

Incidence of Depression in Top Global Consulting Firms

By

Prachi Dhingra

*Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management*

Academic year, 2016-2018



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TO WHOMSOEVER MAY CONCERN

This is to certify that Ms. Prachi Dhingra student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at ZS Associates, New Delhi from Feb. 5, 2018 to May 4, 2018.

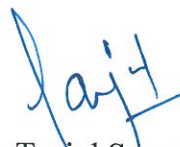
The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all the success in all her future endeavors.



Dr. Ashok Kaushik
Dean, Academics and Student Affairs
The IIHMR University, Jaipur



Dr. Tanjul Saxena
Associate Professor
The IIHMR University, Jaipur

The certificate is awarded to

Prachi Dhingra

in recognition of having successfully completed her
Internship in the department of

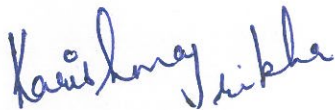
Knowledge Management – ZS Associates

Date: May 4, 2018

Organization: ZS Associates, New Delhi

She comes across as a committed, sincere & diligent person who has a strong
drive and zeal for learning

We wish her all the best for future endeavors



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Zonal Head-Human Resources

THE IHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **“The Incidence of Depression in Global Consulting Firms”** and submitted by **Prachi Dhingra, MBA-HM 21-0463** under the supervision of **Dr. Tanjul Saxena** for award of MBA in Hospital and Health from The IHMR University carried out during the period from Feb. 5, 2018 to May 5, 2018 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.



Signature

Acknowledgments

I convey my heartfelt gratitude to Ms. Karishma Trikha, Manager, ZS Associates, for mentoring and guiding me, and my team- Emerging Trends, for their constant encouragement and continuous support when it came to guidance, suggestions and their expertise during my dissertation period at ZS Associates, New Delhi.

I express my sincere thanks to my internal guide Dr. Tanjul Saxena for her valuable guidance and timely suggestions as and when I was seeking them.

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Last but not the least, I would like to express my gratitude to my parents and friends for their constant encouragement and faith in me during my internship.

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I. ZS ASSOCIATES

About the organization

ZS is the world's largest firm focused exclusively on improving business performance through sales and marketing solutions, from customer insights and strategy to analytics, operations and technology. More than 3,000 ZS professionals in 21 offices worldwide draw on deep industry and domain expertise to deliver impact where it matters for clients across multiple industries.

ZS focuses exclusively on the two areas that create customer demand: sales and marketing. As a result, the expertise in this domain is both broad and deep. They provide a vast range of marketing and sales-related services in the industry, from customer insight, product development, and sales and marketing strategies, to sales compensation planning and even plan administration, to name just a few. The consultants leverage the firm's deep knowledge of the range of sales and marketing activities and how they interact in order to anticipate the upstream and downstream effects of virtually any decision. Thus, ZS offer clients the unique advantage of understanding what will work best for their company as a whole.

Thirty years ago, ZS helped pioneer the shift in commercial strategy from being determined largely by intuition to being driven by data. The fundamental approach is same even today: uncovering the truth through quantifiable facts of what works, informed by unrivaled experience and constant innovation. As a result, ZS possess deep expertise in what makes for successful sales and marketing, and has built a global team of more than 2,000 highly trained professionals who are committed to this pursuit.

Since 1983, ZS has been working shoulder to shoulder with leaders at hundreds of the world's top corporations. ZS clients typically are large and mid-sized companies whose success depends on the effectiveness of their sales and marketing. ZS helps them gather and analyze data to create the best strategies; orchestrate sales and marketing activities to increase demand efficiently; and change quickly to become more competitive.

Organizational timeline

ZS Associates is rooted in an academic partnership that began in the early 1970s. In **1973**, Andy Zoltners completed a PhD in integer programming algorithms at Carnegie Mellon University, devoting a chapter in his dissertation to sales territory alignment problems.

Andy subsequently accepted a teaching position at the University of Massachusetts (UMass).

The following year, Andy crossed paths with PhD student Prabha Sinha, who was exploring the use of higher math in meal planning for the military. The two collaborated on the Multiple Choice Knapsack problem and co-wrote a paper on the topic. Eventually they realized that this line of thinking was highly applicable to the problems of sales force sizing and resource allocation.

Over the next several years, the pair worked with a number of companies, gaining practical experience applying modeling techniques to sales force problems.

In **1982**, Andy presented his and Prabha's mathematical models for sales force sizing and territory alignment to the Pharmaceutical Management Science Association (PMSA), using an early Apple computer to display sales territories on-site. Executives from many of the attending companies were stunned by the model's ability to quickly solve sales force sizing, sales resource allocation, and territory alignment issues and see solutions visually in real time, with one exclaiming, "I've been waiting my whole life for this!"

By **1983**, both Andy and Prabha were teaching at Northwestern's Kellogg School of Management. They lectured by day, and by night they worked on the many client projects that came their way. Already having consulted to eight companies, the two professors concluded that there was an opportunity to help many clients address critical sales force effectiveness issues, and so they incorporated ZS Group, Inc., on September 21, soon renamed ZS Associates, Inc. **1985** saw ZS double in staff, from 12 to more than two dozen, and the burgeoning consulting firm soon outgrew the standard midnight computer runs to Northwestern's computer center. Andy and Prabha, realizing the need and opportunity to expand, collateralized an IBM 3481 mainframe computer purchase with their homes. That same year, the firm released the first version of its automated territory design software.

By **1986**, ZS had helped eight of the world's 10 largest pharmaceutical companies size their sales forces and align territories in the United States, Canada, or Europe. The two-year old, 25-person firm had already worked on nearly 100 projects in a dozen countries.

In **1987**, ZS was selected by a global corporation to help reorganize, downsize, realign, and redeploy its US sales forces. It was one of ZS's largest projects to date. However, providing great analytics were simply not enough for this project – the people-oriented aspects of facilitating placement decisions proved to be critical as well. Providing change management processes and supporting tools for the human resources side of sales and marketing became a key element of the firm's placement work.

Additionally, ZS began working on incentive compensation design and administration, helping clients determine optimal incentive plans for their sales teams as well as publishing performance reports and calculating attainment on an outsourced basis.

In **1990**, another international company chose ZS to help develop sales force strategies and deployments for its recently merged sales forces in a dozen key countries.

This was the first of many such near-simultaneous, multi-country projects for the firm. The same successful model was repeated through the 1990's with multiple clients. In **1993**, ZS introduced a new sales force effectiveness and productivity framework. This framework – and future versions – has since been leveraged extensively by the firm to help clients determine their key issues and improve their business performance. The company also began to develop data warehouses for clients, as well as a range of analytical services. These projects were the genesis for ZS's services in client capability building and outsourcing.

In **1997**, ZS began to apply its data-handling capabilities and rigorous analytics to the marketing research function.

In subsequent years, this new marketing research area grew together with ZS's already established forecasting practice and expanding expertise in broader marketing issues, to take shape as ZS's current marketing services practice area.

In **1998**, ZS introduced specialized software, processes, and dedicated teams to focus on the growing opportunity in administering sales force incentive compensation programs, an area the firm had been addressing for some time.

In addition to providing outsourced services, our work in this area enabled clients to successfully administer their incentive compensation programs in-house.

In **2002**, ZS launched the Marketing Research practice, which eventually evolved to an even broader Marketing solutions area.

