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The Relationship between Eating Behavior and Occupational Depression

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Abstract. The main objective of this research was to identify a relationship between eating behavior (restrictive, emotional and external) and occupational depression. The study included 60 participants, with equal percentages of women and men, employed in both the private and public sectors to identify possible differences in these relationships. Occupational depression is a form of depression specifically related to a person's occupation or work environment. It can occur when work demands or conditions significantly contribute to the development or exacerbation of depressive symptoms. Highly stressful work environments, workplace harassment, or lack of support can contribute to the development of occupational depression, which can significantly impact eating behaviors. This study focuses on the relationship between occupational depression and eating behaviors, specifically restrictive and emotional eating.

Keywords. Occupational depression, restrictive eating behavior, and emotional behavior



1. Dietary Behavior and Risk Factors

The first concerns related to daily nutrition as a means of treating disease date back to Hippocrates of the island of Kos. We also owe him the first document on the nutrition of healthy and sick individuals. Hippocrates' ideas shaped medicine until the 16th century, and some of them (regarding the influence of environmental factors on health and disease) are still considered valid today. The Hippocratic School used the term *diata* to define the entire study of human lifestyle, including nutrition (whose role was recognized as central) and other effects of the environment on it (Graur et al., 2006).

The term 'eating behavior' encompasses food choices and motivations, eating habits, diet, and food-related issues such as obesity, eating disorders, and bulimia. The study of eating behavior in the context of behavioral medicine focuses on the etiology, prevention, and treatment of obesity and eating disorders, as well as improving health outcomes to aid in the management and prevention of conditions such as diabetes, hypertension, and certain types of cancer, and promoting healthy eating habits (LaCaille, 2020).

It has already been proven that diet plays a crucial role in promoting and maintaining lifelong health. Non-acidic diets can aid in reducing obesity and play a significant role in the causation of numerous chronic diseases that are alarmingly prevalent in modern society, such as obesity, type 2 diabetes, cardiovascular diseases, cancer, osteoporosis, and even psychiatric illnesses (Graur et al., 2006).

Commonly known eating disorders, Anorexia nervosa, Bulimia nervosa, and Binge eating disorder, are defined by abnormal eating behaviors. However, until recent years, little attention has been paid to objectively characterising these anomalies and evaluating their clinical implications. While the most striking behavioral anomaly and not surprisingly so, of Anorexia nervosa is reduced caloric intake, Recent studies document several subtle changes in food choice that can play an important role in maintaining the disorder and may be a useful target for clinical interventions (Walsh, 2011). A complex range of internal and external factors influence appetite and, consequently, the quantity and types of food consumed by individuals. Internal factors involve physiological mechanisms that regulate appetite, such as hormones like neuropeptide Y that stimulate food intake, and leptin that reduces food intake (Levine & Billington, 1997).

External factors, such as environmental (e.g. economic, food availability), social (e.g. influence of others), and food palatability (Popkin, Duffey, & Gordon-Larsen, 2005), can also influence food intake. Chronic exposure to psychological stressors, such as job pressures, is one of the most important factors influencing mental health disorders that contribute to the global burden of disease (WHO, 2001).

Employees spend a significant amount of time at work and typically consume one-third of their daily calories during working hours. Research suggests that the workplace environment can influence employees' eating behavior, leading to various health-related issues. The findings have highlighted several factors that influence workplace eating behaviors, including job role, workplace food environment, and social aspects. Most existing research suggests that the office work environment has a negative impact on eating behaviors (Clohessy, Walasek, & Meyer, 2019). Shift work induces stress, disrupts family life, and interrupts regular meal schedules (Wong, Wong, & Lee, 2010).



Stress appears to alter overall food intake in two ways, resulting in either under or overeating, which can be influenced by the severity of stressors. Chronic life stress seems to be associated with a greater preference for energy and nutrient-dense foods, specifically those that are high in sugar and fat. Longitudinal studies suggest that chronic life stress may be causally linked to weight gain, with a greater effect observed in men. Stress-induced eating may be a contributing factor to the development of obesity. Future studies that measure biological markers of stress will help us understand the physiological mechanism underlying the stress-eating relationship and how stress may be linked to neurotransmitters and hormones that control appetite (Torres & Nowson, 2007).

It is commonly believed that stress can alter eating patterns. When an acute stressor, such as a threat to personal safety, occurs, there is an immediate physiological response known as the 'fight or flight' response, which results in suppression (Torres & Nowson, 2007). For many, the typical response to these chronic stressful situations is not to avoid food, but rather to seek out and consume energy-dense foods (Oliver, Wardle, & Gibson, 2000). Obesity is a global epidemic that is increasing at an alarming rate and can be attributed to a multitude of genetic and environmental factors (WHO, 2000). If stress causes some individuals to consume food beyond their requirements, this can lead to weight gain and obesity (Torres & Nowson, 2007).

Rosenbaum and White (2015) examined the influence of several psychological factors, such as depression, anxiety, and stress, on excessive food consumption. The data were collected through online surveys from a community sample of men and women from diverse backgrounds. The main hypotheses of the study were supported, indicating a close relationship between anxiety and excessive food consumption, as well as between stress and excessive food consumption, regardless of the impact of depression. Depression and other mental health conditions are increasing globally and remain a public health threat, with depression and anxiety disorders showing the greatest increase (Ljungberg, Bondza, & Lethin, 2020). Individuals with depression often experience a decreased appetite, skip meals, eat alone, and have a poor dietary lifestyle (Lee & Kim, 2021).

Individuals with depression often experience a decreased appetite, skip meals, eat alone, and have a poor dietary lifestyle (Lee & Kim, 2021). The United Nations General Assembly has established new global development goals. Individuals with depression often experience a decreased appetite, skip meals, eat alone, and have a poor dietary lifestyle (Lee & Kim, 2021). These goals, known as Agenda 2030, aim to promote a sustainable future and improve mental health and well-being. Depression and other mental illnesses can affect anyone, and the line between mental health and illness is not easy to define. In today's society, many jobs are less physically strenuous thanks to technological developments, but psychological stress has increased. Feelings of guilt and shame can hinder seeking help for mental illness (Ljungberg, Bondza, & Lethin, 2020). One of the clinical recommendations from a study conducted by Berk et al. (2013) pertains to lifestyle factors such as unhealthy eating, sedentary lifestyle, smoking, and substance use that have contributed to increased risk of depression.

It has frequently been observed that weight loss accompanies depression (Zung et al., 1974 cited in Frost, 1982). In fact, many self-report inventories for assessing depression include items about weight loss (Beck et al., 1961; Zung, 1965 cited in Frost, 1982). However, the symptomatic nature of weight loss during depression may not be as universal as previously thought. Recent



research by Polivy and Herman (1976a, cited in Frost, 1982) suggests that some individuals may be more likely to gain weight than lose weight when experiencing depression. Paans et al. (2018) argue that depression, one of the most prevalent and disabling disorders in Europe, is linked to an unhealthy eating style. As the prevalence of depression and dietary styles potentially differ across Europe, this study aimed to investigate associations between major depression history and severity of depression with unhealthy dietary styles in a large European sample. As the prevalence of depression and dietary styles potentially differ across Europe, this study aimed to investigate associations between major depression history and severity of depression with unhealthy dietary styles in a large European sample. The results suggest that depression is linked to several unhealthy dietary styles. Reducing unhealthy eating habits and promoting healthy eating among individuals with sub-threshold depression may help mitigate potential negative health consequences, such as weight gain, unhealthy eating patterns, and weight-related diseases. Additionally, interventions aimed at reducing depressive symptoms may lead to a decrease in unhealthy eating habits.

Diverse patterns of food intake are involved in feeding behavior, which is influenced by both internal and external environmental factors. While depression and feeding behavior have been suggested as factors contributing to unhealthy food intake, they are also associated with each other. Feeding behavior is closely linked to mental environment, as it controls human life as a whole. Feeding behavior varies depending on the comfortable or uncomfortable mental state. Individuals with a higher severity of depression tend to have a less healthy diet, including a lower intake of fruits, vegetables, whole grains, poultry, fish, and low-fat dairy products. Additionally, a greater severity of depression is associated with a higher total intake of energy from saturated fats and sugars and a higher consumption of sweet foods (Noh et al., 2015).

