as the absence of mental illness (Galderisi et al, 2015) but does not clearly differentiate between psychological health and well-being and mental illness. This differentiation becomes important within the context of organizational research as employee well-being is the primary driver of focus for identifying individual attributes and workplace factors that influence wellbeing (Follmer & Jones 2017; Galderisi et al, 2015).

Further to the above, whilst mental illness and mental health are two distinct, but correlated constructs, their impact or influence on individual behavior differs. According to the Keyes’ Dual Continua model outlined by Follmer and Jones (2017) “one continuum represents the presence or absence of positive mental health whilst the other continuum represents the presence or absence of psychiatric disorders”. This highlights the complex nature of addressing the overall impacts of mental health even within a medical context (Ritchie & Roser, 2019) and clarifies the significance of addressing mental illness separately from mental health when analyzing its relationship with occupational stress (Follmer & Jones, 2017).

Within the focus of mental health in the workplace, academic literature primarily focuses on employees who present symptoms of depressive mood or anxiety disorders (ILO, 2016; Szeto & Dobson, 2013; Wang et al, 2012; Fletcher & Payne, 1980). As previously outlined, mental disorders are grouped into twenty different categories, including personality disorders, bipolar and related disorders, substance abuse disorders and sleep-wake disorders which are also identified in scientific research as symptoms experienced by employees in high work stress situations (Nilsen et al, 2014; Nakao, 2010; Tennant, 2001). Moreover, mental illness can be classified as any mental illness (or AMI) where the impact on the individual can range from mild to severe functional impairment or serious mental illness (SMI) where the illness impacts the individual’s ability to function in a substantial way (NIMH, 2019).

Mental illness and the younger generations

According to 2017 statistics from the National Institute of Mental Health of the United States, the incidences of diagnosed and reported cases on mental illness in adults between the age of 18 and 25 was 25.8% in comparison to the 26 to 49 years old which presented a 22.2% prevalence (NIMH, 2019). Similarly, findings by the Mental Health Commission of Canada estimate that 1.2 million children and youth suffer from mental illness and further project that at least 20% of Canadians will have developed a mental illness by the time they reach the age of 25 (MHCC, 2019).

In an employment and workplace context, the millennial generation has been identified as the first generation in modern times to face significantly higher levels of poverty and unemployment (McLeigh & Boberiene, 2014). The constantly changing and demanding

nature of the modern global workforce has caused that individuals to be subject to greater job demands (ILO, 2016) with increased working hours facilitated by the rapid advancement of smart technology which has developed new source of stress, such as technostress, a psychosomatic illness associated with the use of technology daily as part of their work activities (Tacy, 2019).

Whilst older generations such as the Boomer generation has all but exited the global workforce, Generation X and Millennial employees primarily make up the employed population. However, with younger Generations (e.g. Generation Z) already reaching an age where it will start entering the employment market, and the prevalence of recorded mental illness among the youth, the impact of this phenomenon takes a new level of relevance when analyzing this issue in an organizational context.

Based on these preliminary findings, we have identified several research gaps with respect to the work stress and its relationship with poor employee mental health. In this sense, the objective of this study is to carry out a systematic review of the current academic literature to address the following research questions:

- **RQ - 1:** Does the current breath of scientific evidence define a direct link between work related stress and medically diagnosed mental illness.
- **RQ – 2:** Does the increased reports of employee mental illness deriving from occupational stress significantly contribute to notion of mental illness as a growing public health concert.
- **RQ – 3:** When addressing preemptive workplace initiatives does the scientific literature consider the nuances and characteristics of the younger generations entering the workplace.

III. Method

1. Study design and search strategy

This review was based on academic literature addressing the causal relationship between work stressors and workplace environment and poor employee health with primary focus on impacts on the employee mental health and using the following exclusion/inclusion criteria:

1. Workplace stress (or occupational stress) as a precursor or cause for mental health disorders or illness;
2. Organizational factors as workplace stressors and their impacts on employee mental health; and,
3. Individual characteristics or circumstances as contributing factors for workplace stress and poor mental health.

Articles that partially or briefly addressed the criteria above were or deemed too niche were, as a rule, excluded from review unless the research findings were deemed significant and relevant enough for our analysis.

Systematic literature research was based on a two (2) phase approach and performed in the following electronic databases: EBSCO Host Platform, Emerald Insights, Sage Journals, and Science Direct. Given the global and comprehensive nature of the issues of mental illness and occupational stress, certain parameters needed to be established as part of our search strategy to ensure that only literature relevant and applicable to our research purpose was analyzed. The parameters used are outlined in Table 2 below.

Table 2 – Search criteria parameters	
Language:	• English
Literature type:	• Journal articles • Peer reviewed
Date range:	• Time limitation of 10 years • 1 January 2009 to present • Relevant articles dated 31 December 2008 were excluded from review¹.
Fields of research:	• Business & management • Human resources management • Occupational health and safety • Occupational behavior • Psychology and medicine²
Notes: ¹Articles excluded due to the time range limitation but had significant relevance on the research topic and/or theoretical frameworks applied were used but solely for reference purposes. ²Articles published in these fields were only considered for review in so far as their research addressed mental illness within a business or workforce context.	

2. Two Phases: approach and key words

During a preliminary simple search, using a series of keywords and search strings as summarized in Table 3, we identified the extent of academic literature of the different areas of our research. Given the high number of results and hits, we proceeded to redefine our initial search strategy and our data collection process was undertaken in two phases.

Table 3. Phase 1 – Search Keywords	
<u>Keyword(s)</u>	<u>Results/hits</u>
Occupational stress or job stress or work-related stress	3,157,237
Mental health or mental illness or mental disorder or psychiatric illness	6,574,922
Mental health or well-being	27,680,577
Mental illness or anxiety or depression	3,011,796

Employee health and well-being	1,427,386
Mental illness and public health	689,816
Occupational health or workers health	5,203,724
Millennials or generation Y or young adults	8,338,055

During Phase 1, we proceeded to run an advanced search using individual keywords found only in the title or abstract fields as presented in Figure 1. Each database was searched individually and at different times to minimize involuntary exclusions due to fatigue or literature saturation.

Figure. 1 – Phase 1 search approach

Searching: [EconLit with Full Text](#), [Show all](#) | [Choose Databases](#)

TI Title ▾
Search

OR ▾

Select a Field (optional) ▾
Create Alert

AND ▾

Select a Field (optional) ▾
Clear ?

Due to the high volume of results in Phase 1, a preliminary selection of articles was carried out using Keshav's Three Pass Approach (Keshav, 2007) for reading research papers. Accordingly, we proceeded to undertake a bird's eye view of the articles title's and a quick skim read of the abstract summary. The articles selected were tracked in a separate document for easy identification and subsequent review.

Once Phase 1 was completed, we proceeded to run Phase 2 of the article selection process. During this phase we proceeded to run another advanced search using the following specific search strings and keywords:

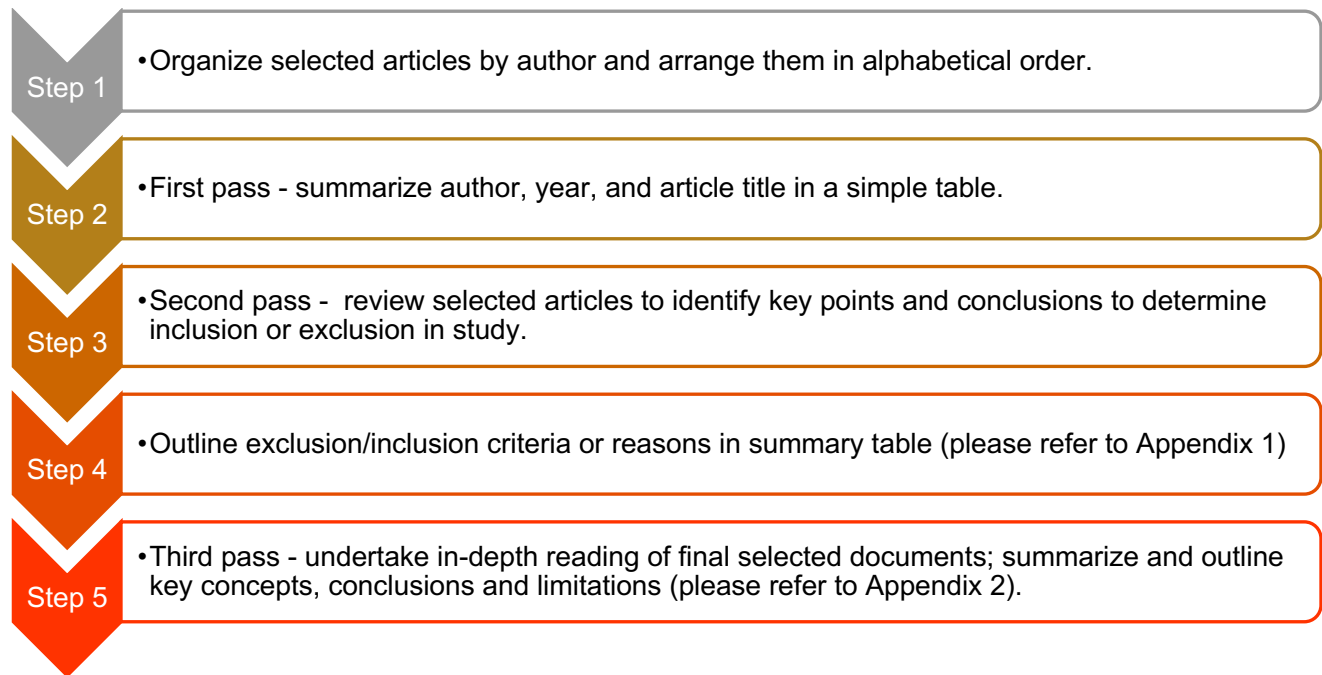
1. Occupational stress or work stress or job stress AND mental health or mental illness
2. Occupational stress or work stress or job stress AND mental illness AND impacts or consequences or effects

Keywords identified in Phase 1 as generating results irrelevant or loosely associated with the research topic were excluded from use in Phase 2 to narrow the search field. The use of the final keywords and search strings resulted in 70 articles selected for further review to see whether they met the inclusion requirements. Tracking of the articles viewed and selected was done through a simple list outlining the title, authors and date of the journal article. This list was subsequently used as the foundation for the article review matrix, mapping and final article selection.