In **2004**, the Institute for Operations Research and the Management Sciences (INFORMS) awarded Andy and Prabha the Marketing Science Practice Prize for outstanding implementation of marketing science concepts and methods, recognizing the sales territory alignment system they had developed and implemented through the work of ZS Associates.

Their winning paper, *Sales Territory Design: 30 Years of Modeling and Implementation*, was subsequently published in the INFORMS journal, *Marketing Science*.

By **2007**, ZS's headcount had topped 1000 employees.

Also in 2007, the firm completed more than 2000 projects – a first for a single year – for almost 300 clients in 28 industries in 38 countries. The projects were in 30 different categories/issues: more diverse than ever.

ZS's Silver anniversary in **2008** marked 25 years of extraordinary growth:

- From one small office in a college town, the firm grew to 17 offices around the world – nine in North America, five in Europe and three in the Asia / Pacific region.
- Building on ZS's original MAPS® territory alignment software, today's Javelin™ Software Suite supports a myriad of sales and marketing needs.
- An early focus on the pharmaceutical industry has expanded to B2B organizations in nearly 30 industries.
- The client issues ZS addresses have evolved from sales force size, structure and alignment to include a full spectrum of sales and marketing issues, providing consulting expertise, client capability building and outsourcing services.



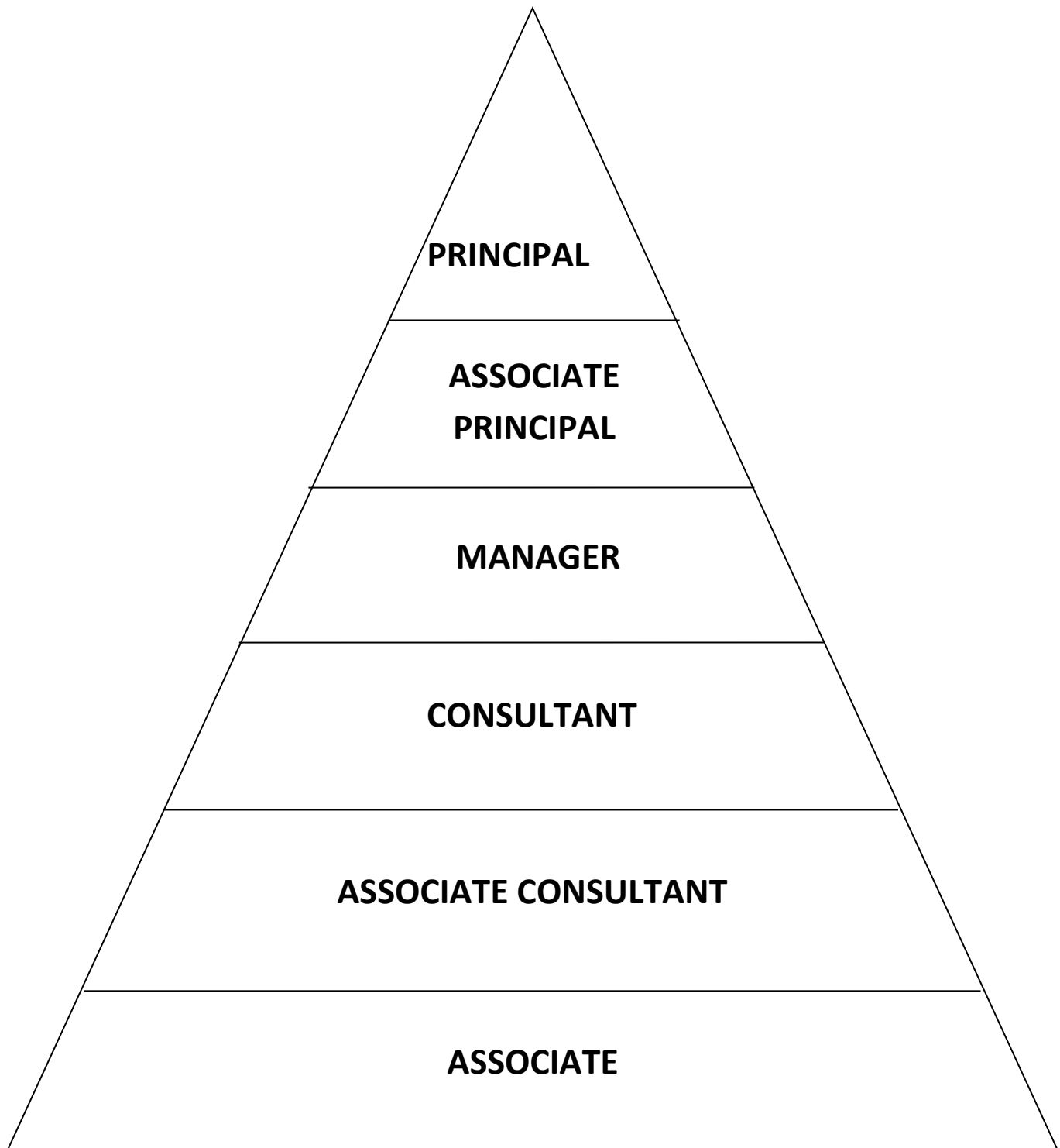
Global locations

ZS Associates is one firm with multiple offices positioned to provide the highest quality and most attentive service to our clients. Each office can effectively serve local or regional clients while also contributing to project teams working around the world, assembling the optimal mix of capabilities, experience, geography, language and culture.

Table 1.1 Offices Aroundthe Globe

AMERICAS	EUROPE	ASIA
Boston	Barcelona	New Delhi
Chicago	Frankfurt	Pune
Evanston	London	Shanghai
Los Angeles	Milan	Tokyo
New York	Paris	
Philadelphia	Zurich	
Princeton		
San Diego		
San Francisco		
Sao Paulo		
Toronto		

Figure 1.1 Organizational Structure



INTRODUCTION

Work organization has emerged as a priority topic among those who study the work-health relationship. Work organization generally refers to the way work processes are structured and managed, such as job design, scheduling, management, organizational characteristics, and policies and procedures (NIOSH, 1996). Inherent in this definition is the idea that the structure and fabric of the organization, and how it functions, can have a wide-ranging impact on the health and well-being of employees, and ultimately the effectiveness of the organization itself. The term ‘healthy work organization’ is a logical extension of work organization and presupposes that it should be possible to distinguish healthy from unhealthy work system [1].

In many respects, healthy work organization represents the convergence of research and thinking in several related areas of workplace research. For example, researchers in the human resources/organizational development area have focused on identifying the traits of healthy companies or organizations [2] and exploring the characteristics of high-performance work systems [3].

Researchers in job stress have long been interested in delineating the job and organizational attributes that characterize healthy or low-stress work environments. But increasingly, attention has shifted toward organizational or contextual factors in diagnosing and remedying the causes of stress within organizations [4]. A similar shift is evident among occupational safety and health researchers, especially the expanding literatures on climate/culture factors [5] and organization- or systems-level error[6].

Finally, health-promotion researchers have turned to social–ecological models and integrative or multilevel programming models [7], and have shown an increased interest in examining covariations between employee and organizational outcomes [8].

Work-related risk factors for health

There are many risk factors for mental health that may be present in the working environment. Most risks relate to interactions between type of work, the organizational and managerial environment, the skills and competencies of employees, and the support available for employees to carry out their work. For example, a person may have the skills to complete tasks, but they may have too few resources to do what is required, or there may be unsupportive managerial or organizational practices [9].