A study conducted by Park et al. (cited in Noh et al., 2015) analysed the association between stress, depression, excessive food consumption, and eating behavior based on body mass index (BMI) in Korean high school girls. The study found that higher levels of stress and depression were linked to a greater risk of meal irregularity, while higher levels of excessive food consumption were associated with less frequent and poorer meal regularity.

Early theorising on the relationship between emotional stimulation (excitement) and eating behavior led to what is known as the psychosomatic hypothesis (Kaplan and Kaplan, 1957 cited in Frost et al., 1982). One aspect of this hypothesis is that emotional arousal increases the eating behavior of obese individuals. Almost all research on this hypothesis has focused on anxiety as a form of emotional arousal. Some studies indicate that obese individuals eat more when emotionally aroused than when they are not (Leon and Chamberlain, 1973a; McKenna, 1972; Slochower, 1976 cited in Frost et al., 1982). Regarding anxiety, research results are somewhat inconsistent (Leon and Roth, 1977 cited in Frost et al., 1982). Some studies indicate that obese individuals eat more when emotionally aroused than when they are not (Leon and Chamberlain, 1973a; McKenna, 1972; Slochower, 1976 cited in Frost et al., 1982). Previous studies, which included both individuals with normal weight and obese individuals, indicate that while the eating behavior of those with normal weight decreases under emotional excitement, the eating behavior of obese individuals remains unchanged (Schachter et al., 1968; Frost et al., 1982).

An alternative perspective on the relationship between emotional arousal and eating behavior is the hypothesis that emotional arousal interferes with the behavioral self-control of individuals with a high level of self-control (Herman & Polivy, 1975). Specifically, emotion



disrupts the conscious eating habit of 'restrained' individuals. Herman and Polivy (1975) reported that individuals with low restraint significantly reduced their food intake in stressful situations, while those with high restraint ate more in stressful situations than in non-stressful ones. This supports the argument for the influence of stress on eating habits. The difference in food consumption presented by individuals with high restriction under conditions of high and low anxiety failed to reach conventional levels of significance. Similar to findings for obese and non-obese individuals, the eating behavior of individuals with high restriction facing anxiety appears to differ from the eating behavior of individuals with low restriction facing anxiety.

2. Depression

The World Health Organization estimates that approximately 350 million people suffer from depression. In 2013, 15.7 million people in the United States (6.7% of US adults) experienced at least one major depressive episode in the previous year. A European study conducted in 2012, which included Romania among 30 other countries, showed that the average annual prevalence of major depressive disorder was 5.8%. In Romania, the prevalence of major depressive episodes was observed to be approximately 9% at the time of examination and 21% throughout life in 2008. Statistically significant data have shown that depression is more common in women, often unrecognized or hidden from the public, and that the economic impact of depression is significant. The epidemiology of depression is necessary to identify individuals at risk and find ways to improve their quality of life (Patriche, Filip, & Tănase, 2015). Depression is most commonly described as a fundamental collapse of self-mood accompanied by unpleasant feelings, sadness, and affective suffering experienced as very intense.

This definition is considered less clinically rigorous as it describes depression as a symptom rather than a syndrome. The defining components of depressive syndrome are a depressed mood, slowed thinking processes, and psychomotor retardation, accompanied by a series of auxiliary somatic symptoms. Depressive mood is primarily a fundamental sadness accompanied by a decrease in the ability to feel emotions, a sense of inner emptiness, and negative intellectual content. Slowing of thought processes is expressed by monoidism, indecisiveness, depressive content, and rumination. Ideation may take the form of delusional ideas with self-accusatory, guilty, useless, ruinous character. Psychomotor retardation is characterized by slowed movements, decreased expression and facial mobility, difficulty with verbalization, and a tendency to indulge in purposeless activities (psychomotor inertia) (Tudose, Tudose, & Dobranici, 2011).

Depressive disorders are common in practice and although there are numerous criteria for assessment and diagnosis, they are experienced subjectively by patients depending on their personality traits and long-standing memory structures (automatic cognitions). Depressive disorders include disruptive affective disorder, major depressive disorder (including major depressive episode), persistent depressive disorder (dysthymia), and premenstrual dysphoric disorder. The distinguishing factors between them are duration, onset, or presumed etiologic (American Psychiatric Association, 2016). Substance or medication-induced depressive disorder, depressive disorder secondary to a medical condition, other specified depressive disorder, and unspecified depressive disorder are the four types of depressive disorders. An essential element of a depressive episode is a depressed mood that lasts for at least 2 weeks (Criterion A). Additionally, the person must have at least four other symptoms: Changes to appetite or weight, sleep or



psychomotor activity; low energy, feelings of worthlessness or guilt, difficulty in thinking, concentrating and making decisions or recurrent thoughts of death or thoughts, plans or attempts of suicide.

These symptoms should last most of the day, almost every day. For at least two consecutive weeks, the episode must be accompanied by significant clinical suffering or impairments in social, occupational, or other important areas of functioning. Some individuals with mild symptoms may function normally, but it requires a lot of effort. In a major depressive episode, the person's mood is often described as depressed, sad, hopeless, discouraged, or 'not feeling well' (Criterion A). Some individuals focus on physical complaints (such as pain or discomfort in various areas). Many people exhibit increased irritability (such as persistent agitation, a tendency to become easily angry or to blame others for certain events, excessive irritation in routine situations) or present symptoms (American Psychiatric Association, 2016).

2.1. Differences and Similarities between Stress, Burnout, and Occupational Depression

In an organizational context, depression is a less discussed topic, often viewed as a personal and sensitive issue for an employee, accompanied by fear of stigmatization, consequences, and discrimination, lack of motivation to seek help, denial, and a sense of vulnerability or helplessness. Thus, organisations are forced to address various symptoms of depression, which they label as workplace stress and burnout, without a complete clinical perspective that encompasses all diagnostic criteria.

People react to stress in different ways, and the psychological effects of stress include family problems, sleep disorders, sexual dysfunction, depression, anxiety, and burnout. In addition, stress can significantly disrupt productivity, creativity, and competitiveness (Bădescu, 2011). Professional stress is not a disease in itself, but is only targeted by its impact on the individual and has a direct and unfortunate impact on health, occupational performance, as well as a wide range of psychological and physical symptoms. The effects of stress are felt at an organizational level, negatively impacting both the performance of certain areas of activity and overall performance (Canciu & Bardac, 2011).

In a study involving 972 individuals aged 32, Maria Melchior et al. (2007) analysed whether workplace stress causes the onset of depression and anxiety in young women and men. The research has shown that participants with a job that involves excessive workload and extreme time pressures are twice as likely to experience a major depressive episode or generalized anxiety compared to those with low job demands. The analyses have ruled out the possibility that the association between workplace stress and disorders is a result of the study participants' socio-economic position, a personality tendency to report negatively, or a history of psychiatric disorders prior to entering the workforce. Longitudinal analyses have shown that high-demand jobs were associated with the onset of new depression and anxiety disorders in individuals without a history of diagnosis or treatment for either of these disorders prior to employment. From an etiological perspective, the development of depressive symptoms has been linked to a discrepancy between positive, rewarding experiences on the one hand, and negative, punitive experiences on the other (Wichers, 2014).

Perceived unresolved stressful situations, where individuals are forced to endure the harmful effects of stressors, have long been recognized as important factors in the development of depression. Depression is also predictive of a range of health disorders and morbidities associated



with unresolved stress, such as immune and neurological alterations, cardiovascular disease, diabetes, osteoporosis, accelerated aging, dementia, and cancer. Depression is also a major risk factor for suicide, in line with the idea that suicide occurs when the prospect of death becomes more satisfying than the prospect of continuing to live (Bianchi & Schonfeld, 2020).

Grati Lilia (2019) highlights that one of the most frequent manifestations of emotional reactions to stress is represented by depressive symptoms. Herbert Freudenberger and Richelson have shown that burnout is not just a state of fatigue, but also a state of depression that leads to decreased work engagement and job dissatisfaction. Some authors believe that burnout is another term used instead of depression and anxiety. Depression is characterized by feelings of guilt, difficulty concentrating, loss of appetite and lethargy, and affects interpersonal relationships and social functioning.