3. Data analysis

Our final article selection and subsequent data analysis was undertaken using a multi-step approach based on Kershav's Three Pass Approach as presented in Figure 2 below.

Figure 2. – Multi-step approach



Upon completion of Step 4 of data analysis process, the total of 30 articles were selected for our review.

IV. Results

Table 4 lists the articles reviewed, by author, and provides a snapshot of the mental disorders addressed (RQ1), whether the article addresses mental illness as a public health issues (RQ2), and whether the articles discussions and conclusions, including practical implications and future research considerations, addressed specific consideration of the millennial and younger generation workforces (RQ3).

Table 4 – Summary of Articles vs. Research Question				
Article No.	Author(s)	RQ1 – Mental Disorders	RQ 2 – Public health issue	RQ 3 – Younger generations
1	Abdi, T.A., et al (2018)	Anxiety, depression	No	Yes
2	Arocena and Nunez (2014)	Depression	Yes	No

3	Dalgaard et al (2017)	Anxiety, depression, sleep disorder	Yes	No
4	Extremera et al (2019)	Anxiety, depression, psychological distress	No	No
5	Firouzbakht, M., et al (2018)	Psychological distress	Yes	No
6	Hammond, R.K., Gnilka, P.B., & Ravichandran, S. (2019)	Burnout	No	Yes
7	Harrison, M.A., & Stephens, K.K. (2019)	Anxiety, burnout, depression	No	No
8	Hawkley (2018)	Depression, suicide	Yes	No
9	Herr, R.M., et al	Anxiety, depression, sleep disorder	No	No
10	Iliescu et al (2017)	Anxiety, sleep disorder	No	No
11	Jun et al (2019)	Depression, psychological distress	No	No
12	Kim et al (2019)	Anxiety, burnout, depression	No	No
13	Kortum, Leka and Cox (2010)	Anxiety, depression, suicide	Yes	No
14	Lee, Joo & Choi (2012)	Depression	No	No
15	Lockwood, Henderson & Stansfeld (2017)	Anxiety, depression	No	No
16	Loh, M.Y., et al (2019)	Anxiety, burnout, fatigue	No	No
17	Marcatto et al (2016)	Anxiety, depression	No	No
18	Meunier et al (2019)	Anxiety, depression	No	No
19	Nakao (2010)	Anxiety, depression	No	No
20	Nilsen et al (2014)	Sleep disorder	No	No
21	Noda, Sukagami & Tsujimoto (2019)	Depression	No	No
22	Olsen, I.B., et al (2014)	Anxiety, depression,	No	No
23	Rose et al (2017)	Depression	No	No
24	Sawhney et al (2017)	Anxiety, depression, PTSD	No	No
25	Szeto & Dobson (2013)	Severe mental illness	Yes	No
26	Theorell et al (2015)	Depression, stress, suicide	No	No
27	Wang et al (2009)	Depression	No	No
28	Wong, Poole & Agius (2015)	Mental illness	No	No
29	Woods et al (2019)	Depression	Yes	No
30	Yunita, P.I., & Saputra, G.N. (2019)	Psychological distress	No	Yes

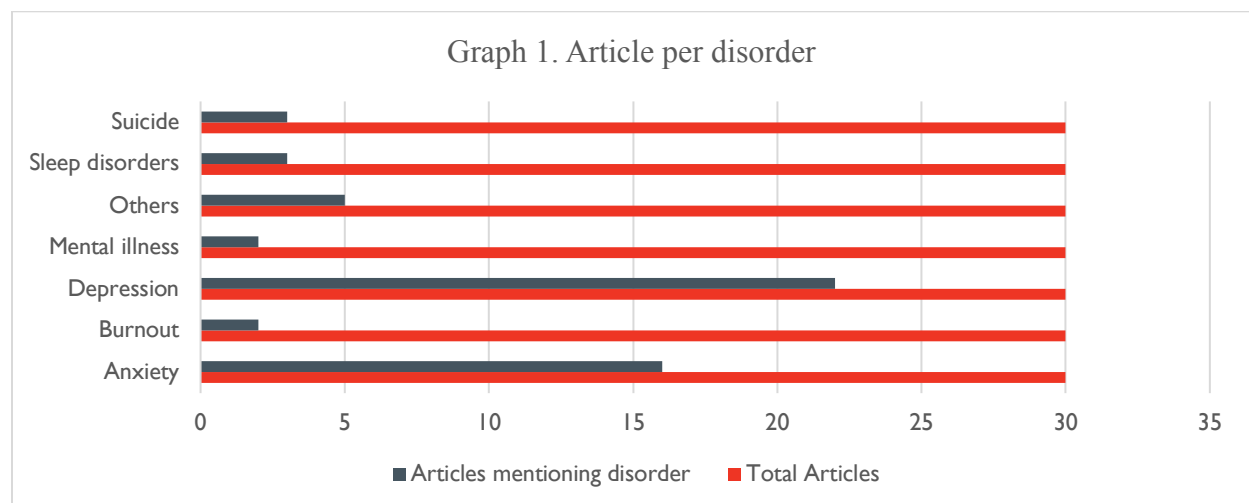
Note: The article numerations are based on the literature review and analysis undertaken. For article titles and content information please refer to Appendix 2.

RQ 1 - Does the current breath of scientific evidence define a direct link between work related stress and medically diagnosed mental illness

With an estimated US\$1.0 trillion in productivity losses (WHO, 2019) the economic burden of the mental illness phenomenon on industrialized and developing nations alike is staggering. From a purely financial perspective, the impact of mental illness in the workplace is overwhelming as key contributors to the cost of loss of productivity recorded by the different governments is associated with disability claims, absenteeism, presenteeism, and staff turnover associated with this phenomenon (Szeto & Dobson, 2013). To address this issue and provide a way forward for organizations, academics have undertaken extensive scientific research to identify work stressors (Fletcher & Payne, 1980) and workplace environment conditions (Theorell et al, 2015) to identify the causal relationship between these factors and the presence of poor mental health on employees.

Through a systematic review of the literature available on the relationship between job/work stress and poor employee mental health, our study intended to identify to what extent the current scientific evidence has determined a direct link between [work] stress and clinically diagnosed mental illness disorders as defined and classified by medical literature such as the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (APA, 2019) or similar.

Based on our review, the research on the issue of mental health in the workplace has primarily focused on Common Mental Disorders such as depression, anxiety, sleep disorders and burnout (among others). Of the 30 articles reviewed, only 2 focused on the causal relationship between occupational stress and diagnosable mental illness; with only 1 of the articles addressing or referring to severe mental illness conditions such as Post Traumatic Stress Syndrome – PTSD, bipolar disorder, mania, phobia, dysthymia and obsessive-compulsive disorder (Szeto & Dobson, 2019; Wong, Poole & Agius, 2015).



We identified that most of the studies focused their analysis on poor employee mental health symptoms as an outcome of work stressors and using the “mental health” and “mental illness” interchangeably and without acknowledging that a distinction exists between the two concepts (Follmer & Jones, 2017). These results confirm our assertion that insufficient attention is given in academic research, within the fields of management and occupational health, on the direct causality between work stressors and more severe mental illnesses.

RQ 2 – Does the increased reports of employee mental illness deriving from occupational stress significantly contribute to the notion of mental illness as a growing public health concern.

The World Health Organization cites good mental health as being related to mental and psychological well-being (WHO, 2019). Furthermore, their cited purpose with regards to this issue is “*to work to improve the mental health of individuals and society at large includes the promotion of mental well-being, the prevention of mental disorders, the protection of human rights and the care of people affected by mental disorders*” (WHO, Mental Health, 2019).

Statistics in developed countries such as the USA, Canada, Australia and within the UK and the EU show that 1 in 5 adults live with a mental illness in varying degrees of severity (NIMH, 2019; CDC 2019; Woods et al 2019; Coupaud, 2016; Szeto & Dobson, 2013; Wells, Denny & Cunnigham, 2011). Moreover, the rising numbers of reported mental illness among the general population in emerging nations is also cause for concern particularly given the high number of vulnerable employees within these economies (ILO, 2016; Bughra, 2016; Kortum, Leka & Cox, 2010).

Given the financial and management impacts to organizations, it was surprising that of the 30 articles reviewed only 7 articles addressed the issue of mental illness or poor mental health as a contributor to increasing public health costs and as a high priority socio-economic problem. With predictions that in 2020 depression will be the second most significant cause of occupational disability (Arocena & Nunez, 2014) and, with the European Community stating that the public health costs of treating depression can be equivalent to up to 1% of a country’s Gross Domestic Product – GDP (WHO, 2013), addressing employee mental wellbeing as an issue of Corporate Social Responsibility – CSR for companies becomes paramount (Coupaud, 2016; Zizek & Mulaj, 2016). Moreover, there is opportunity for further academic research on the readiness of organization with regards to cooperation with Public Health authorities in implementing initiatives and support systems within their organizations for managing employees with diagnosed mental illness (Bonaccio, Lapierre & O’Reilly, 2019; Meunier et al, 2019; Follmer & Jones, 2017).

RQ 3 – When addressing preemptive workplace initiatives does the scientific literature consider the nuances and characteristics of the younger generations entering the workplace.

As the baby boomer generation continues to retire and the millennial generation increasingly becomes the prevalent generation in the modern workplace (Hammond, Gnilka & Ravichandran 2019), they will have an impact on the relationships between different generations of employees (e.g. GenX and GenZ) and organizational performance and culture (Yunita & Saputra, 2019).