Risks to mental health include:

- Inadequate health and safety policies;
- Poor communication and management practices;
- Limited participation in decision-making or low control over one’s area of work;
- Low levels of support for employees;
- Inflexible working hours; and

- Unclear tasks or organizational objectives.

Risks may also be related to job content, such as unsuitable tasks for the person's competencies or a high and unrelenting workload. Some jobs may carry a higher personal risk than others (e.g. first responders and humanitarian workers), which can have an impact on mental health and be a cause of symptoms of mental disorders, or lead to harmful use of alcohol or psychoactive drugs. Risk may be increased in situations where there is a lack of team cohesion or social support.

“A healthy workplace can be described as one where workers and managers actively contribute to the working environment by promoting and protecting the health, safety and well-being of all employees.”

I. BACKGROUND

It is believed that feeling and expressing positive emotions on the job have favorable consequences on:

- ✓ Employees independent of their relationships with others (e.g., greater persistence),
- ✓ Reactions of others to employees (e.g., “halo,” or overgeneralization to other desirable traits), and
- ✓ Reactions of employees to others (e.g., helping others).

These three sets of intervening processes are proposed, in turn, to lead to work achievement, job enrichment and a higher quality social context [10]

Depression

Depression is a mental disease characterized by episodes of depressed mood, loss of interests and decreased energy that persists for at least 14 days [11]. The diagnosis of depression covers a spectrum of disorders ranging from relatively light conditions to a severe life-threatening disease. The World Health Organization has placed depression as the fourth out of ten most common diseases in the world [12, 13].

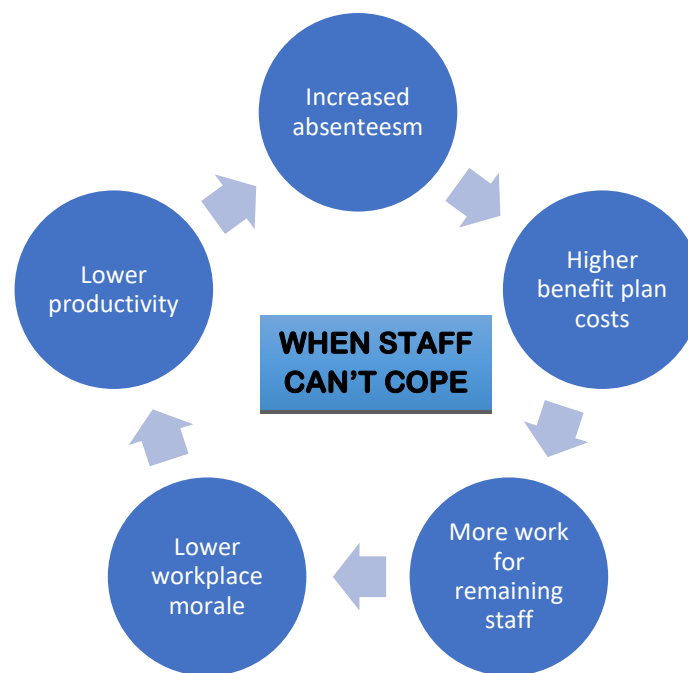
Depression is more prevalent among women than men, and the peak of first onset depression episode is between 25 and 45 years [14]. Several circumstances have been related to the occurrence of depression, such as old age, low socioeconomic status, low educational level, alcohol consumption, smoking, a family history of depression, certain personality traits, previous depression, and stressful life events [15-18].

The duration of a depression is normally 3-12 months, and 10-30% of the patients are at risk of developing chronic depression due to the risk of new depressive episodes increasing with the number of previous depressive episodes [19]. Depression has a high co-morbidity with other mental disorders, and although depressive episodes rarely last more than a year, the disorder is highly recurrent and can have an impact for life.

Impact of employee depression at work place

The indirect costs of untreated depression are underestimated because employers' concerns about the workplace costs of depression focus largely on long-term work disability and because most solutions to the problem of depression in the work-place involve the development of innovative disability management programs [20]. The growing proportion of long-term work-disability claims associated with depression renders such issues of vital concern. However, it is equally important to recognize that depression is associated with a higher rate of short-term work disability than virtually any other chronic condition and that early intervention and treatment of workers with depression reduces hospitalization and long-term work disability [21].

The motivation of employers to encourage their depressed employees to seek treatment also depends on the belief that depression treatment can be effective in reducing short-term work disability. Absence of data on this issue has led to skepticism about treatment effects among employers. Many recent effectiveness trials have documented that treatment is associated with a significant reduction in self-reported work disability. However, these results are questionable based on the concern that depression might lead to biased self-reports about work performance and that the improvement in self-reported productivity associated with treatment might be due to an effect of treatment on perceptual bias rather than on actual work performance [22].



Fact Sheet

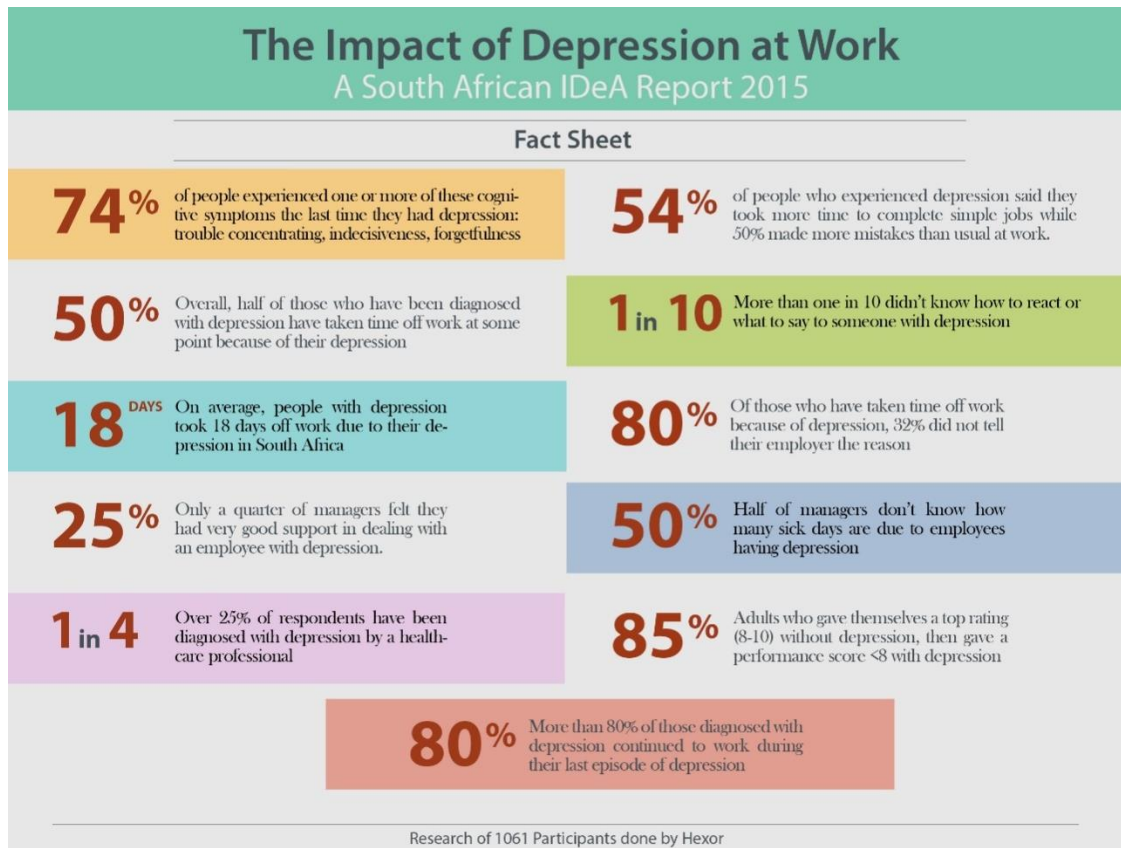
Data from different countries around the world indicate that mental health problems are a cause of a number of employees dropping out of work. In the Netherlands, around 58% of the work-related disabilities are related to mental health. In the UK, it is estimated that around 30–40% of the sickness absence is attributable to some form of mental illness.