There are two perspectives on the relationship between burnout and depression in the literature. In 1996, Adam Glass and McKnight argued that depression and burnout should be distinguished because burnout is a precursor to depression rather than the other way around. Therefore, depression represents a potential outcome of burnout rather than a characteristic of the burnout syndrome (Grati, 2019). The second point of view is that although the two phenomena share common symptoms, they differ in their origin and development. According to Arnold Bakker, Mark E. Killmer, Michael Siegrist, and Wilmar Schaufeli in 2002, burnout occurs when reciprocity is lost in work relationships, while depression develops when reciprocity is lost in private relationships or in one's personal life (Grati, 2019).

Renzo Bianchia (2020) argues that a clinical approach is necessary to measure an individual's 'suffering' regarding their work, and that burnout syndrome is a poorly conceptualised and operationalized construct, either as inefficiency at work or exhaustion or social withdrawal. Additionally, this construct is more focused on symptomatology and does not address crucial evaluation criteria in clinical practice such as suicidal ideation. Therefore, individuals in need of immediate assistance cannot be identified. For these reasons, a more comprehensive approach to depression symptomatology is necessary, covering aspects related to cognition, affect, somatization, and suicidal ideation in an occupational context, while also providing a diagnostic algorithm and incidence rate estimation. Another study conducted by Renzo Bianchia (2020) on 332 employees concluded that a clear distinction between burnout syndrome and depression cannot be made. It is important to note that the limitations of the burnout construct may underestimate the states experienced by an individual, leading to a lack of awareness of the need for psychological assistance.

These professions impose behavioral, cognitive, and emotional demands on individuals, and any imbalance in these aspects can ultimately lead to short- or long-term psychosomatic dysfunctions, such as burnout. Depression, cardiovascular diseases, and musculoskeletal problems have been linked (Schnall, Belkic, Landsbergis, Baker, & Pickering, 2001).

2.2. Depression and work disability

Additionally, a quarter of medical leaves lasting more than two weeks are due to work-related stress. Kessler et al. have reported on the relationship between depression and occupational disability. (1999) found that the severity of depression is not directly correlated with the number of sick days taken by an employee. However, depressive symptoms, often accompanied by



symptoms of anxiety, can manifest as symptoms commonly attributed to workplace stress, such as irritability, exhaustion, fatigue, boredom, and poor job performance.

The study shows that in 1989, within the First Chicago NBD Corporation, the sixth cause of sick leave was psychological in nature, and by 1992 it had already become the third leading cause. Some of the most interesting data on the relationship between depression and disability (sick leave) come from a 12-year study on short-term mental health leave among employees conducted by First Chicago NBD Corporation, a large financial services company. Depression accounted for 59% of the events and 65% of the total number of short-term sick leave days. On average, 44 working days were actually taken as short-term sick leave associated with depression. In comparison, the average number of days lost during other short-term sick leaves was 42 for heart disease, 39 for lower back pain, and 21 for asthma. In addition, the 12-month recurrence rate for short-term psychological sick leave was 20%, compared to 8% for lower back pain, 9% for heart disease, and 30% for asthma. It should be noted that the results of this study were influenced by the fact that two-thirds of the employees were women, and depression is more prevalent among women than men (Conti & Burton, 1994).

Zhang et al. (1999) analysed whether the direct costs of treating major depression compensate for the income losses resulting from missed workdays. They examined the community of residents in Arkansas who were diagnosed with major depression, dysthymia, or depressive symptoms at the state level. Participants were examined at baseline, six months, and 12 months. The cost of depression treatment was measured using insurance records, while the cost of lost income was measured by multiplying the number of missed workdays by the corresponding salaries. This study also considered factors that could influence the results, such as the severity of depression at the initial stage, comorbidity, and sociodemographic characteristics. The final conclusions of this study indicate that the cost of treatment was fully offset by the savings achieved from reducing non-working days, highlighting the impact that depression has on productivity, the indirect costs that a corporation bears, and the benefits that a corporation could have if it were oriented towards preventing and treating depression among its employees.

Birnbaum et al. (1999) analysed the financial impact of depression on a Fortune 100 company based on the compensation claims they received in 1997. Out of the 100,000 employees and family members enrolled in the company's health plan, a total of 4,220 filed claims for compensation due to depression or depression-related disabilities. Additionally, disability costs for patients with major depression represented a much larger proportion of total costs - 22% compared to 13% for the typical beneficiary. The annual average of direct healthcare costs for patients with major depression was \$6,787. The average annual costs - including medical, pharmaceutical, and disability costs - for beneficiaries with major depression were 4.2 times higher than the costs for a typical beneficiary. Additionally, disability costs for patients with major depression represented a much larger proportion of total costs - 22% compared to 13% for the typical beneficiary. Additionally, disability costs for patients with major depression represented a much larger proportion of total costs - 22% compared to 13% for the typical beneficiary. Due to the high rate of comorbid medical disorders among these patients, only 43% of the total represented psychiatric care.



The American Psychiatric Association formed a committee to study the issue of workplace depression. Current statistical models for measuring the direct and indirect costs attributable to depressed workers are rather primitive, and the indirect costs associated with workers with disabilities are extremely varied. It is possible that relatively unskilled workers, who can be quickly replaced, may not generate any indirect costs. However, decreased productivity among managers or depressed professionals can generate high indirect costs. Sperry estimates that the direct costs of treatment represent approximately one-third of all costs, and that the majority of indirect costs (approximately 30%) are due solely to absenteeism (Goldberg & Steury, 2001).

2.3. Correlations between occupational depression and eating disorders

In a study conducted by Keith A. King et al. (2006), correlations between occupational depression and eating disorders were examined in healthcare assistants in Ohio. The results showed that deficient eating behavior significantly differed depending on perceived workplace stress and perceived body satisfaction. Medical assistants with high levels of perceived workplace stress and low levels of body satisfaction scored higher on the scale for evaluating eating behavior, resulting in an increased risk for eating disorders. The study conducted by O. Kim et al. (2018) aimed to establish a relationship between compulsive eating and depression. The proportion of compulsive eating disorders was 6.90% among nurses, and 81.3% of them presented certain levels of depressive symptoms. The results indicate that nurses with compulsive eating disorders had a 1.80 times higher risk of facing greater severity of self-reported depression symptoms. Another study conducted on a sample of 595 male workers in Japan shows that certain eating behaviors, such as overeating, eating quickly, and eating as a substitute for irritability, are associated with both obesity and professional demands for high quantitative results (Nishitani, Sakakibara, & Akiyama, 2009).

Kathleen M. Pike and her colleagues (2006) investigated the occurrence of life events (workplace stress being one of the events investigated) preceding the onset of eating disorders, specifically binge eating disorder. Participants were selected from the community of women participating in the New England Women's Health Project. 162 pairs of white and black women with binge eating disorder and women without current psychiatric disorders were matched, as well as 107 pairs of women with binge eating disorder and a current general psychiatric disorder. Women with binge eating disorder reported significantly more exposure to life events during the year prior to the onset of eating disorders than non-control women. During the same period of their lives, both male and female individuals experienced psychiatric disorders. Women with binge eating disorder had a significantly higher risk of exposure to specific life events, such as critical comments about their shape, weight or eating habits, work-related stress, school-related stress, major changes in life circumstances and relationships, and physical abuse. Men with psychiatric disorders reported higher levels of insecurity and uncertainty in a variety of environments than non-psychiatric control women, while the differences between the group with binge eating disorder and the psychiatric control group were less pronounced. Men with psychiatric disorders reported higher levels of insecurity and uncertainty in a variety of environments than non-psychiatric control women, while the differences between the group with binge eating disorder and the psychiatric control group were less pronounced. There was no evidence of race-specific exposure to previous life events.