As statistics show, the prevalence of mental illness among young adults (aged 19 to 25) is approximately 25.8% (NIMH, 2019). Furthermore, cases of children showing diagnosed cases of mental illness as young as 4 years old (APA, 2019) and the Mental Health Commission of Canada projecting that at least 20% of Canadians may develop a mental illness by the time they turn 25 (MHCC, 2019) the issue of mental health in the workplace takes on a new nuance.

Results from our review of the academic literature shows that there is little to no focus or attention on the costs, organizational impacts and workplace stress management initiatives required to handle the issue of mental illness in millennials already in the workplace, or, even worse, of younger generations due to enter the global workforce soon with an already medically diagnosed mental illness.

In this regard, only 10% of the academic literature reviewed specifically addressed millennials when studying the causality between work stress and various common mental disorders. Of this 10%, none of these studies specifically include or address in their future recommendations, the mental illness phenomenon.

V. Discussion

For our research we selected a total of 105 articles were initially of which 70 were shortlisted for assessment of their validity for the study by application of the inclusion and exclusion criteria. Of the 70 shortlisted 30 were finally selected for our review. Our analysis focused on reviewing the existing literature on the causal relationship between organizational stress (or job stress) and poor employee mental health by studying three research interests: 1) direct link between work stress and clinically diagnosed mental illness, 2) contribution of work stress related poor mental health on the notion of mental illness as a public health concern and 3) focus or attention of the academic literature on the impacts of workplace stress on millennials and younger generations using a systematic review approach. In addressing these three aspects our review gives a focalized picture of key research gaps around occupational health and provides a path for future lines of inquiry.

In general terms, the causal relationship between occupational stress and poor mental health on employees has been demonstrated and is evidenced in the breath of academic literature available, with seminal studies dating back more than two decades

analyzing and identifying job stressors (Fletcher & Payne, 1980) and developing theoretical frameworks such as the Demand-Control and the Effort-Reward Imbalance Models (Wang et al, 2009) to determine the association of factors such as job satisfaction, job strain, role conflict and perceived stress [among others] with symptoms of depression, anxiety, burnout and sleep disorders in employees (Extremera et al, 2019; Jun et al, 2019; Abdi et al, 2018; Marcatto et al, 2016; Theorell et al, 2015; Szeto & Dobson, 2013).

Notwithstanding, the results from our analysis show that, regardless of the extensive literature on the aforementioned relationship, the scientific data presented does not differentiate between mental health and mental illness as two distinct, albeit interconnected, conceptual constructs (Follmer & Jones, 2017) and focuses its attention in only a handful of mental disorders associated with mental illness (APA, 2019). It can be argued that this differentiation is overlooked or neglected in the studies due to its medical nature and therefore, deemed not needed in the context of organizational research. However, given the financial and administrative burden, reflected in lost productivity and implementation of workplace wellbeing initiatives (respectively), a clear understanding of the varying impacts of having an employee with poor mental health versus an employee with clinically diagnosed mental illness is paramount to ensure optimal level of organizational performance (Harrison & Stephens, 2019; Arocena and Nunez, 2014).

Mental illness as a public health issue

There is a consensus among policy makers and academics that mental health is affected not only by individual attributes such as personality traits (Hammond, Gnlika & Ravichandran, 2019; Iliescu et al, 2017;), dimensions of self-efficacy and self-esteem (Lee, Joo & Choi, 2012) but also by environmental factors such as society, family and employment (WHO, 2013). Notwithstanding, the scientific data reflects that at an individual level family and work are key sources of satisfaction and sense of accomplishment for individuals (Szeto & Dobson, 2013; Tennant, 2001). Accordingly, in relation to mental illness phenomenon workplace stress as a contributing factor to increased reports of mental illness on the employed population both in developed and developing countries cannot be discounted (ILO, 2016; Theorell et al, 2015).

In a Delphi study undertaken by Wong et al (2015) a new definition was proposed for the concept of 'occupational mental illness'. The definition outlined by the team of multi-disciplinary experts was established as "*anxiety, depression or both, an adjustment disorder or post-traumatic stress disorder, which can reasonably be attributed on a balance of probabilities to workplace stressors rather than to personal factors.*" Furthermore, the study argued that a diagnosis of mental illness attributed to workplace stress cannot be done in isolation by the treating psychiatrist but requires input from the workplace or an occupational medicine physician (Wong et al, 2015). This assertion clearly outlines the complexity of managing mental illness on employees within an organizational context (Follmer & Jones, 2017) and highlights the fact that broader

societal involvement is required (Meunier et al, 2019) in the way of the public health system and network of professional mental health care practitioners.

Accordingly, as shift in focus by academics studying the causality, association and relationship of workplace stress on mental health is required; their attention needs to be diverted into assessing the extent of which the modern workplace contributes to the mental illness as a public health issue.

The younger generations

The Millennial generation has a significant role to play in the workplace of the future. With the boomer generation all but retired in the majority countries, and Generation X members of the workforce already 20 or 30 years into their professional careers, Millennials now dominate the workforce (Abdi et al, 2018; Yunita & Saputra, 2018). Although they are considered the best educated generation in comparison to their predecessors, they are also the first generation to experience higher levels of poverty, unemployment and financial uncertainty (McLeigh & Boberiene, 2014) in modern times. Impacts of the Global Financial Crisis of 2008 still can still be seen in the workplace with job demands and work hours reaching critical levels for employees and consequently having negative impacts employee wellbeing and mental health (ILO, 2016).

Millennials as well as the younger generations, this is to say Generation Z, have been identified by policy makers such as the World Health Organization and the UN as vulnerable to experiencing mental illness (WHO, 2019; OHCHR, 2019) and country statistics reflecting that children as young as 4 years old have experienced mental illness (CDC 2019; NIMH 2019) the issue of mental illness prevailing in the workplace is nothing more than a certainty for the employment environment of the future. Yet the academic research on mental illness in the workplace is woefully silent on this issue. Whilst our review found that 3 articles addressed the issue of workplace stress within the context of a millennial workforce, none of them raised any future research consideration or practical implications considering mental illness in younger workers.

The lack of attention to this aspect of the organizational impact of the mental illness phenomenon creates a significant blind spot for academics and business managers who will face this issue without having the appropriate theoretical frameworks or capabilities to address it and can signify even higher organizational costs not only from a financial point of view but from a CSR perspective.

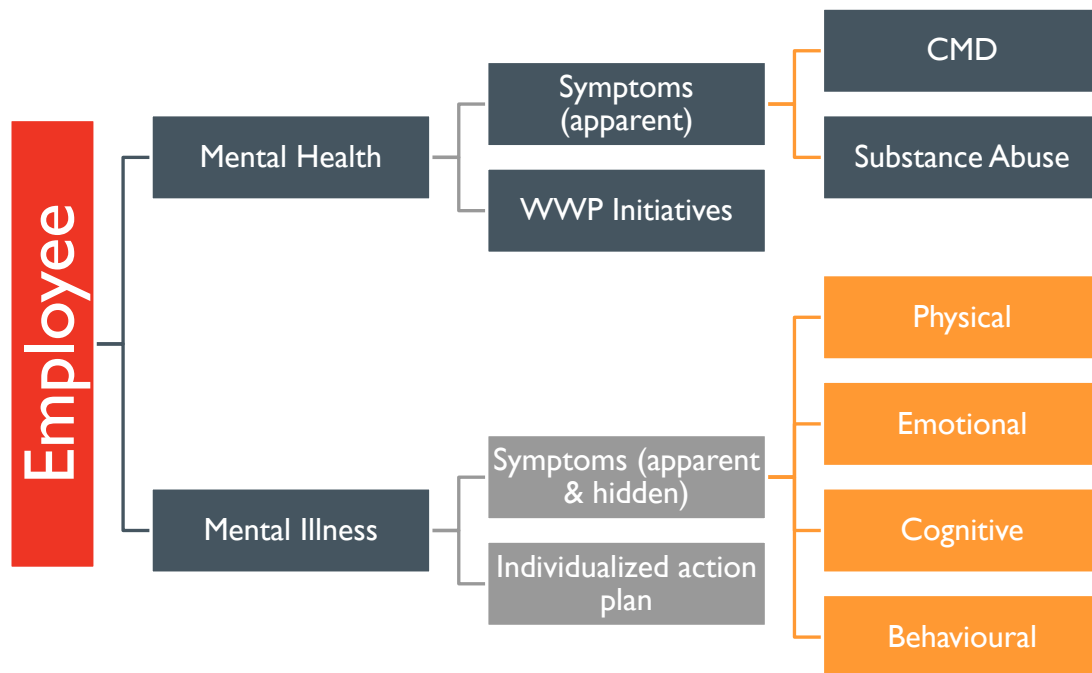
1. Recommendations for future research

As outlined above, given the research gaps identified with respect to the relationship of workplace stress and mental illness, there is opportunity for future academic research with respect to 1) differentiating mental illness and mental health and 2) mental illness management for younger generations entering the workplace. Whilst we recognize that a gap exists with regards to the actual contribution of occupational stress as a contributor to mental illness as a public health issue, it is our opinion that policy makers

are aware of this causality and are better positioned to address this gap that the academic community as they have access to the relevant statistical information required to fully ascertain the level of burden in the public health sector. In order to obtain objective data, longitudinal studies are recommended.

Figure 3 below provides a baseline framework for differentiating mental illness from mental health which can be used and build upon in future research. This baseline framework was developed taking into account Follmer and Jones (2017) Model of Mental Illness and Work-Related Experiences and takes into consideration the idea of organizations implementing a management system within their HR and OH&S functions that provides a safe and inclusive environment for employees with mental illness to engage in self-management strategies, along with external treatment by medical professionals, identified as effective for employees who suffer from depression and anxiety disorders (Meunier et al, 2019). When building upon the framework, these self-management strategies should be reassessed within the context of their application to more severe mental illnesses as outlined in medical literature such as the APA DSM-V (APA, 2019).