Mental health problems have an impact on employers and businesses directly through increased absenteeism, negative impact on productivity and profits, as well as an increase in costs to deal with the issue. In addition, they impact employee morale adversely.

Work-related stress is a major cause of occupational ill health, poor productivity and human error. This means increased sickness absence, high staff turnover and poor performance in the organization and a possible increase in accidents due to human

error. Work-related stress could also manifest as heart disease, back pain, headaches, gastrointestinal disturbances or various minor illnesses; as well as psychological effects such as anxiety and depression, loss of concentration and poor decision making [23].

According to the south African IDeA report 2015, the impact of depression at work is worth paying attention. The data suggests:



Assessment of Depression

Depression rating scales are the preferred instruments to measure depression in surveys where several self-rating scales have been used in studies: the Beck Depression Inventory (BDI) [24] Zung Self-rating Depression Scale (ZUNGSDS) [25], Major Depression Inventory (MDI) [26], and the Center for Epidemiological Studies – Depression Scale (CES-D) [27] and Common Mental Disorder Questionnaire (CMDQ) [28]. The conventional clinical procedure is to have a trained person to interview the person with suspected depression and check for the occurrence and duration of a predefined set of symptoms, which form the basis for the diagnosis according to International Classification of Diseases (ICD-10) or Diagnostic and Statistic Manual of Mental Disorders (DSM) [29].

Literature Review

Kundaragi PB and KadakolAM(2015) enlisted cause of stress and depression as [30] :

Organizational Factors	Personality Factors	Work family interaction Factors
Job it self	Age	Work demands
Poor physical working conditions	Sex	Family demands
Work overload	Headache	Work flexibility
Time pressures	Control & decision making capacity	Pressures at work
Long working hours	Physical agents	Support at work
Job Instability	Depression	Work & Family life
Job Clarity		

Review of literature paves way for a clear understanding of the areas of research already undertaken and throws a light on the potential areas which are yet to be covered. Keeping this view in mind, an attempt has been made to make a brief survey of the work undertaken on the field of occupational stress.

Amir Shani and Abraham Pizam in their article “Work-Related Depression among Hotel Employees” conducted a study on the depression of work among hotel employees in Central Florida. They have confirmed the incidence of depression among workers in the hospitality industry by evaluating the relationship between the occupational stress and work characteristics [31].

Viljoen, J.P., and Rothmann, S. aimed at studying and investigating the relationship between “occupational stress, ill health and organizational commitment” (2009). The results were that organizational stressors contributed significantly to ill health and low organizational commitment. Stress about job security contributed to both physical and psychological ill health. Low individual commitment to the organization was predicted by five stressors, namely work-life balance, overload, control, job aspects and pay [32].

Schmidt, Denise Rodrigues Costa;Dantas, Rosana Aparecida Spadoti; Marziale, Maria Helena Palucci and Laus, Ana Maria In their work title on “Occupational stress among nursing staff in surgical settings.” This study aimed at evaluating the presence of occupational stress among nursing professionals working in surgical settings and investigating the relations between occupational stress and work characteristics [33].

Li-fang Zhang conducted a study titled “Occupational stress and teaching approaches among Chinese academics” (2009). He suggested that controlling the self-rating abilities of the participants, the conducive conceptual change in teaching approach and their role insufficiency predicated that the conceptual change in teaching strategy is negative [34].

Kayoko Urakawa and Kazuhito Yokoyama in their journal “Sense of Coherence (SOC) may Reduce the Effects of Occupational Stress on Mental Health Status among Japanese Factory Workers” (2009) has resulted the adverse effects on mental health due to the job demand and job stress was positively associated with SOC (sense of coherence), the mental health status of males in managerial work was adversely negative, where as it was positive among the female co-workers. Thus, SOC is an important factor determining the coping ability over the job stress for both the genders [35].

J.E. Agolla in his research article titled “Occupational Stress Among Police Officers: The Case of Botswana Police Service”, (2009) has conducted a study among the police to find out work stress symptoms and coping strategies among the police service in Botswana.

This study reveals that the police work stressors are; getting injured while on duty and the use of force when the job demands to do so, etc. The coping strategies were identified as exercising, socializing, healthy eating or diets, career planning and employee training [36].

Connolly, John F and Willock, Joyce and Hipwell, Michele and Chisholm, Vivienne in their research titled “Occupational Stress & Psychological Well Being following University Relocation” (2009) they describe and analyze that management standards for work related stress (demand, support, control, role, relationships and change) can be analyzed by examining

- 1) overall levels of psychological strain,
- 2) job satisfaction, and
- 3) the psychosocial working conditions [37]

Chen, Wei-Qing; Wong, Tze-Wai; Yu, Tak-Sun in their book titled “Direct and interactive effects of occupational stress and coping on ulcer-like symptoms among Chinese male off-shore oil workers”, (2009) has suggested that gastric/ulcer like health problems, age, educational qualification, marital status has been positively associated with occupational stress and ‘internal behavior’ coping methods, but negatively associated with ‘external/social behavior’ coping methods [38].

Chang-qin Lu; Oi-ling Siu; Wing-tung Au; Sandy S. W. Leung in their article titled “Manager's occupational stress in state-owned and private enterprises in the People's Republic of China” (2009) has showed that managers in private enterprises experienced higher levels of occupational stressors and psychological strains than those in state-owned enterprises. Moreover,

‘Organizational structure and climate’ was also found to be a major stressor when predicting both psychological and physical strain in both economic sectors [39].

Stewart Collins in his book titled “Statutory Social Workers: Stress, Job Satisfaction, Coping, Social Support and Individual Differences” (2008) he is highlighted that healthy or unhealthy coping strategies have gender difference and the importance of support in various forms within the work setting, whereas mutual group support accompanied by individual differences are linked to good self-esteem, personal hardiness and resilience [40].

Richardson, K. M., and Rothstein, H.R. in their article titled “Effects of occupational stress management intervention programs” (2008) they provided an empirical review of stress management interventions, employing meta-analysis procedures. The results also revealed that relaxation interventions were the most frequent type of intervention. Further, there were a few stress interventions focused on the organizational level. More specific results also indicated that cognitive-behavioral interventions produced larger effects than other types of interventions [41].

Pal, S., and Saksvik, P. in their article titled “Work-family conflict and psychosocial work environment stressors as predictors of job stress in a cross-cultural study” (2009) conducted a study on job stress on 27 Norwegian doctors and 328 nurses and 111 Indian doctors and 136 nurses. The result was that work-family conflict was not predictive of job stress in Norwegian doctors, but work-family conflict, high job demands, and low flexibility in working hours predict job stress in Norwegian nurses. For the Indian sample, job stress was predicted by high family-work conflict and low social support in nurses and low job control in doctors. Hence, it seems to be overlapping and some differences in cultures when considering the role of demands, control, support, and flexibility in predicting strain [42].