The results indicate that a greater number and certain specific types of life events increase the risk for the subsequent development of compulsive eating disorder. Another study conducted on the educational platform Nuadu, which involved 230 working women, and took place over the course of 12 months aimed to investigate the correlation between burnout, eating disorders, and weight. The results of this research show that women who experienced burnout at the initial moment had significantly higher scores in emotional eating and uncontrolled eating than those without burnout. At the end of the 12 months, a significant difference was found between the initial scores for uncontrolled eating and the final results for both groups. The study found significant decreases in scores for burnout and low scores, but only among those without burnout at the initial time point (Nevanperä et al., 2012).

3. Research methodology

3.1. Research objectives

Based on the literature review, the overall objective of this research is to identify a relationship between occupational depression and eating behavior (restrictive, emotional and external). The specific objectives of this research that will lead to the achievement of the main objective are the following:

1. Identify valid psychological measurement tools by which to assess the level of occupational depression as well as eating behavior.
2. To administer the instruments to a group of participants who meet the research requirements.
3. Evaluation of the responses according to the scoring grid, creation of a database and statistical analysis of the data obtained in order to identify relationships between the concepts studied.
4. Description of the results obtained based on the literature.

3.2. Research hypotheses

1. A statistically significant relationship is assumed to exist between occupational depression and eating behavior (restrictive, emotional and external).
2. It is assumed that there is a statistically significant difference between women and men in occupational depression and eating behavior (restrictive, emotional and external).
3. It is assumed that there is a statistically significant difference between people working in the private sector and those working in the public sector in terms of occupational depression and eating behavior (restrictive, emotional and external).

3.3. Batch of subjects

In order to achieve the objectives and to verify the hypotheses, 60 employees from various fields were included in the study, of whom women and men in equal percentages, as well as employees from both the private and public sectors, also in equal percentages. They range in age from 21 to 60, with an average age of 40.15 years.

3.4. Instruments

The following instruments were used to achieve the proposed objectives and verify the hypotheses: *Occupational Depression Inventory ODI* (Bianchi & Schonfeld, 2020) and *The Dutch Eating Behavior Questionnaire (DEBQ) for Assessment of Restrained, Emotional, and External Eating Behavior* (van Strien, Frijters, Bergers, & Defares, 1986).



3.5. Analysis and interpretation of results

3.5.1. Characteristic values

The characteristic values of a distribution are represented by: *position parameters* (mean, median, mode/mode or dominant value, quartiles and percentiles) and *scattering parameters* (minimum, maximum, range, dispersion and root mean square deviation). These parameters were calculated for the variables *occupational depression* (OD), *restrictive eating behavior* (CAR), *emotional eating behavior* (EAB) and *external eating behavior* (EAB) and summarised in the table below.

Table 1. Characteristic values

position parameters	scattering parameters
<i>Occupational depression (OD)</i>	
mean: 9,08	minimum: 4
median or median quartile: 8	maximum: 22
modulus or dominant value: 9	amplitude: 18
lower quartile: 6	dispersion: 18,925
upper quartile: 11,50	root mean square deviation: 4,350
10th percentile: 4	
90th percentile: 16	
<i>Restrictive eating behavior (RAB)</i>	
mean: 24,55	minimum: 11
median or median quartile: 25	maximum: 42
modulus or dominant value: 25	amplitude: 31
lower quartile: 20	dispersion: 40,048
upper quartile: 30	root mean square deviation: 6,932
10th percentile: 14,10	
90th percentile: 33,80	
<i>Emotional eating behavior (EAB)</i>	
mean: 28,13	minimum: 14
median or median quartile: 23	maximum: 55
modulus or dominant value: 17	amplitude: 41
lower quartile: 17	dispersion: 155,643
upper quartile: 42	root mean square deviation: 12,476
10th percentile: 16	
90th percentile: 45	
<i>External eating behavior (CAEx)</i>	
mean: 3,5	minimum: 21
median or median quartile: 31	maximum: 45
modulus or dominant value: 30	amplitude: 24
lower quartile: 26,25	dispersion: 35,915
upper quartile: 36	root mean square deviation: 5,933
10th percentile: 24	
90th percentile: 38	



3.5.2. Analysis of graphical representations of distributions

The indicators of the graphical representations are *Skewness* and *Kurtosis*. The *Skewness* indicator (symmetry index) tells us how the given distribution deviates from the symmetric distribution around the mean. For all four variables there were positive values ($DO = 1,145$; $CAR = 0,146$; $CAE = 0,684$; $CAEx = 0,179$) indicating that the distribution is skewed to the left, with more extreme values to the right. The *Kurtosis* indicator (kurtosis index) tells us the degree of skewness or flattening of a distribution. For the eating behavior variables ($CAR = -0,103$; $CAE = -1,036$; $CAEx = -0,567$) the flattening index recorded is negative, so we are dealing with a flatkurtic distribution, i.e. flatter than a normal distribution, and for $OD=1.090$, the value recorded is positive indicating that the distribution is leptokurtic, i.e. sharper than a normal distribution.

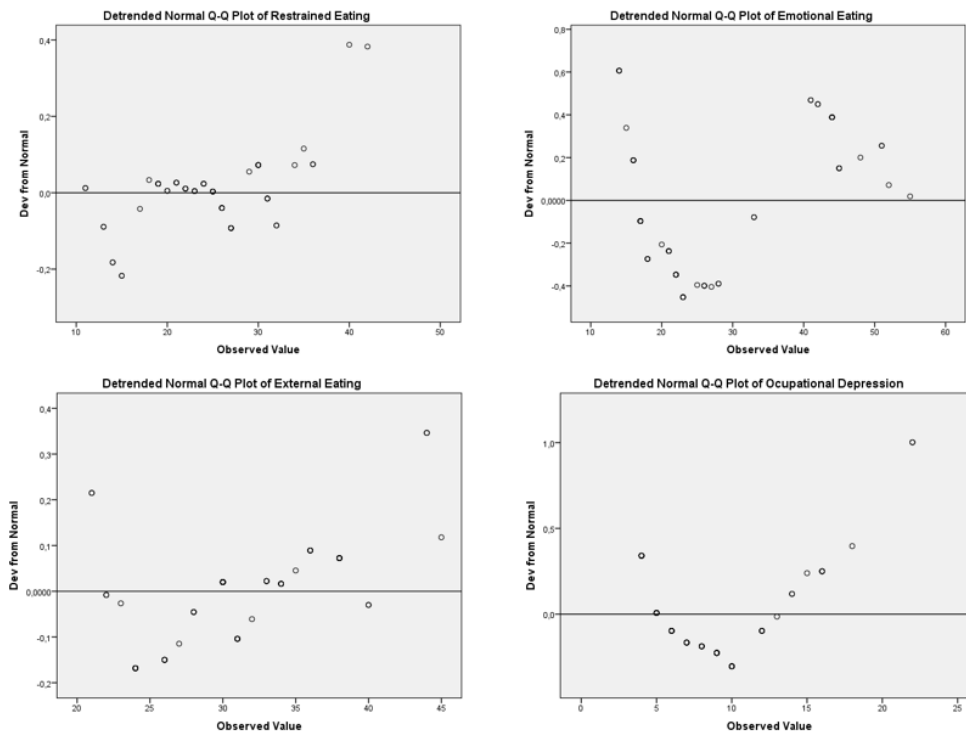


Figure 1. Q-Q plot of distributions

3.5.3. Normality analysis of distributions

When choosing a statistical test, the normality of the distribution must be considered. For a normal distribution the mean, median and mode must have identical or very close values. This happens quite rarely, so this normality of the distribution must be studied in order to choose one test in favour of another. The *Kolmogorov-Smirnov* (KS) and *Shapiro-Wilk* (SW) normality tests were applied for this analysis. If $p < 0.05$, the probability that the data are normally distributed is less than 5%, so the distribution is not statistically normal, otherwise the data are normally distributed (Mayers, 2013).