Figure. 3 – Mental Illness Differentiator Model



2. Limitations

This review has various limitations which should be noted when reviewing our findings. First the analysis was made based on secondary information, primarily gathered from cross sectional studies which relied on self-reported data with respect to the association and attribution of work stress and poor employee mental health. Accordingly, the scientific data reviewed was subject to involuntary bias and error. Similarly, based on the cross-sectional nature of many of the studies included our review, the authors were generally not able to make causal inferences on their results. Second, only articles in

English were selected for review. Accordingly, the target population of the articles selected were employees from so called Western developed and industrialized nations. As such, the overall conclusions from the studies and, consequently from our analysis, may not adequately reflect the reality of the issues researched in other less developed regions such as Asia Pacific, the Middle East, Africa or Latin America.

VI. Conclusions

Significant time and effort has been invested by the academic community in addressing the impact of workplace stress on employee mental health and wellbeing. The scientific research available provides an extensive overview of the primary work stressors and workplace environmental factors that can impact the physical and mental health of employees. Furthermore, the impacts to the organization in the way of reduced employee performance, organizational culture, leadership and management, and wellbeing management practices are also well addressed in the available literature.

The continued rise of the mental illness phenomenon across the globe and the increased prevalence of mental illness in young employed adults as well as in children and youth requires more focalized attention on the concept of mental illness within the organizational context.

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Appendixes

1. Article selection – inclusion and exclusion

Item No.	Author (year)	Title	Include/ Exclude	Criteria/Reason
1	Ahmad & Ashraf (2016)	The Impact of Occupational Stress on University Employees' Personality	Exclude	- Delves into the impact of occupational stress on individual personality traits. - Included for reference and compliment to studies of personality traits as positive or negative mediators for managing mental health. - <u>Primary use in research:</u> background and reference.
2	Ainsworth & Der Ananian (2013)	Wellness Matters: Promoting Health in Young Adults	Exclude	- Does not directly address the link between occupational stress and mental illness - Addresses the difference in stress coping and management between millennials and older generations. - Provides insights and considerations for practical application and future research.
3	Arocena and Nunez (2014)	Depression affecting work performance: gender differentials across occupations	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety.
4	Bhugra (2016)	Mental health for nations	Exclude	- Does not address the link between occupational stress and mental illness. -
5	Burgess et al (2019)	Why Interventions Fail: A Systematic Review of Occupational Health Psychology Interventions	Exclude	- Does not address the link between occupational stress and mental illness - Provides key background reference and data of the mental health crisis as a global phenomenon.

6	Burke, Singh & Fiksenbaum (2009)	Work intensity: potential antecedents and consequences	Exclude	- Does not address the link between occupational stress and mental illness
7	Carr et al (2011)	Getting to grips with stress in the workplace: Strategies for promoting a healthier, more productive environment	Exclude	- Does not address the link between occupational stress and mental illness - Provides key background reference and data of the mental health crisis as a global phenomenon.
8	Chandola, Brunner & Marmot (2006)	Chronic stress at work and the metabolic syndrome: prospective study	Exclude	- Article date falls outside of timeframe for review (pre-2009) - Seminal article outlining the various work stressors and their nature - <u>Primary use in research</u> : provides relevant background information on applicable theoretical framework.
9	Coupaud (2016)	Determinants of health at work in the EU15: Elaboration of synthetic indicators of working conditions and their impacts on the physical and mental health of workers.	Exclude	- Does not address the link between occupational stress and mental illness - Provides insights and considerations for practical application and future research.
10	Dalgaard et al (2017)	Work-focused cognitive behavioral intervention for psychological complaints in patients on sick leave due to work related stress: Results from a randomized controlled trial	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety.
11	Deguchi et al (2019)	Depression and occupational stress in Japanese school principals and vice-principals	Exclude	- Target population is too niche; discussion of findings and results are limited to a specific country and sample size too small to provide insights at a more broad or global perspective.
12	Denny, Wells & Cunningham (2011)	Assessing psychosocial work-related stress across five European countries: implications for workforce development.	Exclude	- Does not address the link between occupational stress and mental illness - Provides key background reference and data of the mental health crisis as a global phenomenon.

				- Provides insights and considerations for practical application and future research.
13	Duff & Chan (2013)	Investigating suicide as a career response	Exclude	- Study does not address the link between organizational stress and mental illness but rather focuses on suicide as a response to perceived career failure. - Provides insights on the combination of factors that affect individual mental, some of which can be associated to work and employment.
14	Eskildsen et al (2017)	Perceived stress, disturbed sleep, and cognitive impairments in patients with work-related stress complaints: a longitudinal study	Exclude	- Does not address the link between occupational stress and mental illness but rather focuses on cognitive impairments which do not fall in category of psychological illness.
15	Extremiera et al (2019)	On the association between job dissatisfaction and employee's mental health problems: Does emotional regulation ability buffer the link?	Include	- Findings highlight a positive relationship between mental illness and work stress. - Provides insights for future research and practical application.
16	Florea & Florea (2016)	Individual and Organizational Implications of Work-related Stress	Exclude	- Poor quality of research; only had 3 academic references and wording of article included spelling errors. Methodology was not clear and results did not seem to be supported by adequate scientific research.
17	Fletcher & Payne (1980)	Stress and Work: A Review and Theoretical Framework	Exclude	- Article date falls outside of timeframe for review (pre-2009) - Seminal article outlining the various work stressors and their nature - <u>Primary use in research</u>: provides relevant background information on applicable theoretical framework.
18	Follmer & Johnson (2017)	Mental Illness in the Workplace: An Interdisciplinary Review and Organizational Research Agenda	Exclude	- Study focuses on employees with diagnosed mental illness and their experience in a work environment. Does not consider the causality between work environment and stressors as a determinant for poor mental health. - Provides insights and considerations for practical application and future research as well as reference

				material for impacts of mental illness in the organizational context.
19	Germain (2013)	Work-related suicide: An analysis of US government reports and recommendations for human resources.	Exclude	- Does not address the link between occupational stress and mental illness - Provides insights and considerations for practical application and future research.
20	Giorgi et al (2018)	Addressing Risks: Mental Health, Work-Related Stress, and Occupational Disease Management to Enhance Well-Being	Exclude	- Not a research article. - Addresses the relevance of organizations applying a contextualized health approach to their employee wellbeing initiatives and therefore used for reference in future research considerations.
21	Govind, Ratchagar & Rani (2014)	Job Stress in Relation to Mental Health among the College Teachers	Exclude	- Poor quality of research; only had 3 academic references and wording of article included spelling errors. Methodology was not clear and results did not seem to be supported by adequate scientific research.
22	Harvey (2018)	Corporate wellness: what, why not and whither?	Exclude	- Does not address the link between occupational stress and mental illness - Provides insights and considerations for practical application and future research.
23	Hawkley (2018)	The detrimental health and well-being consequences of employment precariousness: The role of working conditions in amplifying health disparities.	Include	- Directly addresses how dangerous work environments act as stressors and directly impact employee's physical and mental health.
24	Holland, Shepperd & Ryan (2017)	Examining Wellness Programs Over Time: Predicting Participation and Workplace Outcomes	Exclude	- Focuses on workplace wellness programs and their efficiency without providing data on the link between organizational stress and mental health outcomes. - Provides key theoretical framework and models used as reference for analysis.
25	Holmgren et al (2019)	Does early identification of work-related stress, combined with feedback at GP consultation, prevent sick leave in the following 12 months? A randomized controlled trial in primary health care.	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety.

26	Holmgren, Fjällström-Lungren & Hensing (2013)	Early identification of work-related stress predicted sickness absence in employed women with musculoskeletal or mental disorders: a prospective, longitudinal study in a primary health care setting.	Exclude	- Study does not broadly address the link between work related stress and poor mental health; study population too niche and industry specific.
27	Hussenoeder et al (2019)	Concepts of Mental Demands at Work That Protect Against Cognitive Decline and Dementia: A Systematic Review.	Exclude	- Focused on old age employees and dementia. - Does not analyze link between work stress and mental illness
28	Iliescu et al (2017)	The five-factor traits as moderators between job insecurity and health: A vulnerability-stress perspective	Include	- Delves into the impact of occupational stress on individual personality traits. - Included for reference and compliment to studies of personality traits as positive or negative mediators for managing mental health. - <u>Primary use in research:</u> background and reference.
29	Jiang & Yang (2016)	Impacts of Optimism and Job Characteristics on Job Burnout among the Millennial Generation: Evidence from a Survey of Community Service Workers in Shaanxi, China.	Exclude	- Does not directly address the link between occupational stress and mental illness - Addresses the impact of burnout among the millennial population and coping mechanisms
30	Jun et al (2019)	Job strain and psychological distress in office workers: The role of coping	Include	- Directly addresses the link between organizational stress and diagnosed mental such as depression and anxiety disorder. - Provides key academic research background about stress and its implications at individual and corporate levels.
31	Kahn, Stevenson & Roslender (2010)	Workforce health as intellectual capital	Exclude	- Does not address the link between occupational stress and mental illness
32	Khamisa et al (2015)	Work Related Stress, Burnout, Job Satisfaction and General Health of Nurses.	Exclude	- Target population is too niche; discussion of findings and results are limited and do not provide a broad or global perspective.