Nagesh, P. and Murthy, M. S. Narasimha in their study titled “Stress Management at IT Call Centres” (2008) has identified that the six factors contribute to workplace stress: demands of the job, control over work, support from colleagues and management, working, clarity of role, and organizational change. This paper also suggested measures in the form of training to enable organizations and individuals to manage stress at workplaces in general and IT call centres in particular. The paper is based on a study carried out in respect of a few selected IT call centres [43].

Mäki K, Vahtera J, Virtanen M, Elovainio M, Keltikangas Järvinen L and Kivimäki M. in their study titled “Work stress and new onset migraine in a female employee population” (2008) examined whether work stress, as indicated by the job strain model and the effort reward imbalance model, predicts new onset migraine among 19,469 female employees with no history of migraine at study entry. The proportion of new migraine cases attributable to high effort-reward imbalance was 6.2 percentage. This study suggested that

the high effort-reward imbalance might function as a modifiable risk factor for new-onset migraine [44].

Magee, and Bill in their article titled "Stress, Anxiety and Anger about Home and Work" (2009) they suggested that mediate associations between the differentiated forms of work with me matching effects at home. Their interference seems to play a relatively limited role in maintaining the cross-domain association which is affected in either form of negative or positive [45].

Kopp, Maria S; Stauder, Adrienne; Purebl, Gyorgy; Janszky, Imre; Skrabski, Arpad in their research paper titled "Work stress and mental health in a changing society" (2008) they conducted a study indicates that a cluster of stressful working and psychosocial conditions are responsible for a substantial part of variation in self reported mental and physical health with work related factors [46].

Katherine Pollak. Eisen. George J. Allen. Mary Bollash and Linda S. Pescatello in their book titled "Stress management in the workplace" (2009) it suggested that work stress significantly contribute to corporate health costs. Comparison through randomized controlled design of stress management and intervention provided by an instructor-led group and computer presented format, has resulted in significantly higher attrition in computer based presentation format [47].

Hampel, Petra; Meier, Manuela; Kummel, and Ursula in their article "School-Based Stress Management Training for Adolescents: Longitudinal Results from an Experimental Study"(2008) they investigated the effectiveness of a school-based universal preventive stress management training program for early and middle adolescents in comparison with a no-treatment control group. The experimental group scored higher on perceived self-efficacy compared to the control group at the follow-up assessment [48].

Gbolahan and Gbadamosi in their research titled "Stress at Work: Any Potential Redirection from an African Sample" (2008) they conducted a study which explored the relationship among perceived stress, perception of sources of stress, satisfaction, core self-evaluation, perceived health and well being. Data were collected from 355 employees in botswana. Result indicated that significant links existed between perceived stress, Satisfaction, Core self-evaluation and Well being [49].

D. R. Rutter and M. J. Lovegrove in their research titled "Occupational stress and its predictors in radiographers", (2009) they conducted a study to establish the level of occupational stress in UK NHS radiographers, and to examine its causes. The result was significantly lower in the mammography group than in the others. However, the junior staff reported low level stress due to role ambiguity, role conflict and work problems and the superintendents reported a high level stress; but the effects were sometimes buffered by social support from colleagues [50].

Christopoulos, M. And Hicks, R. E. in their article titled “Perfectionism, occupational stress and depression among Australian university students”. (2008) they carried out a study and investigated the relationship of perfectionism between occupational stress and depression in the context of an Australian university student population. The study revealed that as expected maladaptive perfectionism significantly correlated with occupational stress and depression; however, unexpectedly adaptive perfectionism did not correlate significantly with occupational stress and depression [51].

Buddeberg-Fischer, B; Klaghofer, R; Stamm, M; Siegrist, J; Buddeberg, in their book titled “Work stress and reduced health in young physicians: prospective evidence from Swiss residents” (2008) they investigated the perceived job stress, its association with the amount of working hours, and its impact on young physicians’ self-reported health and their satisfaction with life during residency. Stress at work in young physicians, especially when being experienced over a longer period in postgraduate training, has to be a matter of concern because of its negative impact on health and life satisfaction and the risk of developing symptoms of burnout in the long run [52].

Sang, Katherine J. C.; Dainty, Andrew R. J.; Ison, Stephen G. In their research titled. “Gender: a risk factor for occupational stress in the architectural profession” (2007) jointly aimed to research gender differences in occupational health and well-being. In this study, the female respondents reported significantly lower overall job satisfaction and due to it, significantly higher levels of insomnia and constipation, work-life conflict and turnover intentions [53].

Upson, John W.; Ketchen Jr., David J.; Ireland, R. Duane in their article titled “Managing Employee Stress: A Key to the Effectiveness of Strategic Supply Chain Management”(2007) focused their research on supply chain activities and studied the dangerous role of stress among supply chain members. They have also given measures to address this stress. The researchers concluded that by using the suggested initiatives, both employees' quality of life and the organization's performance can improve [54].

The study by **Mikolajczak, Moïra; Menil, Clémentine; Luminet, Olivier** in their article “Explaining the protective effect of trait emotional intelligence regarding occupational stress: Exploration of emotional labour processes” (2007) focused that, when confronted with emotional labor, high trait EI individuals experience lower levels of burnout and somatic complaints, and this effect was found to be mediated by the choice of emotional labor strategies [55].

Wated, Guillermo; Sanchez, Juan I., in their research titled “The Role of Accent as a Work Stressor on Attitudinal and Health-Related Work Outcomes”, (2006) has stated that, data collected from the employees who spoke English with a supported accent and prediction, by examining in their role in group, self-efficiency and perceived control in the process where

none of the proposed coping mechanism had an impact of perceived discrimination on employees' accent [56].

W. de Vente; J. H. Kamphuis; P.M.G. Emmelkamp in their article. "Alexithymia, Risk Factor or Consequence of Work-Related Stress" (2006) they investigated the level and the type of alexithymia associated with occupational stress. Group differences in alexithymia were analyzed using ANOVAs. The type of alexithymia was investigated by

(a) determining absolute and relative stability,

(b) exploring state dependence by adjusting alexithymia for burnout and distress complaints and

(c) associating recovery of complaints with change in alexithymia. According to them, Alexithymia was significantly elevated among the patients. In the patient group, absolute stability of two alexithymia dimensions (identifying feelings, describing feelings) and relative stability of one alexithymia dimension (identifying feelings) was lower than they were in the healthy group [57].

Stetz, Thomas A.; Stetz, Melba C.; Bliese, Paul D. In their article titled "The significance of self-adequacy in the directing impacts of social help on stressor– strain connections" (2005) "has clarified that authoritative imperatives, associates support and self proficiency had huge collaboration for foreseeing the activity fulfillment and mental well being." "It had come about that intercession went for decreasing strains are normal through expanded social help and seeing self as effectiveness of individual [58]. "

Richards, David; Bee, Penny; Barkham, Michael; Gilbody, Simon; Cahill, Jane; Glanville, Julie. In their research article "The prevalence of nursing staff stress on adult acute psychiatric in-patient wards" (2006) their study reviewed the prevalence of low staff morale, due to stress, burnout, job satisfaction and psychological well-being amongst staff working in in-patient psychiatric wards. It has resulted that particular mental health studies has specific and non specific samples, it explain that using of validating measures of stress together with personal and organizational variation requires the process influencing the stress over the staff [59].