For the values recorded from the *Dutch Eating Behavior Assessment Questionnaire*, the following were recorded:

- *restrictive eating behavior* ($KS = 0,079, p = 0,200$) and ($SW = 0,986, p = 0,729$) – probability is greater than 0.05 in both cases - data are statistically normally distributed;
- *emotional eating behavior* ($KS = 0,210, p = 0,001$) and ($SW = 0,958, p = 0,001$) – probability is less than 0.05 in both cases - data are not statistically normally distributed;
- *external eating behavior* ($KS = 0,085, p = 0,200$) și ($SW = 0,971, p = 0,156$) – probability is greater than 0.05 in both cases - data are statistically normally distributed.

For the values recorded from the *Occupational Depression Inventory* ($KS = 0,167, p = 0,001$) and ($SW = 0,894, p = 0,001$), therefore, the probability is less than 0.05 in both cases - the data are not statistically normally distributed.

Table 2. Normality Tests

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Restrained Eating	,079	60	,200*	,986	60	,729
Emotional Eating	,210	60	,000	,858	60	,000
External Eating	,085	60	,200*	,971	60	,156
Ocupational Depression	,167	60	,000	,894	60	,000

3.5.4. Hypothesis testing and interpretation of results

Hypothesis 1. *A statistically significant relationship between occupational depression and eating behavior (restrictive, emotional and external) is assumed.*

The *Spearman rho correlation test* was used to test this hypothesis as the recorded data are not statistically normally distributed except for restrictive and external eating behavior and the robustness of the mathematical calculations (Popa, M., 2008). The correlation coefficient is a numerical index that specifies the strength and direction of a relationship between two variables (Howitt, D.; Cramer, D., 2010).

Analysing the table below, the reported correlation in the case of Spearman rho test is -0.335, the probability of obtaining this correlation by chance is less than 0.008. We can say that there is a **statistically significant negative correlation between occupational depression and restrictive eating behavior**, ($\rho = -0.335, df = 60, p < 0.009$). The negativity of the recorded score indicates that as the scores of one variable increase, the scores of the other variable decrease.



Table 3. Correlation test between restrictive eating behavior and occupational depression

		Restrained Eating	Occupational Depression
Spearman's rho	Restrained Eating		
	Correlation Coefficient	1,000	-,335**
	Sig. (2-tailed)	.	,009
Occupational Depression	N	60	60
	Correlation Coefficient	-,335**	1,000
	Sig. (2-tailed)	,009	.
	N	60	60

The correlation reported for the Spearman rho test is 0.086, the probability of obtaining this correlation by chance is less than 0.515. We can say that **there is no statistically significant correlation between occupational depression and emotional eating behavior**, ($\rho = 0,086, df = 60, p < 0,515$).

Table 4. Correlation test between emotional eating behavior and occupational depression

		Occupational Depression	Emotional Eating
Spearman's rho	Occupational Depression		
	Correlation Coefficient	1,000	,086
	Sig. (2-tailed)	.	,515
Emotional Eating	N	60	60
	Correlation Coefficient	,086	1,000
	Sig. (2-tailed)	,515	.
	N	60	60

The correlation reported for the Spearman rho test is 0.154, the probability of obtaining this correlation by chance is less than 0.240. We can say that **there is no statistically significant correlation between occupational depression and external eating behavior**, ($\rho = 0,154, df = 60, p < 0,240$).



Table 5. Correlation test between external eating behavior and occupational depression

		Occupational Depression	External Eating
Spearman's rho	Occupational Depression	1,000	,154
	Correlation Coefficient		
	Sig. (2-tailed)	.	,240
	N	60	60
External Eating	External Eating	,154	1,000
	Correlation Coefficient		
	Sig. (2-tailed)	,240	.
	N	60	60

Occupational depression is a form of depression specifically related to a person's occupation or work environment. It can occur when work demands or conditions contribute significantly to the development or exacerbation of depressive symptoms. Its symptoms are similar to those of depressive disorder in general. Characteristic factors associated with work-related depression are (Meltzer, et al., 2009): job stress, job dissatisfaction, work-life imbalance, lack of autonomy or control, bullying or harassment, job insecurity.

Restrictive eating behavior refers to an eating pattern in which a person intentionally limits their food intake or avoids certain types of food. This behavior can take different forms and can be motivated by various factors. It can also range from mild to more severe forms. Prolonged restrictive eating can lead to serious physical consequences, such as nutritional deficiencies, fatigue, compromised immune function, as well as emotional consequences, including increased anxiety or irritability (Spoor, et al., 2006).

The relationship between work-related depression and restrictive eating behavior is complex and can be influenced by a number of factors. Both are mental health problems that can interact in different ways depending on individual circumstances. Thus, occupational depression can lead to increased stress, and some individuals respond to stress by adopting maladaptive coping mechanisms, such as restrictive eating (Yoshizawa, et al., 2016). Restricting food intake can be a way for individuals to exercise control over a specific aspect of their lives when other areas seem overwhelming. Occupational depression may contribute to negative perceptions of body image, and in an attempt to regain a sense of control or conform to social norms, individuals may engage in restrictive eating behaviors (Speranza, Corcos, Atger, Paterniti, & Jeammet, 2003). This may be related to a desire for weight loss or a distorted perception of body image.

Depression and restrictive eating behaviors may share certain biological factors such as neurotransmitter imbalances or genetic predispositions (Berrettini, 2004). These factors may contribute to the development or exacerbation of both conditions.

As mentioned above, the workplace environment can influence both occupational depression and eating behaviors. Highly stressful workplaces (Kim, Lee, & Choi, 2015), workplace harassment, or lack of sprinin can contribute to the development of occupational depression (Park, Wilson, & Lee, 2004), and these factors can also have a significant impact on eating behaviors.



Self-esteem and perceived control are often associated with depression and eating behavior (Krauss, Dapp, & Orth, 2023). Individuals may use restrictive eating as a way to gain a sense of control over their lives, especially when other issues, such as work, feel uncontrollable or overwhelming.

Although this study found no statistically significant relationship between occupational depression and emotional eating behaviors, as noted above, occupational depression can lead to increased stress and emotional discomfort (Meltzer, et al., 2009). In an attempt to cope with negative emotions, some individuals may turn to food as a way to self-soothe or find temporary relief, and this may manifest as emotional eating (Dakanalis, et al., 2023). Food is often associated with comfort and reward. Individuals experiencing occupational depression may seek relief in food as a way to experience pleasure or satisfaction, providing a temporary escape from work-related stressors (Celik Erden, et al., 2023). Work-related stress and depression can contribute to a state of inattention or distraction, and individuals may engage in emotional eating without being fully aware of their food choices, leading to overeating (King, Vidourek, & Schwiebert, 2009).

External feeding behavior is a type of feeding behavior in which external cues, such as the sight or smell of food, rather than internal cues of hunger, trigger eating (van Strien, Frijters, Bergers, & Defares, 1986). *Occupational depression and external eating behavior* may be somewhat connected. The sight or smell of food may provide a temporary distraction or comfort. Eating may be a habitual response to environmental cues at work. For example, if workplace culture involves frequent access to snacks or communal eating spaces, this may influence external eating behaviors, p

particularly in the context of occupational depression (Paans, et al., 2018).

Hypothesis 2. *It is assumed that there is a statistically significant difference between women and men in occupational depression and eating behavior (restrictive, emotional and external).* For occupational depression and emotional eating behavior, the Mann-Whitney U test was applied to compare two independent groups of scores since, following the application of normality tests, the scores recorded for these variables were not statistically normally distributed. Therefore, by applying the Mann-Whitney U-test it was found that **there was no statistically significant difference in occupational depression** ($U = 364, N_1 = 30, N_2 = 30, p \text{ bidirectional} = 0,201$) **and emotional eating behavior** ($U = 379, N_1 = 30, N_2 = 30, p \text{ bidirectional} = 0,293$).