33	Kim et al (2019)	Protective and risk factors for depressive mood and anxiety against occupational stress: examining temperament character and coping strategy among civil servants.	Include	- Discusses the potential occupational factors and causes that may lead to depression within employees. - Addresses poor mental health as an organizational concern due to its potential impact on employee productivity and performance.
34	Kobayashi & Middlemiss (2009)	Employers' Liability for Occupational Stress and Death from Overwork in the United States and the United Kingdom.	Exclude	- Study is an overview of the US and UK regulatory framework with regards to occupational health and safety. Provides insights and considerations for practical application and future research but does not sufficiently address the link between work stress and mental illness.
35	Kortum, Leka and Cox (2010)	Psychosocial risks and work-related stress in developing countries: health impact, priorities, barriers and solutions.	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety. - Research focused on developing countries; providing a broader view of the mental health phenomenon worldwide. - Provides insights and considerations for practical application and future research.
36	Kuhn (2006)	Mental health promotion in the workplace: a European perspective	Exclude	- Article date falls outside of timeframe for review (pre-2009) - Indirectly addresses the issue of work stress as a factor for poor employee mental health. - Provides key background reference and data of the mental health crisis as a global phenomenon.
37	Kunz (2019)	The influence of working conditions on health satisfaction, physical and mental health: testing the effort-reward imbalance (ERI) model and its moderation with over commitment using a representative sample of German employees (GSOEP).	Exclude	- Does not significantly address the link between mental illness and occupational stress. - Target population is too niche; discussion of findings and results are limited and do not provide a broad or global perspective.

38	Lee, Joo & Choi (2012)	Perceived Stress and Self-esteem Mediate the Effects of Work-related Stress on Depression	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety.
39	Li et al (2019)	Work Stress and Depressive Symptoms in Chinese Migrant Workers: The Moderating Role of Community Factors	Exclude	- Discussion on the link between occupational stress and mental illness is focused solely from an immigrant workers perspective. - Findings and discussion do not provide insights that can apply to broad or global point of view.
40	Lockwood, Henderson & Stansfeld (2017)	An assessment of employer liability for workplace stress	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety. - Provides insights and considerations for practical application and future research.
41	Marcatto et al (2016)	Work-related stress risk factors and health outcomes in public sector employees	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety.
42	Mariappanadar (2013)	A conceptual framework for cost measures of harm of HRM practices	Exclude	- Does not address the link between occupational stress and mental illness. - Provides insights and considerations for practical application and future research.
43	McLeigh & Boberiene (2014)	Young Adults in Conflict: Confident but Struggling, Networked but Disconnected	Exclude	- Document is not research article. - <u>Primary use in research:</u> academic reference relating to future research implications with respect to the millennial workforce.
44	Meunier et al (2019)	Feeling better at work! Mental health self-management strategies for workers with depressive and anxiety symptoms.	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety. - Provides insights and considerations for practical application and future research.
45	Mosadeghrad (2013)	Occupational stress and its Consequences: Implications for health policy and management	Exclude	- Target population is too niche; discussion of findings and results are limited to a specific country and sample size too small to provide insights at a more broad or global perspective.

46	Nakao (2010)	Work-related stress and psychosomatic medicine	Include	- Provides key theoretical framework and models with respect to the relationship between work stress and poor mental health.
47	Newbegin (2014)	The stress epidemic	Exclude	- Provides key background reference and data of the mental health crisis as a global phenomenon.
48	Nilsen et al (2014)	Associations between work-related stress in late midlife, educational attainment, and serious health problems in old age: a longitudinal study with over 20 years of follow-up.	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety. - Provides insights and considerations for practical application and future research.
49	Noda, Sukagami & Tsujimoto (2019)	The psychological process of workers who access mental health services: a qualitative study focused on workers' sense of 'me as a worker'.	Include	- Provides key theoretical framework and models with respect to the relationship between work stress and poor mental health.
50	Otey (2015)	Buffering burnout: Preparing the online generation for the occupational hazards of the legal profession.	Exclude	- Document is not research article. - <u>Primary use in research</u>: academic reference relating to future research implications with respect to the millennial workforce.
51	Rajabi, Tahmores & Hatami (2018)	A Comparative Study of Job Performance, Occupational Stress and General Health in Nurses of Psychiatric and Emergency Department.	Exclude	- Addresses link between occupational stress and mental illness at a very high level - Does not base its methodology on a clear theoretical framework
52	Raskin et al (2015)	Job-Related Stress and Depression in Orphanage and Preschool Caregivers in Ukraine	Exclude	- Study does not broadly address the link between work related stress and poor mental health.
53	Rose et al (2017)	Associations of fatigue to work-related stress, mental and physical health in an employed community sample.	Include	- Study is focused on work related stress with relation to mental health conditions and symptoms
54	Sarafis et al (2016)	The impact of occupational stress on nurses' caring behaviors and their health-related quality of life.	Exclude	- Not sufficient focus on link between occupational stress and mental illness.

55	Sarang, Karnam & Shitole (2019)	To Investigate the Relationship between Psychological Factors and Stress in Two Different Developmental Stages in Adults: A Cross Sectional Study	Exclude	- Does not significantly address the link between mental illness and occupational stress.
56	Sawhney et al (2017)	Occupational Stress and Mental Health Symptoms: Examining the Moderating Effect of Work Recovery Strategies in Firefighters.	Include	- Whilst the focus of the study is assessing the effectiveness of work recovery strategies to manage occupational stress and poor mental health symptoms it provides a broad overview of the academic literature and theoretical frameworks that study the link between work stress and mental illness.
57	Schaufeli, Leiter & Maslach (2008)	Burnout: 35 years of research and practice	Exclude	- Article date falls outside of timeframe for review (pre-2009) - Indirectly addresses the issue of work stress as a factor for poor employee mental health. - <u>Primary use in research</u> : provides relevant background information on applicable theoretical framework.
58	Sikafi (2019)	How prevalent is mental ill-health in the workplace – and how can employers help workers who are suffering?	Exclude	- Does not address the link between occupational stress and mental illness - Provides key background reference and data of the mental health crisis as a global phenomenon.
59	Suleman et al (2018)	Relationship between perceived occupational stress and psychological well-being among secondary school heads in Khyber Pakhtunkhwa, Pakistan	Exclude	- Does not address the link between occupational stress and mental illness
60	Szeto & Dobson (2013)	Mental Disorders and Their Association with Perceived Work Stress: An Investigation of the 2010 Canadian Community Health Survey	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety.
61	Theorell et al (2015)	A systematic review including meta-analysis of work environment and depressive symptoms.	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety. - Provides insights and considerations for practical application and future research.

62	Tennant (2001)	Work-related stress and depressive disorders	Exclude	- Article date falls outside of timeframe for review (pre-2009) - Seminal article outlining the various work stressors and their nature - <u>Primary use in research</u>: provides relevant background information on applicable theoretical framework.
63	Tinline and Cooper (2019)	The solution is management not mindfulness	Exclude	- Document is not research article; excluded from analysis but used for academic reference relating to future research implications.
64	Wang et al (2009)	Three job-related stress models and depression: a population-based study.	Include	- Study provides an in-depth analysis of the job-related stressors and their direct impact on employee's showing depressive symptoms. - Provides insight on job stressors that may lead to mental illness on employees.
65	Wongtongkam et al (2017)	The influence of a mindfulness-based intervention on job satisfaction and work-related stress and anxiety.	Exclude	- Does not address the link between occupational stress and mental illness
66	Woods et al (2019)	Mental Illness, Social Suffering and Structural Antagonism in the Labor Process	Include	- Directly addresses the relationship between work stress and poor mental health symptoms and illnesses such as depression and anxiety. - Provides insights and considerations for practical application and future research.
67	Zhang et al (2019)	Promotion- and Prevention-Focused Coping: A Meta-Analytic Examination of Regulatory Strategies in the Work Stress Process.	Exclude	- Does not address the link between occupational stress and mental illness
69	Zizek & Mulej (2016)	Creating a healthy company by occupational health promotion as a part of social responsibility	Exclude	- Does not address the link between occupational stress and mental illness. - Provides insights and considerations for practical application and future research.
70	Zwetsloot et al (2010)	The organizational benefits of investing in workplace health	Exclude	- Does not address the link between occupational stress and mental illness.

				- Provides insights and considerations for practical application and future research.
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2. Summary of selected articles

Item No.	Author (year)	Title	Research Objective	Key concepts, theories, findings, etc
1	Abdi et al (2018)	Four Wellbeing Patterns and their Antecedents in Millennials at Work.	Primary objective: Examine the relationship between job satisfaction and work well-being patterns and provide theoretical contribution to the understanding of misaligned of such patterns. Secondary objective: to organizational personal antecedents which may characterize and differentiate well-being patterns.	- Concepts: The authors identified four (4) wellbeing patterns using a configurational variable that combined job satisfaction and mental health. The wellbeing patterns identified were: satisfied-healthy, unsatisfied-unhealthy, satisfied-unhealthy, and unsatisfied-healthy. - Additionally, the study used organizational antecedents such as roles stress (role ambiguity, role conflict and role overload), job importance and overqualification to assess their impact on the wellbeing patterns. - Sample population was composed of millennial employees. - Conclusions: role ambiguity has a strong relationship between job dissatisfaction and symptoms of anxiety; confirming previous studies on that indicated that role ambiguity has adverse effects on employee health. - Similarly, role conflict and role overload have negative impacts on mental health, though not necessarily on job satisfaction; results corroborate Role expansion theory. - Inversely, overqualification showed negative impacts on job satisfaction but showed optimal mental health levels. - When plotting results, majority of population cluster fell in the unsatisfied-unhealthy patterns; this shows

				that previous notion that high job satisfaction is positively related to mental health; - Limitations: Limited research population (young Spanish employees); however, sample was representative of all regions in Spain. - Measurement of job satisfaction and mental health – self reported; subject to bias and error. However, study used validated survey tools thus bias/error impact is mitigated. - Addresses millennials in recommendation for future research.
2	Arocena and Nunez (2014)	Depression affecting work performance: gender differentials across occupations	Primary objective: to assess whether Depression Affecting Work (DAW), which is often predominantly reported by female employees, is directly linked to gender. Secondary objective: to determine whether occupational and contractual factors have a direct impact on DAW.	- Concepts: The study focused on analyzing the level of the impact of gender and occupational factors on cases of DAW and to determine whether gender is a variable for higher incidences of DAW in the workplace. - Furthermore, the analysis focused on other occupational variances such as type of profession (blue collar versus white collar), public versus private, contractual terms (full time, part time, etc.) as possible variables for DAW. - high skilled) and contractual conditions. - Limitations: the results are based on self-reported responses from participant in the survey which are subject to bias and error. - The authors highlighted that the majority of the academic literature on the matter of the link between occupational factors and poor mental health conditions (such as depression) requires research based on more objective data and statistical information. - Additionally, the study did not capture responses from individuals with reported DAW cases that have left the employment market.