Raidén, Ani Birgit; Dainty, Andrew R. J.; Neale, Richard H. in their study on "Balancing employee needs, project requirements and organizational priorities in team deployment" (2006) the team deployment strategies of a large construction company with the view of establishing how a balance could be achieved between organizational strategic priorities, operational project requirements and individual employee needs and preferences, suggested that project priorities often took precedence over the delivery of the strategic intentions of the organisation in meeting employees' individual needs [60].

Noblet, Andrew; LaMontagne, Anthony D. conducted a study on “The role of workplace health promotion in addressing job stress” (2006). The enormous human and economic costs associated with occupational stress suggested that initiatives designed to prevent and /or reduce employee stress should be high on the agenda of Workplace Health Promotion (WHP) program. The aim of the second part of this study is a detailed description of what the comprehensive approach to stress prevention/reduction looks like in practice and to examine the means by which WHP can help develop initiatives that address both the sources and the symptoms of job stress [61].

Kushnir, Talma; Melamed, and Samuel in their study titled “Domestic Stress and Well-Being of Employed Women”. (2006) Respondents were 133 mothers employed in secretarial and managerial jobs. It is suggested that in families (as in teams), shared decision control may be a more potent coping resource than personal control [62].

Keeva, and Steven in their article titled “Depression Takes a Toll” (2006) deal with the high rates of mental depression among lawyers in the U.S. Studies which highlighted the depression problem among lawyers are cited. It discusses the suicide of Judge Mack Kidd of Austin, Texas. It explores the role of occupational stress in depression among lawyers [63].

Coetzer, and W.J.; Rothmann, S. In their article titled “Occupational stress of employees in an insurance company”, (2006) they identified occupational stressors for employees in an insurance company. The results showed that job insecurity as well as pay and benefits were the highest stressors in the insurance industry. They also assessed the relationships between occupational stress, ill health and organizational commitment [64].

Botha, Christo; Pienaar, and Jaco in their titled “South African correctional official occupational stress: The role of psychological strengths” (2006) conducted a study to determine the dimensions of occupational stress of employees of the Department of Correctional Services in a management area of the Free state Province of South Africa. The results indicated that an external locus of control and negative affect contributed to the experience of occupational stress [65].

Bernhart, and Molly in their article, “Work intensity showing up in stress, employee attrition”, (2006) focused the intensification of work by employers to increase productivity with fewer employees, where humanresource turnover are in large number due to shortage of skilled workers, retiring employees, stressed out workers, work-life option should be set up in such way to eliminate employee stress for filling the vacancy by bridging the gap between retiring employees and stress out workers [66].

Barzilai-Pesach, Vered; Sheiner,Einat K.; Sheiner, Eyal; Potashnik, Gad; Shoham-Vardi, Ilana in their research work titled “The Effect of Women's Occupational Psychological Stress on Outcome of Fertility Treatments”, (2006) examined the possible association between women's occupational stress and its outcome during pregnancy has made the women workers

perceive that their job demanding more was less to achieved work load, by measuring full time with part time job it was found that woman who conceived are significantly associated less with full time job until successful completion of the pregnancy period [67].

Akerboom, and S.; MaesS. in their paper titled “Beyond demand and control: The contribution of organizational risk factors in assessing the psychological well-being of health care employees.”, (2006) examined that both the unique and the additional contribution of organizational characteristics and the organizational Risk Factors explain the importance part of their outcome and their training opportunities which gives importance to carriers and job satisfaction [68].

Adriaenssens, Liesbeth; De Prins, Peggy; VloeberghS, and Daniël. In their work titled “Work Experience, Work Stress and HRM at the University”, (2006) investigated

- (1) the well-being of academic staff at the University of Antwerp,
- (2) the specific factors of the work environment that have an impact on employee well-being, and
- (3) the interaction between HR practices and employee well-being. They have concluded the work with suggestions of improvement of the work environment [69].

Adams, Richard E.; Boscarino, Joseph A.; Figley, and Charles R. Conducted their study titled “Compassion Fatigue and Psychological Distress among Social Workers: A Validation Study”, (2006) the article highlights the factors analyzed and indicated that the compassion fatigue (CF) scale measured multiple dimensions, which measures increasing ability of professionals meet the emotional needs of their clients which results in stressful environment without experiencing CF (compassion fatigue) [70].

Yates, and Iva in their research work titled “Reducing Occupational Stress”, (2005) the survey explains in detail that 40% of worker in a manufacturing company reported that their job was very stressful and another 25% expressed that this job was extremely increasing the stress towards their family life, this survey has identified various job conditions that can be adopted to maintain a stress less work life which leads to a stress less family life [71].

Wiesner, Margit; Windle, Michael; Freeman, Amy in their research article titled “work stress, substance use, and Depression among young adult Workers (2005) they examined the main and moderated relationships between 5 job stressors using data from a community sample of 583 young adults (mean age = 23.68 years). Analyses revealed a few direct associations among the job stressors of high job boredom, low skill variety, low autonomy, depression measures and heavy alcohol use [72].

Van Vegchel, Natasja; de Jonge, Jan; Landsbergis, Paul A. In their article titled “Occupational stress in (inter)action: the interplay between job demands and job resources” (2005) they addressed theoretical issues involving different interaction effects between job demands and job resources in an analysis on 471 employees. Results including cross-validation showed that only a multiplicative interaction term yielded consistent results for both the DC model and the ERI model. Theoretical as well as empirical results argue for a multiplicative interaction term to test the DC model and the ERI model [73].

Vakola, Maria; Nikolaou, Ioannis In their article titled, “Attitudes towards organizational change” (2005) they suggested that occupational stress and organizational change are now widely accepted as two major issues in organizational life. The study explored the linkage between employees' attitudes towards organizational change and two of the most significant constructs in organizational behavior; occupational stress and organizational commitment. The results were in the expected direction showing negative correlations between occupational stressors and attitudes to change, indicating that highly stressed individuals demonstrate decreased commitment and increased reluctance to accept organizational change interventions [74].

Salmond, Susan; Ropis, Patricia E., In their research work titled, “Job Stress and General Well-Being: A Comparative Study of MedicalSurgical and Home Care Nurses” (2005) they analyzed the job stress among medical-surgical and home care nurses in the U.S. According to them, high stress leads to negative work environments that deprive nurses of their spirit and passion about their job. Key factors contributing to workplace stress include team conflict, unclear role expectations, heavy workload, and lack of autonomy [75].

Ryan, P.; Hill, R.; Anczewska, M.; Hardy, P.; Kurek, A.; Nielson, K.; Turner, C. in their book titled, “occupational stress reduction” (2005) they have attempted to address the issue of work-related stress through whole team training programmes, on a background of largely ineffective stress reduction training programmes offered to individuals within the workplace. The findings show significant implications to the conceptual, methodological and everyday organizational practice levels of tackling this central issue to the health of the workplace [76].

Oliver, A.; Tomás, J. M. **Ansiedad y Estrés** in their research work titled, “Consequences of Work Stress” (2005) empirically tested the two broad hypotheses of Warr's vitamin model: non-linear effects of working conditions on well-being, and moderator effects of personal characteristics on these relationships. The results did not support the non-linear hypothesis of Warr's model, and the support for the moderator effects of personal characteristics on the stressors-well being is weak [77].