Table 5. Gender comparison test for emotional eating behavior and occupational depression

	Occupational Depression	Emotional Eating
Mann-Whitney U	364,000	379,000
Wilcoxon W	829,000	844,000
Z	-1,278	-1,052
Asymp. Sig. (2-tailed)	,201	,293



Table 6. Gender comparison test for restrictive and external eating behavior

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Restrained Eating	Equal variances assumed	,055	,816	6,305	58	,000	8,767	1,390	5,983	11,550
	Equal variances not assumed			6,305	57,614	,000	8,767	1,390	5,983	11,550
External Eating	Equal variances assumed	19,196	,000	1,434	58	,157	2,200	1,534	-,870	5,270
	Equal variances not assumed			1,434	46,820	,158	2,200	1,534	-,886	5,286

Table 7. Partial gender correlation test between occupational depression and restrictive eating behavior

Control Variables			Occupational Depression	Restrained Eating
Gen	Occupational Depression	Correlation	1,000	-,214
		Significance (2-tailed)	.	,103
		df	0	57
	Restrained Eating	Correlation	-,214	1,000
		Significance (2-tailed)	,103	.
		df	57	0

For restrictive eating behavior and external eating behavior, t-test was applied to compare two independent groups of scores as the values recorded were statistically normally distributed. For restrictive eating behavior, the mean scores recorded by women ($M = 28,93, AS = 5,601$) **were significantly higher than the mean scores of men** ($M = 20,17, AS = 5,160$), ($t = 6,305, df = 58, p \text{ bidirectional} = 0,001$). For external eating behavior, between the mean scores recorded by women ($M = 32,60, AS = 4,248$) **and the mean scores recorded by men** ($M = 30,40, AS = 7,247$), **there is no significant difference** ($t = 1,434, df = 58, p \text{ bidirectional} = 0,157$).

In addition, the partial correlation test was used to further test the relationship between occupational depression and eating behavior (restrictive, emotional and external). **There was no**



statistically significant partial correlation controlled for biological gender between occupational depression and restrictive eating behavior ($r = -0,214, df = 57, p < 0,103$), ($r = 0,185, df = 57, p < 0,160$). There was a significant partial correlation between occupational depression and external eating behavior ($r = 0,261, df = 57, p < 0,046$).

Table 8. Partial gender correlation test between occupational depression and emotional eating behavior

Control Variables		Occupational Depression	Emotional Eating
Gen	Occupational Depression		
	Correlation	1,000	,185
	Significance (2-tailed)	.	,160
	df	0	57
	Emotional Eating		
	Correlation	,185	1,000
	Significance (2-tailed)	,160	.
	df	57	0

Table 9. Partial gender correlation test between occupational depression and external eating behavior

Control Variables		Occupational Depression	External Eating
Gen	Occupational Depression		
	Correlation	1,000	,261
	Significance (2-tailed)	.	,046
	df	0	57
	External Eating		
	Correlation	,261	1,000
	Significance (2-tailed)	,046	.
	df	57	0

Research suggests that there may be gender differences in the prevalence, manifestation, and motivations behind restrictive eating behavior (Rolls, Fedoroff, & Guthrie, 1991). Women, in certain societies and cultural contexts, may face more significant social pressure regarding body image and appearance. This pressure may contribute to the development of restrictive eating behaviors as an attempt to conform to perceived standards of beauty. While women may be more likely to motivate their restrictive behaviors for weight loss or to achieve a certain body shape, men may focus on muscle development and athletic performance (Clermont, Paquette, Lalande, & Dion, 2022; Deslippe, Bergeron, & Cohen, 2023). Thus, cultural factors play a significant role in shaping attitudes towards diet, body image and gender roles. In some cultures, restrictive eating behaviors may be more acceptable or expected in one gender than the other.

In response to occupational depression, individuals may use external feeding as a coping mechanism. Some studies suggest that women may be more likely to use external eating behavior as a coping strategy, whereas men may use other mechanisms such as substance use (Mento, et al.,



2022). Emotional eating, including external eating, is often associated with coping with emotions, and women may be more likely to report eating in response to stress or negative emotions (Clohessy, Walasek, & Meyer, 2019).

Hypothesis 3. *It is assumed that there is a statistically significant difference between people working in the private sector and those working in the public sector in terms of occupational depression and eating behavior (restrictive, emotional and external).*

Table 10. Sector comparison test for emotional eating behavior and occupational depression

	Occupational Depression	Emotional Eating
Mann-Whitney U	410,000	316,000
Wilcoxon W	875,000	781,000
Z	-,594	-1,986
Asymp. Sig. (2-tailed)	,552	,047

a. Grouping Variable: Tip

For occupational depression and emotional eating behavior, the Mann-Whitney U test was applied to compare two independent groups of scores since the scores recorded for these variables were not statistically normally distributed when normality tests were applied. Therefore, by applying the Mann-Whitney U-test it was found that **there was no statistically significant difference for occupational depression** ($U = 410, N_1 = 30, N_2 = 30, p \text{ bidirectional} = 0,552$), but **there was a significant difference for emotional eating behavior** ($U = 316, N_1 = 30, N_2 = 30, p \text{ bidirectional} = 0,047$).

For restrictive eating behavior and external eating behavior the t-test was applied to compare two groups of independent scores as the recorded values were statistically normally distributed. For restrictive eating behavior, between the mean scores recorded by people employed in the state ($M = 23,60, AS = 7,398$) and the mean scores of people employed in the private sector ($M = 25,50, AS = 6,415$), **there was no statistically significant difference** ($t = -1,063, df = 58, p \text{ bidirectional} = 0,292$). For external eating behavior, between the mean scores recorded by people employed in the public sector ($M = 31,90, AS = 5,486$) and the mean scores recorded by people employed in the private sector ($M = 31,90, AS = 6,530$), **here is no statistically significant difference** ($t = 0,514, df = 58, p \text{ bidirectional} = 0,609$).



Table 11. Sector comparison test for restrictive and external eating behavior

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Restrained Eating	Equal variances assumed	1,184	,281	-1,063	58	,292	-1,900	1,788	-5,479	1,679
	Equal variances not assumed			-1,063	56,860	,292	-1,900	1,788	-5,480	1,680
External Eating	Equal variances assumed	1,349	,250	,514	58	,609	,800	1,557	-2,317	3,917
	Equal variances not assumed			,514	56,323	,609	,800	1,557	-2,319	3,919

A partial correlation test was used to further test the relationship between occupational depression and eating behavior (restrictive, emotional and external). **There was no statistically significant partial correlation controlled for type of employment** (state or private) between occupational depression and restrictive eating behavior ($r = -0,238, df = 57, p < 0,070$), emotional eating behavior ($r = 0,162, df = 57, p < 0,219$) external eating behavior ($r = 0,227, df = 57, p < 0,083$).

Table 12. Partial correlation test by sector between occupational depression and restrictive eating behavior

Control Variables			Occupational Depression	Restrained Eating
Tip	Occupational Depression	Correlation	1,000	-,238
		Significance (2-tailed)	.	,070
		df	0	57
	Restrained Eating	Correlation	-,238	1,000
		Significance (2-tailed)	,070	.
		df	57	0



Table 13. Partial correlation test by sector between occupational depression and emotional eating behavior

Control Variables		Occupational Depression	Emotional Eating
Tip	Correlation	1,000	,162
	Occupational Depression Significance (2-tailed)	.	,219
	df	0	57
	Correlation	,162	1,000
	Emotional Eating Significance (2-tailed)	,219	.
	df	57	0

Table 14. Partial correlation test by sector between occupational depression and external eating behavior

Control Variables		Occupational Depression	External Eating
Tip	Correlation	1,000	,227
	Occupational Depression Significance (2-tailed)	.	,083
	df	0	57
	Correlation	,227	1,000
	External Eating Significance (2-tailed)	,083	.
	df	57	0

The relationship between occupation (private vs. public sector) and emotional eating can be influenced by various factors and it is very important to recognise that individual differences and personal circumstances play a significant role. Emotional eating is a complex behavior that can be influenced by stress, emotions, coping mechanisms and individual differences in personality and lifestyle.

The nature of workplace stress and workload can vary between the private and public sectors. Employees in the private sector may face pressures related to profitability, competition and market demands, while employees in the public sector may face stressors associated with bureaucratic processes, regulatory compliance and public service requirements. Differences in stress may influence emotional eating patterns.

Job security, which often differs between the private and public sectors, can have an impact on emotional eating. People facing job insecurity or redundancy concerns may experience increased stress, which could lead to emotional eating.

Workplace culture, including attitudes to breaks, meals and stress management, may differ from sector to sector. Organisational culture and work-life balance norms can influence emotional eating behaviors.