3	Dalgaard et al (2017)	Work-focused cognitive behavioral intervention for psychological complaints in patients on sick leave due to work related stress: Results from a randomized controlled trial	Primary objective: to analyze whether the use of Cognitive Behavioral Therapy is more effective in assisting recovery of employees who have experienced psychological disorders due to work related stress. .	- Concepts: The study used a randomized control study to determine whether the recovery period for employees who are on sick leave due to diagnosed psychological disorders such as anxiety, depression, insomnia and others experienced significant recovery through CBT based interventions in comparison to a clinical/medical assessment and professional treatment. - The study could identify that over time the psychological complaints/symptoms tended to decrease; however, the study was unable to conclude whether this is due to the lack of exposure to work stress (as participants were on sick leave). - Conclusions: There was no significant differences in the recovery outcomes for patients managed through CBT interventions or those subject to professional treatment after undergoing a clinical assessment. - Limitations: Unintended bias in the selection of participants even though it was carried out through random selection. - Lack of follow up data due to drop out or non-responsive participants and use of external professional help by case subjects. - Sample size not representative.
4	Extremera et al (2019)	On the association between job dissatisfaction and employee's mental health problems: Does emotional regulation ability buffer the link?	Primary objective: To establish the interaction between job dissatisfaction (as a precursor for poor mental health), ERA and employee mental health problems. Secondary objective: to test whether ERA acts as a buffer	- Concepts: ERA – Emotion regulation ability, a core construct of EI, is considered a buffer between the negative consequences of job dissatisfaction and employee mental health. - The study argues that ERA can enhance employees' emotional health by inducing positive job attitudes which would be beneficial to emotional adjustment.

			between job dissatisfaction and three dimensions of mental health: depression, anxiety and stress.	- However, ERA may also impact how employees interpret certain work situations which may lead to more stress and increased mental health problems. - Conclusions: ERA acted as moderator in the association between job dissatisfaction and mental health; greater ERA reported meant less association between the two. - Limitations; cross sectional study
5	Firouzbakht, M., et al (2018)	Workplace social capital and mental health: a cross-sectional study among Iranian workers.	Primary objective: Assess and analyze the relationship between individual and workplace social capital and an employee's overall mental health.	- Concepts: The authors stated that social capital can be a protective factor for mental health and stress reduction. - Social capital is generally hypothesized to promote health by strengthening individual's ability to cope with stress, providing guidelines for acting in accordance with a workplace group, boosting ability to participate in collective activities. - Social capital is defined as the resources accessed through social networks. - Study focused on Iranian workers; regional study on developing countries. Studies in developed nations have shown that low social capital is related to increased risk for onset of depression and substance abuse (smoking, alcohol) - Conclusions: Results of the study showed that both low individual and aggregated workplace social capital are directly associated with poor employee mental health. - Limitations: cross sectional study; causal interpretation of deemed associations must be taken with caution. - Population sample size was small and niche but opens way for future research in the Middle East region.

6	Hammond, Gnilka & Ravichandran (2019)	Perceived stress as a moderator of perfectionism, burnout and job satisfaction among the millennial service workforce.	Primary objective: Assess whether perfectionism, adaptive or maladaptive, as a personality trait of millennial employees is related to job satisfaction and burnout. Secondary objective: identify how the three sub-types of burnout relate to adaptive/maladaptive perfectionism and perceived stress.	- Concepts: Adaptive perfectionism is generally associated with multiple positive outcomes such as lower levels of depression, burnout and perceived stress. - Inversely, maladaptive perfectionism with multiple negative outcomes such as onset of depression, anxiety, burnout and perceived stress. - Maladaptive perfectionism is generally categorized as unhealthy as it is associated with extreme self-criticalness and persistent sense of failure by the individual. - Conclusions: results of the study concluded that stress did not moderate the relationship between either dimension of perfectionism and job satisfaction; the results contradict previous notions that maladaptive perfectionism was associated with low job satisfaction. - Similar results were found for the stress as a mediator between perfectionism and burnout. - However, maladapted perfectionism was highly related to personal and work-related burnout. - Individuals with low levels of adaptive perfectionism (low standards of themselves) were more at risk of burnout in high stress situations. - Limitations: study population may not be 100% representative; results were based on self-reported responses only and therefore subject to bias and error.
7	Harrison, M.A., & Stephens, K.K. (2019)	Shifting from Wellness at Work to Wellness in Work: Interrogating the link between stress and organization while	Primary objective: to review the causal relationship between workplace stress and employee wellness to assess the	- Concepts: Occupational literature on employee wellbeing has highlighted WWPs as a positive strategy for encouraging good employee wellbeing and health, both physical and psychological.

		theorizing a move toward Wellness-in-Practices.	efficiency of Workplace Wellness Programs. Secondary objective: propose a shift in wellbeing management by way of a wellness in practice approach.	- However, academic literature also exists to indicate that WWP's are not as effective in mitigating the risk of poor employee health due to occupational stress as they may not address the underlying factors creating a stressful work environment. - Accordingly, academic research has shifted towards emphasizing the importance of the organization role and responsibility in employee health management. - Conclusions: For WWP's initiatives to be effective, they need to consider the different workplace stress factors affecting different type of employees. - Moreover, it is important that WWP's do not ignore or disregard underlying organizational and institutional issues which are creating the stressful work environment. - Limitations: the study focused its results on a niche category of employees and one type of WWP. Therefore, results may not be representative of the global efficiency of WWP's. -
8	Hawkley (2018)	The detrimental health and well-being consequences of employment precariousness: The role of working conditions in amplifying health disparities.	Primary objective: To review and analyze current academic literature on the impact of employment precariousness, defined as an individual's job status in the market and the types of jobs they have access to.	- Concepts: Using statistical data, the author sought to identify the impact between high levels of job precariousness and the mental wellbeing of jobseekers or employed individuals. - Conclusions: Psychosocial aspects which enhance a precarious employment environment are positively associated with feelings of poor mental health particularly with regards to depressive mood and anxiety disorders.
9	Herr, R.M., et al	Long-term effectiveness of Stress Management at Work: Effects of the Changes in Perceived	Primary objective: assess the long-term success and effectiveness of a stress management initiative focused	- Concepts: Study outlines that empirical evidence exists to reflect that chronic workplace stress can manifest in mental illness disorders such as a depression, anxiety and sleep disorder.

		Stress Reactivity on Mental Health and Sleep Problems Seven Years Later.	on stress reactivity as a factor for experiencing depression, anxiety and sleep disorders.	- Stress reactivity, defined as a psychosocial construct that defines to what extent an individual will respond to stressors with immediate, intense and long-lasting stress reactions. - The workplace intervention under analysis included the use of behavioral cognitive techniques to impact stress reactivity levels and sympathetic activation. - Conclusions: results of the study showed long-term effects of the stress intervention in reducing mental health and sleep disorders on the target population. - The strongest impact on mental health was identified to be the prolonged changes in stress reactivity behavior. - Reduced reactivity to social conflicts had a positive association with reduced levels of depression and sleep disorders. - Limitations: target population in study were purely male; also, possible selection bias. - Stress reactivity results were self-reported thus subject to bias and error.
10	Iliescu et al (2017)	The five-factor traits as moderators between job insecurity and health: A vulnerability-stress perspective	Primary objective: To analyze the association between the FFM of personality traits and an individual's susceptibility to organizational stress arising from Job Insecurity (JI). Secondary objective: to validate JI as a significant work stressor associated with reported incidences of poor mental health disorders such as depression and anxiety.	- Concepts: Using the vulnerability stress model, the study sought to analyze the different personality traits under the FFM (neuroticism, introversion, openness, agreeableness and conscientiousness) as moderating factors for the level of stress experienced by employees with regards to job insecurity. - Through the initial analysis the authors sought to address the issues of personality as one of the determining factors for how employees deal with work related stress and their vulnerability with regards to poor mental health conditions. - Conclusions: The analysis undertaken confirmed that personality traits can act as vulnerability factors for job

				insecurity highlighting neuroticism and introversion as amplifiers for negative impacts on the employee and precursors for adverse health effects. - Another important conclusion is that, from a more general point of view, broad personality traits can be important in identifying protective factors to limit the negative impact of work stressors on employee's mental health. - Additionally, the study highlighted that whilst neuroticism and introversion do not have a direct impact on physical health, their impact on mental health and continues vulnerability and exposure to chronic occupational stress can lead to a manifestation of poor physical health in the long run. - Limitations: study is based on a cross sectional analysis which generates a risk of common method bias.
11	Jun et al (2019)	Job strain and psychological distress in office workers: The role of coping	Primary objective: to investigate the role of coping in the relationship between job strain (as a precursor of poor mental health) and psychological distress.	- Concepts: The authors focused their analysis on the role of coping in employee's experiencing psychological distress. Coping is defined as cognitive and behavioral efforts by an individual to handle stressful and taxing situations. - The authors highlight that there is academic evidence to indicate that employee coping strategies can influence the level of psychological distress they experience. - Conclusions: The overall conclusion is that increases in job strain (as a work stressor) is a predictor of higher levels of psychological distress in all three of its dimensions: depression, anxiety and stress. - Coping mediated differently in each of the three dimensions.