Ogińska-Bulik, Nina in their article titled “Emotional Intelligence In The Workplace”, (2005) explored the relationship between emotional intelligence and perceived stress in the

workplace and health-related consequences in human service workers. They selected 330 respondents as sample size. Three methods were used in the study, namely, the Emotional Intelligence Questionnaire with Polish modification, the Subjective Work Evaluation Questionnaire developed in Poland, and the General Health Questionnaire with Polish modification. The results confirmed an essential, but not very strong, role of emotional intelligence in perceiving occupational stress and preventing employees of human services from negative health outcomes [78].

Noblet, Andrew; Teo, Stephen T.T.; McWilliams, John; Rodwell, John J. In their research work titled, “work characteristics predict employee outcomes for the public-sector employee” (2005) indicted that the middle managers and HR managers can have positive impact on employees through the introduction of new public management which is caused be reducing the employee’s job strain. It is done through the useful tool “job strain model” which has increasing utility in public sector environment [79].

Michailidis, Maria; Georgiou, Yiota In their article titled, “Employee occupational stress in banking”,(2005) have stated that occupational stress literature emphasized the importance of assessment and management of work related stress. The recognition of the harmful physical and psychological effects of stress on both individuals and organizations is widely studied in many parts of the world. A sample of 60 bank employees at different organizational levels and with different educational backgrounds was used. Data collection utilized the Occupational Stress Indicator (OSI). It implied that educational levels affect the degree of stress they experience in various ways finally, the drinking habits (alcohol) of the employees were found to play a significant role in determining the levels of occupational stress [80].

Marsella, Anthony; Wong, Paul T. P.; Wong, Lilian C. J.; Leong, Frederick T. L.; Tolliver, Dwight In their article titled, “Towards an Understanding of Occupational Stress Among Asian Americans”, (2005) explained how the stress literature on Asian Americans can help understand and conduct future research on occupational stress. In an attempt to stimulate more direct research on this topic, they used the theoretical framework of occupational stress developed by Osipow and Spokane (1987) to guide us in this review [81].

Härenstam, Annika in their book titled, “working life and increasing occupational stress” (2005) discussed two types of objectives in their article. First, it provided an explanation for the increase in occupational stress and sick leaves in Sweden in terms of the structural and organizational conditions. Second, it discussed measures that address these issues. The results indicated that management technologies distribute risks between segments of the labor market[82].

Haraway, Dana L.; Haraway III, William M. in their book titled, “Analysis of the Effect of Conflict-Management and Resolution Training on Employee Stress at a Healthcare Organization”, (2005) conducted a study in which, 23 supervisors and managers in a local

healthcare organization participated in for 3-hour sessions designed to teach practical conflict-management strategies immediately applicable to their workplace duties and responsibilities. A comparison of pre test and posttest measures indicated statistically that there were differences in four areas and suggested a positive influence of the brief intervention. This is clearly explained in the article titled “Analysis of the Effect of Conflict-Management and Resolution Training on Employee Stress at a Healthcare Organization” [83].

Green, Rosemary; Lonne, Bob in their article titled, “Great Lifestyle, Pity about the Job Stress” (2005) examined the rural practice and occupational stress. While employers and colleagues may attribute stress reactions to the individual practitioner's inability to cope with the demands of rural practice, strategies that are both systemic and structural, are required to address this significant occupational issue [84].

Gillen, Mark C.; Ed Chung in their article titled, “An Initial Investigation of Employee Stress Related to Caring for Elderly and Dependent Relatives at Home”, (2005) examined that the problems confronting individuals who not only had employment obligations to their employers, but who also had responsibilities as caregivers to aging/sick parents or other family members at home. The modern organizational person has come to accept the importance of task interests--getting the job done--in exchange for ways to further their career interests and perhaps directly or indirectly their personal interests [85].

Demetri Kantarelis in his article titled, “Occupational stress: some microeconomic issues”, (2005) found that the theoretical concepts are proposed to capture the substance of issues associated with occupational stress. Reduction below the profit maximizing stress level may be achieved only if a firm's increase in cost for stress relief in the work place guarantees productivity and profit improvement in exchange for a reduction in employee health damages due to stress [86].

Chen, W. Q.; Yu, I. T.-S.; Wong, T.W. In their article titled, “Impact of occupational stress and other psychosocial factors on musculoskeletal pain among Chinese offshore oil installation workers”, (2005) explored the relation between psychosocial factors and musculoskeletal pain in Chinese offshore oil installation workers. Significant associations were found between various psychosocial factors and musculoskeletal pain in different body regions after adjusting for potential confounding factors. Occupational stressors, in particular stress from safety, physical environment, and ergonomics, were important predictors of musculoskeletal pain [87].

Béjean, Sophie; Sultan-Taäeb, Hélène in their article titled, “Modelling the economic burden of diseases imputable to stress at work”, (2005) have evaluated the costs of work-related stress in France. Three illnesses-cardiovascular diseases, musculoskeletal diseases and back pain-that may result from exposure to stress are identified and the proportions of cases attributable to the risk factor are calculated from epidemiological studies. Two methodological hypotheses allow us to provide complementary evaluations of the social cost of occupational

stress and raise the ethical questions inherent in the choice of methodology. Work-related stress costs society between €1,167 million and €1,975 million in France, or 14.4-24.2 percentage of the total spending of social security occupational illnesses and work injuries branch [88].

Arthur, Andrew R. in their article titled, (2005) found that 86 per cent of employees who experience stress in the workplace sought help from their workplace counseling schemes. This study found that almost high levels of mental health problems existed (86 per cent) in employees who remained at their work. This finding was at variance with the usual comorbid presentation of anxiety and depression found in community based on mental health services and suggests that depression may be an important differentiating factor between those who can remain at work and use counseling and those who cannot [89].

Alves, Steve L. in their article titled, “anxiety and depression in employees who use occupational stress counselling schemes”, (2005) Data analyses revealed the compression between the CRNA (Collaboration in Nurse Anaesthetists) with hospital employees. It resulted as low stress level for CRNA over the hospital employees. And they suggested counselling as a stress resolution tool for the hospital employees [90].

Aldred, Carolyn. in his research work titled, “lower claims standards in stress-related suits”, (2005) reported that recent Appeal Courtruling lowers the standard for stress claims against Great Britain employers and allows companies to be held vicariously liable for the actions of workers' supervisors. The Court of Appeal in London ruled that an employee could sue his former employer under the Harassmen Act of 1997 for allegedly harassed by his manager. The ruling marks for the first time the Harassment Act (which is a public-order statute) has been successfully used as a ground for an occupational stress claim [91].

Tyson, Paul D.; Pongruengphant, Rana in their article titled, “Five-year follow-up study of stress among nurses in public and private hospitals in Thailand”, (2004) examined the sources of occupational stress, coping strategies, and job satisfaction. A sample of 200 nurses was compared to 147 nurses sampled from the same hospital wards after 5 years and revealed a significant increase in nurses' workload, involvement with life and death situations, and pressure from being required to perform tasks outside of their competence. Although nurses working in public hospitals generally reported more stress than private hospitals, surprisingly nurses' satisfaction with their job increased particularly in public hospitals, which may be attributable to age, improvements in monetary compensation, and organizational support [92].

Torkelson, Eva; Muhonen, Tuijain their article titled, “The role of gender and job level in coping with occupational stress” (2004) investigated that resulted the employees working at sugar factory werestudies through an investigation has resulted with more mental health problems due to insufficient emotional support from the management and also in times the disengagement of drug/alcoholic consumption also have resulted with the same symptoms [93].