Conclusions

Analysing the results obtained from the application of different statistical tests we can state that:

- there is a significant negative correlation between occupational depression and restrictive eating behavior;
- there is a statistically significant difference between women and men in restrictive eating behavior;
- there is a moderate positive partial correlation of biological gender with regard to external emotional behavior;
- there is a significant difference between people working in the state sector and those working in the private sector in terms of emotional eating behavior.

The relationship between occupational depression and restrictive eating behavior is highly individualised and not all those suffering from occupational depression will develop restrictive eating habits and vice versa. In addition, other factors such as personality traits, past experiences and concurrent mental health problems may further influence this relationship. Both men and women can have restrictive eating behaviors and eating disorders. In addition, societal attitudes towards body image and gender roles are evolving and these trends may change over time.

It is important to note that not everyone experiencing work-related depression engages in emotional eating behavior, and the relationship may vary by individual. In addition, emotional eating is only one of several possible responses to stress and depression. Some individuals may have different coping mechanisms, such as decreased appetite or changes in eating patterns. Emotional eating is a complex behavior influenced by many factors, and occupation (private vs. public sector) is just one potential factor among many. In addition, experiences within each sector can vary greatly, and individuals within the same sector may respond differently to stress and emotions.

It is essential to recognise that external eating behaviors are only one potential response to work-related depression, and individuals may exhibit a range of eating behaviors or coping mechanisms. Not all people experiencing work-related depression engage in external eating behaviors, and the relationship may be influenced by individual differences, coping styles and the specific workplace context.

Bibliography

American Psychiatric Association. (2016). *Diagnostic and statistical manual of mental disorders* (ed. 5th). București: Callisto Medical Publisher. doi:10.1176/appi.books.9780890425787

Bădescu, D. (2011). News in addressing organisational stress. *Acta Medica Transilvanica*, 2(2), 164-165. Preluat de pe <http://amtsibiu.ro/Arhiva/2011/Nr2-ro/Badescu.pdf>

Berk, M., Sarris, J., Coulson, C. E., & Jacka, F. N. (2013). Lifestyle management of unipolar depression. *Acta psychiatrica Scandinavica (Supplementum)*, 38-54. Preluat de pe <https://sci-hub.se/10.1111/acps.12124>

Berrettini, W. (2004). The genetics of eating disorders. *Psychiatry (Edgmont (Pa.: Township))*, 1(3), 18-25. Preluat de pe <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3010958/>



Bianchi, R. (2020). Do burnout and depressive symptoms form a single syndrome? Confirmatory factor analysis and exploratory structural equation modeling bifactor analysis. *Journal of psychosomatic research*, 109954. doi:10.1016/j.jpsychores.2020.109954

Bianchi, R., & Schonfeld, I. S. (2020). The Occupational Depression Inventory: A new tool for clinicians and epidemiologists. *Journal of psychosomatic research*, 138, 110249. doi:10.1016/j.jpsychores.2020.110249

Birnbaum, H. G., Greenberg, P. E., Barton, M., Kessler, R., Rowland, C., & Williamson, T. (1999). Workplace burden of depression: a case study in social functioning using employer claims data. *Drug Benefit Trends*, 11(8), 6-12.

Canciu, M., & Bardac, D. (2011). Current issues in the relationship between mental health and the workplace. *Acta Medica Transilvanica*, 2(4).

Celik Erden, S., Karakus Yilmaz, B., Kozaci, N., Uygur, A. B., Yigit, Y., Karakus, K., . . . Ersahin, D. A. (2023). The Relationship Between Depression, Anxiety, and Stress Levels and Eating Behavior in Emergency Service Workers. *Cureus*, 15(2), e35504. doi:10.7759/cureus.35504

Clermont, C., Paquette, L., Lalande, D., & Dion, J. (2022). Self-determination, restrictive eating, and psychological needs: Challenges for young athletes. *Brain and behavior*, 12(11), e2761. doi:10.1002/brb3.2761

Clohessy, S., Walasek, L., & Meyer, C. (2019). Factors influencing employees' eating behaviors in the office-based workplace: A systematic review. *Obesity reviews: an official journal of the International Association for the Study of Obesity*, 20(12), 1771–1780. doi:10.1111/obr.12920

Conti, D. J., & Burton, W. N. (1994). The economic impact of depression in a workplace. *Journal of Occupational Medicine*, 36(9), 938-988. Preluat de pe <http://www.jstor.org/stable/45016807>

Dakanalis, A., Mentzelou, M., Papadopoulou, S. K., Papandreou, D., Spanoudaki, M., Vasios, G. K., . . . Giaginis, C. (2023). The Association of Emotional Eating with Overweight/Obesity, Depression, Anxiety/Stress, and Dietary Patterns: A Review of the Current Clinical Evidence. *Nutrients*, 15(5), 1173. doi:10.3390/nu15051173

Deslippe, A. L., Bergeron, C., & Cohen, T. R. (2023). Boys and girls differ in their rationale behind eating: a systematic review of intrinsic and extrinsic motivations in dietary habits across countries. *Front. Nutr.*, 10. doi:10.3389/fnut.2023.1256189

Eurostat. (2001). Health problems at work in the EU: 1998-1999. Luxembourg.

Frost, R. O., Goolkasian, G. A., Ely, R. J., & Blanchard, F. A. (1982). Depression, restraint and eating behavior. *Behavior Research and Therapy*. *Behavior Research and Therapy*, 20(2), 113-121. doi:10.1016/0005-7967(82)90111-5

Goldberg, R. J., & Steury, S. (2001). Depression in the Workplace: Costs and Barriers to Treatment. *Psychiatric services (Washington, D.C.)*, 52(12), 1639–1643. doi:10.1176/appi.ps.52.12.1639

Grati, L. (2019). Emotional exhaustion syndrome in healthcare workers. *Current issues in the humanities*, 18(3), 170-180. Preluat de pe https://ibn.idsi.md/vizualizare_articol/131573#

Graur, M., Mihai, B., Botmariu, G., Popescu, R., Lăcătușu, C., Mihalache, L., . . . Filip, L. (2006). Guide for healthy eating (Vol. 1). Iași: Performantica Publisher.



Herman, C. P., & Polivy, J. (1975). Anxiety, restraint, and eating behavior. *Journal of Abnormal Psychology*, 84(6), 66–72. doi:10.1037/0021-843X.84.6.666

Howitt, D.; Cramer, D. (2010). *Introduction to SPSS for Psychology: Version 16 and Earlier*. Iasi: Polirom.

Kessler, R. C., Barber, C., Birnbaum, H. G., Frank, R. G., Greenberg, P. E., Rose, R. M., . . . Wang, P. (1999). Depression in the workplace: effects on short-term disability. *Health Affairs (Project Hope)*, 18(5), 163–171. doi:10.1377/hlthaff.18.5.163

Kim, K., Lee, S., & Choi, Y. H. (2015). Relationship between occupational stress and depressive mood among interns and residents in a tertiary hospital, Seoul, Korea. *Clinical and experimental emergency medicine*, 2(2), 117–122. doi:10.15441/ceem.15.002

Kim, O., Kim, K. S., Kim, J., Lee, J. E., & Jung, H. (2018). Binge eating disorder and depressive symptoms among females of child-bearing age: the Korea Nurses' Health Study. *BMC psychiatry*, 18(1), 13. doi:10.1186/s12888-018-1601-6

King, K. A., Vidourek, R., & Schwiebert, M. (2009). Disordered eating and job stress among nurses. *Journal of Nursing Management*, 17(7), 861–869. doi:10.1111/j.1365-2834.2009.00969.x

Krauss, S., Dapp, L. C., & Orth, U. (2023). The Link Between Low Self-Esteem and Eating Disorders: A Meta-Analysis of Longitudinal Studies. *Clinical Psychological Science*, 11(6). doi:10.1177/216770262211442

LaCaille, L. (2020). Eating Behavior. In M. D. Gellman (Ed.), *Encyclopedia of Behavioral Medicine*. Cham: Springer. doi:10.1007/978-3-030-39903-0_1613

Lee, E., & Kim, J. M. (2021). Association between depression and eating behavior factors in Korean adults: the Korea National Health and Nutrition Examination Survey 2018. *J Nutr Health*, 54(2), 152-164. doi:10.4163/jnh.2021.54.2.152

Levine, A. S., & Billington, C. J. (1997). Why do we eat? A neural systems approach. *Annual review of nutrition*. *Annual review of nutrition*, 17, 597–619. doi:10.1146/annurev.nutr.17.1.597

Ljungberg, T., Bondza, E., & Lethin, C. (2020). Evidence of the Importance of Dietary Habits Regarding Depressive Symptoms and Depression. *International journal of environmental research and public health*, 17(5), 1616. doi:10.3390/ijerph17051616

Mayers, A. (2013). *Introduction to Statistics and SPSS in Psychology*. London: Pearson Education Limited.