12	Kim et al (2019)	Protective and risk factors for depressive mood and anxiety against occupational stress: examining temperament character and coping strategy among civil servants.	Primary objective: to analyze and identify protective and risk factors for depressive symptoms in employees.	- Conclusions: High levels of occupational stress, temperaments of novelty seeking and harm avoidance, a character of cooperativeness, and using emotion focused coping were identified as risk factors for depressive mood, - Living with a partner, having a character of self-directedness, and using problem-focused strategies were identified as protective factors. - Female gender, high level of occupational stress, and temperaments of novelty seeking and harm avoidance were risk factors for anxiety, - Having a character of self-directedness was a protective factor. - Limitations: Cross sectional study; causal inferences cannot be drawn.
13	Kortum, Leka and Cox (2010)	Psychosocial risks and work-related stress in developing countries: health impact, priorities, barriers and solutions.	Primary objective: to identify, through a Delphi study, the perceptions of a group of multidisciplinary experts, on the impact of psychosocial risks and work-related stress in employees working in developing or emerging countries. Secondary objective: to identify what, if any, common threads exist in psychosocial risks and work stressors between industrialized countries and developing nations.	- Concepts: During the study, it was identified that psychosocial risk and work-related stress are terms that are generally used interchangeably by experts and without any distinct differentiation among the terms. - From a mental health perspective, the experts identified that depression, anxiety, emotional problems, suicide or suicidal behaviors, and general mental disorders are outcomes of continued exposure. - Within the context of developing or emerging countries, physical health management in the workplace took priority with regards to occupational health focus due to the high number of vulnerable employees in these nations. - Limitations: Expert samples used in the study were not random; however, this is mitigated by the multi-disciplinary nature of the expert panel that participated in the study.

				- Lack of sufficient scientific research and data on the impacts from developing countries; limited experiences and first-hand knowledge. Most data relate mainly to industrialized countries. - Conclusion: Research on this area within the context of developing or emerging countries is necessary; however, the issue of the impacts on employee health (physical and mental) need to be addressed and focused on a global level given the globalized nature of the current workplace environment.
14	Lee, Joo & Choi (2012)	Perceived Stress and Self-esteem Mediate the Effects of Work-related Stress on Depression	Primary objective: to assess and analyze how perceived work stress can be a mediating factor for developing depressive symptoms. Secondary objective: to determine cognitive appraisals (e.g. coping styles) and psychological characteristics (e.g. self-esteem) can influence level of depressive symptoms experienced by the employee.	- Concepts: the study focused primarily on the concepts of work stress, self-esteem and perceived stress as determining factors for the level of depressive symptoms experienced by the employee population under analysis. - Conclusions: the results of the analysis concluded that there is an indirect relationship between coping styles and self-esteem in the depressive symptoms experienced by employees. - High Perceived stress and low self-esteem can have negative impact on employee health by increasing risk for depression. - Limitations: Niche sample population and cross-sectional analysis. - Results based on self-reported measures which are subject to bias and error; longitudinal research recommended for more objective results and findings.
15	Lockwood, Henderson & Stansfeld (2017)	An assessment of employer liability for workplace stress	Primary objective: the authors sought to examine the level of liability for companies with respect to claims of mental disorders originating from	- Concepts: the focus of the study was to take a random sample of work compensation litigation cases filed in the UK where the employee claimed to have suffered mental health disorders such as anxiety and depression directly due to work related stressors.

			workplace or occupational stress. Secondary objective: to identify what preventive initiatives and actions employers can take to mitigate the risk of liability in OH&S claims relating to mental illness.	- Similarly, the authors sought to provide an understanding the work stressors argued in the claims that led to a ruling in favor of the claimant and subsequent liability payment by the employer. - Conclusions: based on the results of the study, it was evidenced that within the UK judicial system, employee claims of occupational disease in the way of mental disorders do not have a high win incidence and in fact the courts provide a protectionist view towards organizations. - Moreover, the authors could ascertain that companies who have implemented preventive programs to promote employee wellbeing are less likely to be subject to liability for OH&S claims related to poor mental health arising from work relates stress.
16	Loh, M.Y., et al (2019)	Organizational climate and employee health outcomes: A systematic review	Primary objective: Carry out a systematic review of prior academic literature [and its contribution] to the study of organizational climate and health. Secondary objective: Address the research gap related to the link between organizational climate and employee physical and mental health.	- Concepts: the study focused on the impact of organizational climate in employee health; with organizational climate reflecting an organization's priorities whilst emphasizing the expected behaviors and attitudes - Many of the studies used in the systematic review supported the association between organizational climate and negative employee psychological health. - Conclusions: Organizational can impact directly and indirectly, as well as positively and negatively, on employees mental and physical health. - Four key factors were identified as moderators for the relationship between organizational climate and employee health: working conditions, social and relational aspects of work, and personal attribution of important/sense to work activities.

				- Limitations: authors did not take into consideration organizational studies as a sub-dimension of a variable. - Research limited to articles written in English and peer reviewed in journals and were not able to detect publication bias. - Analysis focused solely on health outcomes and did not delve in employee wellbeing.
17	Marcatto et al (2016)	Work-related stress risk factors and health outcomes in public sector employees	Primary objective: to determine the association of work related stress factors with certain employee physical and psychological health disorders. Secondary objective: Identify which work stress dimensions had the most and least impact in physical and psychological health.	- Concepts: the focus of the study was to determine which work-related factors could be associated with specific physical and psychological employee health disorders such as musculoskeletal pain (neck, back), gastrointestinal and coronary diseases, and depression and anxiety disorders. - The authors completed the study by using the UK's HSE Management Standards Indicator tool which is based on the Demand/Control Model and the ERI Model as their basis for preparing the surveys used in the analysis. - Conclusions: the authors could identify certain associations between the various dimensions of work related stress and common physical and psychological health complaints. - The Demand domain generated the highest association with poor employee mental health including anxiety and depression symptoms and complaints. This finding was coherent with previous academic literature. - The other domains (Role and relationship, lack of support and low control) were identified as associated with physical complaints but the study's results do not provide an association for psychological disorders.

				- Limitations: Study was a cross-sectional study which describes associations but not necessary relationships between the dimensions and their effects in employee health. - Also, the study is based on responses from employees who self-assessed data from employees and therefore can be less objective and prone to error and bias.
18	Meunier et al (2019)	Feeling better at work! Mental health self-management strategies for workers with depressive and anxiety symptoms.	Primary objective: to achieve consensus on a list of self-management strategies for employees with depression and anxiety mental illnesses.	- A total of 60 self-management strategies were identified as effective for employees who suffer from depression and anxiety diseases.
19	Nakao (2010)	Work-related stress and psychosomatic medicine	Primary objective: the author sought to introduce key concepts of work related stress into the field of psychosomatic medicine. Secondary objective: propose further study in psychosomatic medicine as a way to mitigate poor mental health on employees associated with job stress.	- Concepts: Within occupational health literature, two models are generally used to measure job stress: 1) job demand control support and 2) effort-reward imbalance models. - These models have identified that job insecurity, unemployment, contract type (e.g. temporary vs. full time) are significant risk factors for increased mortality and morbidity in psychological disease conditions. - Conclusions: The review undertaken highlights that psychosomatic medicine treatment of employees with disease due to work stress should be used not only in a reactive manner (to treat symptoms or a disease) but more so preemptively; this requires developing a better understanding of the roles of psychosomatic medicine in job stress.
20	Nilsen et al (2014)	Associations between work-related stress in late midlife, educational attainment, and serious health problems in old	Primary objective: to analyze and determine whether work related stress experienced during an employee's mid-life can generate long term serious	- Concepts: The study focused its analysis on job demands, job strain and job control as the work place stress factors impacting employee health presently and in future.

		age: a longitudinal study with over 20 years of follow-up.	health problems, both physical and psychological, to the individual once they have reached old age and entered retirement stage. Secondary objective: to identify whether gender and educational attainment impact or mitigate the risk of health issues at a later age.	- The analysis was done based on results from longitudinal studies undertaken in the late 80's and early 90's and focused on the relationship of work stress in developing certain serious physical health problems such as: general fatigue/sleeplessness, dizziness, leg ulcers, diabetes, stomach ache, heart problems, joint/back/shoulder pain. - Unfortunately, the results of the analysis did not underpin or focus on mental health impacts but provide insights on the impact of work stress on employee health in general as a long-term repercussion and therefore include in the analysis. - Conclusions: High job demand was associated with higher risk of developing complex health issues in women; the association was not significant for men. - Low job control and high job strain had a positive association for both men and women in the risk of developing complex health problems. - Educational attainment as a mitigating factor for decreasing risk was identified solely for men; in women the statistical result was not significant. This can be due to the differing type of professions generally available to women and men. - Limitations: Possible selection bias and inconsistent data from respondents due to longitudinal nature of data analyzed. - Study did not account for work-life balance factors nor did it recognize previous life experience before baseline information.
21	Noda, Sukagami & Tsujimoto (2019)	The psychological process of workers who access mental health services: a qualitative	Primary objective: to study and analyze the internal process undertaken by employees with medical illness	- Concepts: the authors highlighted that employees with mental illness are generally hesitant to seek professional help or access public mental health

		study focused on workers' sense of 'me as a worker'.	in deciding to seek professional help or access public health services.	services due to fear of stigma and lack of self-awareness of their disease on their work experience. - Similarly, an individual who experiences symptoms of mental illness can feel their identity threatened, particularly their "me as a worker" identity. - Conclusions: results of the study showed that due to feelings of fear of stigma or loss of their "me as a worker" identity, employees who experience mental illness do not seek help and rather try to continue carrying out their work activities whilst struggling. - The authors identified that due to this fact, social support and workplace support become important in motivating employees to get help or access public mental health services. - Limitations: majority of the study population was male; also niche review within Japanese cultural environment. However, results deemed as valid as they are supported by other studies with a more global scope.
22	Olsen, I.B., et al (2014)	Exploring work-related causal attributions of common mental disorders.	Primary objective: Examine and analyze the potential link between work-related factors as contributors to Common mental disorders (CMD's).	- Concepts: Recent academic findings show that individuals then to attribute CMD's to work related factors. This based on the notion outlined by the illness perception model which stipulates that individual uses various information and sources to identify health threatening stimuli and subsequent illness. - Conclusions: Employees who have experienced CMDs and attribute work as the cause of their CMD problems generally avoid work participation (this through sickness absence, unemployment, etc). - Gender differences were identified with regards to the workplace stressors attributed to CMDs; in women the common stressors identified were social factors such

				as bullying, conflict and leadership. For men, common factors were reduced work participation, job insecurity and job dissatisfaction. - Limitations: None outlined by authors.
23	Rose et al (2017)	Associations of fatigue to work-related stress, mental and physical health in an employed community sample.	Primary objective: to determine the association between fatigue and work-related stress, employee health behavior and symptoms of depression.	- Conclusions: The study results showed that fatigue has a direct relationship with symptoms of physical disease and depression. And furthermore, concluded that social factors such as gender do not significantly impact the results. - Limitations: Cross sectional study; causal inferences cannot be drawn.
24	Sawhney et al (2017)	Occupational Stress and Mental Health Symptoms: Examining the Moderating Effect of Work Recovery Strategies in Firefighters.	Primary objective: To identify the work recovery strategies used by the target population to mitigate and deal with mental health issues experienced due to organizational stress. Secondary objective: To determine the buffering effect, if any, of work recovery strategies between organizational stress and poor mental health symptoms.	- Concepts: the study used the Effort Recovery model and Conservation of Resources theory were used by the authors to determine whether work recovery strategies have a positive association between decreased poor mental health symptoms. - Furthermore, the study sought to determine whether the impact of work recovery strategies on poor mental health symptoms changed if measured after a certain period (1 months, 6 months, 1 year). - Conclusions: the study's results confirmed previous studies assertions that there is a positive relationship between organizational stress and poor mental health issues. - Study also concluded that engaging in various work recovery strategies can have a positive impact in mitigating mental health symptoms in employees. - However, the effectiveness of the work recovery strategies can vary depending on the type of work undertaken by the individual – in high stress occupations certain strategies can be more detrimental than helpful.

				- Limitations: the main limitation identified was population selection; candidates for the study were self-volunteered and may not be representative of broader population results. - Study was a prospective design and therefore did not provide a causality test. Also, the results did not consider other sociological factors which could impact the results (e.g. demographical conditions, education levels, etc.)
25	Szeto & Dobson (2013)	Mental Disorders and Their Association with Perceived Work Stress: An Investigation of the 2010 Canadian Community Health Survey	Primary objective: undertake a cross-sectional study to verify 2010 Canadian census results with respect to the link between work stress and mental disorders. Secondary objective: Report the level of prevalence of mental disorders in the Canadian population.	- Concepts: The study focused on the association between self-perceived work stress and diagnosed (or treated) mental health illnesses such as mood or anxiety disorders including applicable sub-sets of these conditions (e.g. depression, OCD behavior and panic or phobias among others). - The authors relied on previous research which provided a link between psychosocial job characteristics and their influence on individual psychological distress. - Additionally, the study built on previous work on the personal/individual association between perceived high stress work and reported diagnosed mental illness. - Conclusions: The study confirmed the results of the 2010 Canadian Community Health Survey with regards to the inherent link between high stress work environments and the number of mental illness (diagnosed or treated). - The authors also highlighted the increasing cost to organizations of mental illness in the workplace and the global extent of the problem. - Limitations: the results are based on survey responses from individuals and rely on their perception

				of the stress levels of their workplace which can be subject to inherent biases. - Additionally, the survey uses general terminology which does not adequately encapsulate more severe mental disorders or alternatively, does not provide sufficient clarity for respondents on what the terminology includes or relates to. - Other limitations noted include unreported or undiagnosed mental illness among respondents, or respondent fear to acknowledge mental conditions due to social stigma.
26	Theorell et al (2015)	A systematic review including meta-analysis of work environment and depressive symptoms.	Primary objective: carry out a systematic review of academic literature on the link between work environment factors and depressive disorders with the purpose of allocating a GRADE quality level. Secondary objective: provide systematically graded evidence to the findings of the studies under analysis.	- Concepts: Whilst a range of work related conditions were included in the graded literature, three main factors were qualified as Grade 3 – Moderate evidence linked to depressive disorders. - The 3 factors are: job strain and bullying (as harmful) and low control/decision latitude (as protective). - Other additional work conditions were identified as having limited evidence of link with depressive disorders; these conditions included: effort reward imbalance, poor social climate, low procedural and relational justice (among others). - Conclusions: The main findings confirmed that moderately strong scientific evidence exists to link depressive disorders among employees due to exposure to job strain, bullying and low decision latitude work factors. - Additional study is required to assess whether the other work conditions identified in the academic literature can be directly linked to symptoms of depressive disorders; the current scientific research has not focused on these aspects.

				- Similarly, further research needs to be undertaken to determine whether gender is a mediating factor in the severity of symptoms experienced (assuming equal levels of exposure). - Limitations: the results are based on self-reported responses from the population surveyed and relies on individual perceptions which are subject to bias. - The studies within the academic information reviewed were undertaken using differing methodologies and varying levels of technology which can make the comparison of results somewhat unreliable. However, the conceptual findings remain consistent among all studies included in the review.
27	Wang et al (2009)	Three job-related stress models and depression: a population-based study.	Primary objective: to identify the prevalence of serious depressive disorders in the employed population by examining the association between depression and job strain, effort-reward imbalance and work-family conflict as work stressors.	- Concepts: the study applied three major theoretical models used in occupational research in their analysis: 1) Demand-control model, 2) Effort-Reward Imbalance Model, and 3) work-family conflict model. - The analysis confirmed previous studies results with regards to the positive association between effort-reward imbalance as a factor for depression particularly in women; and work-family conflict as an important factor for men. - Conclusions: The study primarily concluded that there is a strong positive association between the three work stress factors under analysis and the development of depressive disorders by individuals in the workplace. - Gender did not significantly impact the associations except in the Effort-reward factor; results on this showed that there's a positive association between this work stressor and major depression in women. - Combination of the factors analyzed with other psychosocial conditions within the workplace can

				contribute to the level of depression severity experienced by employees. - Limitations: cross sectional study; causal inferences not possible. - Self-reported responses subject to bias and error.
28	Wong, M.G.P., Poole, C.J.M., & Agius, R. (2015)	Attribution of mental illness to work: a Delphi study	Primary objective: Develop a study that would allow a group of medical experts, both in the occupational and psychology fields, to reach a consensus of work- related factors that may be attributed to employee mental illness.	- Concepts: the authors highlight in their study that currently there is no guidance on how to attribute mental disorders to work (as opposed to personal vulnerability). - The concept of “occupational mental illness” is a new notion and is not comparable to just reactive depression and situational anxiety. No formal or agreed definition has been defined. - Authors invited experts in the fields of academia, psychiatry, occupational medicine and psychology to participate in the study. - Conclusions: an initial consensus was reached that attributing mental illness to work cannot be done independently by a psychiatrist without getting first input from an occupational physician and the workplace. - There was also an agreement that it is important to evaluate the duration, intensity and frequency of exposure to work stressors to duly investigate a causal relationship between work stress and mental illness. - A definition of “occupational mental illness” was agreed; this is defined as <i>anxiety, depression or both, an adjustment disorder or post-traumatic stress disorder, which can be reasonably attributed on a balance of probabilities to workplace stressors rather than personal factors.</i>

				- Consensus was also reached on identifying 11 key workplace stressors and 6 other personal factors attributable to mental illness. - Limitations: SME representation; in first round academics were more highly represented; in second round the representation was more equal. - Participants selection bias; majority of the experts were from the UK
29	Woods et al (2019)	Mental Illness, Social Suffering and Structural Antagonism in the Labor Process	Primary objective: outline how social suffering and Labor Process Theory can impact the discourse used within an organization, both by employees and managers, with regards to addressing mental illness in the workplace.	- Concepts: The study highlights how the notion of social suffering can be heavily impacted by negative or poor management of mentally ill employees within the organizational context. - Additionally, it discusses how through Labor Process theory, employees with diagnosed mental illness to influence organizational initiatives and policies with regards to employee wellbeing as well as mitigate instances of workplace discrimination and associated OH&S incidents. - Conclusions: The authors conclude that further research is required with regards to how work environment conditions and factors can impact the experience of employees who display poor mental health symptoms or have been diagnosed with a mental illness. - Additionally, further study on the above will enhance organizational understanding of mental illness as an occupational disease and provide insights on how to 1) better manager employee wellbeing, and 2) organizational changes required to mitigate the impact of workplace factors on employee's health (mental and physical).

30	Yunita, P.I., & Saputra, G.N. (2019)	Millennial Generation in Accepting Mutations: Impact on Work Stress and Employee Performance	Primary objective: To identify whether mutations at work generate higher levels of stress among millennial employees and impact job performance. Secondary objective: to identify whether gender is a mediating factor on the impact of work mutations in work stress and performance.	- Concepts: the study defines work mutations as changes in the work atmosphere that most employees will experience during their professional careers. The purpose of work mutations is to avoid saturation in work routines. - The authors posit that the millennial employees are more adaptable to changes and see threats and opportunities in a different way than older generations. - Conclusions: Due to being characteristically adaptable and independent, results of the study showed that work mutations did not increase work stress on millennial employees. - Furthermore, it was identified that the mutations did not impact the employees psychological condition. - Limitations: none identified by author.
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