Melchior, M., Caspi, A., Milne, B. J., Danese, A., Poulton, R., & Moffitt, T. E. (2007). Work stress precipitates depression and anxiety in young, working women and men. *Psychological medicine*, 37(8), 1119–1129. doi:10.1017/S0033291707000414

Meltzer, H., Bebbington, P., Brugha, T., Jenkins, R., McManus, S., & Stansfeld, S. (2009). Job insecurity, socio-economic circumstances and depression. *Psychol. Med.*, 40, 1401–1407. doi:10.1017/S0033291709991802

Mento, C., Rizzo, A., Bruno, A., Silvestri, M., Cedro, C., Komaei, I., . . . Muscatello, M. A. (2022). Sex Differences in Emotions and Eating Behaviors among People Affected by Obesity. *Brain sciences*, 12(12), 1663. doi:10.3390/brainsci12121663



Nevanperä, N. J., Hopsu, L., Kuosma, E., Ukkola, O., Uitti, J., & Laitinen, J. H. (2012). Occupational burnout, eating behavior, and weight among working women. *The American journal of clinical nutrition*, 95(4), 934–943. doi:10.3945/ajcn.111.014191

Nishitani, N., Sakakibara, H., & Akiyama, I. (2009). Eating behavior related to obesity and job stress in male Japanese workers. *Nutrition (Burbank, Los Angeles County, Calif.)*, 25(1), 45–50. doi:10.1016/j.nut.2008.07.008

Noh, J. W., Lee, S. A., Choi, H. J., Hong, J. H., Kim, M. H., & Kwon, Y. D. (2015). Relationship between the intensity of physical activity and depressive symptoms among Korean adults: analysis of Korea Health Panel data. *Journal of physical therapy science*, 27(4), 1233–1237. doi:10.1589/jpts.27.1233

Oliver, G., Wardle, J., & Gibson, E. L. (2000). Stress and Food Choice: A Laboratory Study. *Psychosomatic Medicine. Psychosomatic medicine*, 62(6), 853–865. doi:10.1097/00006842-200011000-00016

Paans, N. P., Bot, M., Brouwer, I. A., Visser, M., Roca, M., Kohls, E., . . . Penninx, B. J. (2018). The association between depression and eating styles in four European countries: The MoodFOOD prevention study. *Journal of psychosomatic research*, 108, 85–92. doi:10.1016/j.jpsychores.2018.03.003

Park, K. O., Wilson, M. G., & Lee, M. S. (2004). Effects of social support at work on depression and organizational productivity. *Am. J. Health Behav.*, 28, 444–455. doi:10.5993/AJHB.28.5.7

Patriche, D., Filip, I., & Tănase, C. (2015). The Epidemiology of Depression. *Romanian Medical Journal*, LXII(3), 260–262. Preluat de pe http://rmj.com.ro/articles/2015.3/RMR_Nr-3_2015_Art-8.pdf

Pike, K. M., Wilfley, D., Hilbert, A., Fairburn, C. G., Dohm, F. A., & Striegel-Moore, R. H. (2006). Antecedent life events of binge-eating disorder. *Psychiatry Research*, 19–29. doi:10.1016/j.psychres.2005.10.006

Popa, M. (2008). *Statistică pentru psihologie: Teorie și aplicații SPSS*. Iași: Polirom.

Popkin, B. M., Duffey, K., & Gordon-Larsen, P. (2005). Environmental influences on food choice, physical activity and energy balance. *Physiology & behavior*, 86(5), 603–613. doi:10.1016/j.physbeh.2005.08.051

Rolls, B. J., Fedoroff, I. C., & Guthrie, J. F. (1991). Gender differences in eating behavior and body weight regulation. *Health psychology : official journal of the Division of Health Psychology, American Psychological Association*, 10(2), 133–142. doi:10.1037//0278-6133.10.2.133

Rosenbaum, D. L., & White, K. S. (2015). The relation of anxiety, depression, and stress to binge eating behavior. *Journal of Health Psychology. urnal of health psychology*, 20(6), 887–898. doi:10.1177/1359105315580212

Schnall, P. L., Belkic, K. L., Landsbergis, P. A., Baker, D., & Pickering, T. G. (2001). The need for work site surveillance of hypertension. *Third International Conference on Work Environment and Cardiovascular Diseases*. Duesseldorf.

Speranza, M., Corcos, M., Atger, F., Paterniti, S., & Jeammet, P. (2003). Binge eating behaviours, depression and weight control strategies. *Eat Weight Disord*, 8, 201–206. doi:10.1007/BF03325014



Spoor, S. T., Stice, E., Bekker, H. M., van Strien, T., Croon, M. A., & van Heck, G. L. (2006). Relations between dietary restraint, depressive symptoms, and binge eating: A longitudinal study. *International Journal of Eating Disorders*, 39(8), 700-707. doi:10.1002/eat.20283

Torres, S. J., & Nowson, C. A. (2007). Relationship between stress, eating behavior, and obesity. *Nutrition (Burbank, Los Angeles County, Calif.)*, 23(11-12), 887-894. doi:10.1016/j.nut.2007.08.008

Tudose, F., Tudose, C., & Dobranici, L. (2011). *A Treatise on Psychopathology and Psychiatry for Psychologists*. Bucharest: TREI Publisher.

van Strien, T., Frijters, J. R., Bergers, G. A., & Defares, P. B. (1986). The Dutch Eating Behavior Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior. *International Journal of Eating Disorders*, 5, 295-315. doi:10.1002/1098-108X(198602)5:2<295::AID-EAT2260050209>3.0.CO;2-T

Walsh, B. T. (2011). The importance of eating behavior in eating disorders. *Physiology & behavior*, 104(4), 525-529. doi:10.1016/j.physbeh.2011.05.007

WHO. (2000). *Obesity: Preventing and Managing the Global Epidemic: Report of a WHO Consultation*. WHO Technical Report. Geneva, Switzerland: World Health Organization. Preluat de pe http://libdoc.who.int/trs/WHO_TRS_894.pdf

WHO. (2001). *The World Health Report 2001: Mental Disorders affect one in four people*. Preluat de pe <https://www.who.int/news/item/28-09-2001-the-world-health-report-2001-mental-disorders-affect-one-in-four-people>

Wichers, M. (2014). The dynamic nature of depression: a new micro-level perspective of mental disorder that meets current challenges. *Psychological Medicine*, 44(7), 1349-1360. doi:10.1017/S0033291713001979

Wong, H., Wong, M. C., Wong, S. Y., & Lee, A. (2010). The association between shift duty and abnormal eating behavior among nurses working in a major hospital: A cross-sectional study. *International journal of nursing studies*, 47(8), 1021-1027. doi:10.1016/j.ijnurstu.2010.01.001

Yoshizawa, K., Sugawara, N., Yasui-Furukori, N., Danjo, K., Furukori, H., & Sato, Y. (2016). Relationship between occupational stress and depression among psychiatric nurses in Japan. *Arch. Environ. Occup. Health*, 71, 10-15. doi:10.1080/19338244.2014.927345

Zhang, M., Rost, K. M., Fortney, J. C., & Smith, G. R. (1999). A community study of depression treatment and employment earnings. *Psychiatric services (Washington, D.C.)*, 1209-1213. doi:10.1176/ps.50.9.1209