Terluin, Berend; Van Rhenen, Willem; Schaufeli, Wilmar B.; De Haan, Martenn in their article titled, “The four-dimensional symptom questionnaire (4DSQ): measuring distress and other mental health problems in a working population”, (2004) expressed that valid instrument can be used in a working population to distinguish between stress-related symptoms and psychiatric illness [94].

Lords In his article titled, “employers need to look for signs of stress.” (2004) revealed that the ruling made by the Great Britain House of Lords in the case of Barber versus Somerset County Council has made it clear that being unsympathetic to complaints of occupational stress or having autocratic or bullying leadership could count against an employer. The information on the case was based on the remarks from Cloister, the law firm which represented former school teacher Leon Barber [95].

Muhonen, Tuija; Torkelson, Eva in their article titled, “Work locus of control and its relationship to health and job satisfaction from a gender perspective”, (2004) suggested that the work locus of control was a significant predictor of both symptoms of ill-health and job satisfaction, but only for women. This indicates that separate analyses for women and men are needed in order to investigate potential gender differences that might otherwise go unnoticed [96].

Korn, Adam In his article titled, “Stressing the point the employee” (2005) identified the complexity of the causes of mental illness that depend upon the interaction between the patient's personality and a number of factors in the patient's life [97].

Gaumer, Carol J.; Shah, Amit J.; Ashley-Cotleur, Cathy In their article titled, “Causes and Effects of Stress on Women”, (2005) have analyzed that the organizations respond to stressors and the environment they create has the potential for enhancing its competitiveness in the market place. Several corporate cases are included to represent examples of corporate excellence and strategies that may be adopted by other organizations [98].

According to **Aldred, Carolyn** in their work titled, “U.K. decision increases employer duty to closely manage employee stress claims”, (2004) the employers should ensure that they step in, investigate and actively manage employment-related stress. In addition, employers should apply management techniques that are more sympathetic to employee concerns about stress. The ruling will also allow more teachers to pursue compensation claims for stress [99].

Noblet, Andrew In his article titled, “Building health promoting work settings: identifying the relationship between work characteristics and occupational stress”, (2003) revealed that the work characteristics, viz, ‘social support’ and ‘job control’ accounted for large proportions of explained variance in job satisfaction and psychological health. In addition to these generic variables, several job-specific stressors were found to be predictive of the strain experienced by employees [100].

Lewig, K. A.; Dollard, M. F. In their article titled, “Emotional dissonance, emotional exhaustion and job satisfaction in call centre workers”, (2003) confirmed the central role of emotional labor variables in the experience of emotional exhaustion and satisfaction at work. Specifically the research confirmed the pre-eminence of emotional dissonance compared to a range of emotional demand variables in its potency to account for variance in emotional exhaustion and job satisfaction. Specifically, emotional dissonance mediated the effect of emotional labor (positive emotions) on emotional exhaustion. Furthermore, emotional dissonance was found to be equal in its capacity to explain variance in the outcomes compared to the most frequently researched demand measure in the work stress literature (psychosocial demands). Finally, emotional dissonance was found to exacerbate the level of emotional exhaustion at high levels of psychosocial demands, indicating jobs combining high levels of both kinds of demands are much more risky [101].

Gardner, L.J.; Stough, C. In his research work titled, “Exploration of the relationships between workplace Emotional Intelligence, occupational stress and employee health”, (2003) examined the relationship between Emotional Intelligence, occupational stress and physical and psychological health, in 80 employees. They hypothesised that participants reporting higher levels of Emotional Intelligence would be better able to manage stress and would have better physical and psychological health than those reporting lower levels of Emotional Intelligence. The results of the study indicated that the ability to recognise and express emotions, to manage and control emotions measured by the Swinburne University Emotional Intelligence Test (SUEIT) were related to wellbeing [102].

Fevre, Mark Le; Matheny, Jonathan; Kolt, Gregory S. In their article titled, ‘Eustress, distress, and interpretation in occupational stress.’, (2003) discussed the meaning assigned to the word ‘stress’ that has shifted from Selye's original formulation, and that this shift, in conjunction with the use of the Yerkes Dodson Law, leads to inappropriate management of stress in organizations. The result revealed that some stress is good. Performance should be rejected in favour of more useful and accurate concepts [103].

Edwards, D.; Barnard, P. In their review titled, “stress is a problem for mental health nurses but research on interventions is insufficient”, (2003) analysed the sources of stress for mental health included workload, poor resources, role conflict, job insecurity and client issues. They have concluded that research about stress management techniques is insufficient and cannot be generalized due to problems with the methods of existing research [104].

Nikolaou, Ioannis; Tsaousis, Ioannis In their research article titled , . “Emotional Intelligence In The Workplace: Exploring Its Effects On Occupational Stress And Organizational Commitment”, (2002) Found their results in the expected direction, showing a negative correlation between emotional intelligence and stress at work, indicating that high scorers in overall Emotional Intelligence suffered less stress related to occupational environment . A

positive correlation was also found between emotional intelligence and organizational commitment [105].

Nicoll, Anne in her research work titled , “employee stress claims are rising: what you can do about it”, (2002) discussed the importance of considering the impact of the September 11, 2001 terrorist attacks on employees in Canada, effect of increased layoffs on employees; discussion on incentive to be proactive in the workforce; management processes that have helped manage time loss [106].

Morris, Jodi E.; Long, Bonita C. in their article titled , “Female Clerical Workers' Occupational Stress: The Role of Person and Social Resources, Negative Affectivity, and Stress Appraisals”, (2002) tested main, moderating, and mediating effects of appraisals on the relationship between resources and change in depression and partially replicated on an independent sample, which controlled for negative affectivity (a pervasive tendency toward negative emotionality). Results were consistent with predictions that primary appraisals (i.e., threats to self-esteem) contribute to change in depression beyond the effects of person and social resources and negative affectivity. There was modest evidence that control appraisals moderate the effects of optimism and work support [107].

Rees, Christopher J.; Redfern, David In their article titled , “Recognising the perceived causes of stress--a training and development perspective”, (2000) aimed to provide examples of how different perspectives of occupational stress can be identified and highlighted . Training and development specialists can play an important role in ensuring that a balanced and eclectic approach to occupational stress is adopted in the workplace [108].

II. OBJECTIVES

1. To assess the prevalence of depression among males & females due to work in various departments of different organizations
2. To assess the prevalence of depression among various age groups in various departments of different organizations
3. To assess the prevalence of depression among employees of varied educational background
4. To identify the department in which employees are more happy & satisfied with their work

III. MATERIAL & METHOD

Overall about the data source

Organizational based survey for measurement of depression was carried out among various departments of different organizations in Delhi in 2018. Data were collected based upon Survey prepared by Pfizer.

For the current study which was conducted in 2018, data was collected and further data processing and analysis were done.

Study design

Cross-Sectional Study

Duration of study

3 months

Population

All the employees working in concerned organizations

Organization 1: 681

Organization 2: 963

Organization 3: 748

Material used:

Patient Health Questionnaire (PHQ-9).

This is a self-administered version of the PRIME-MD diagnostic instrument for common mental disorders.

The PHQ-9 is the depression module, which scores each of nine Diagnostic and Statistical Manual of Mental Disorders, IV-edition (DSM-IV) criteria as “0” (not at all) to “3” (nearly every day).

PHQ-9 has 61% sensitivity and 94% specificity in adults.

Validity has been assessed against an independent structured mental health professional (MHP) interview.

Total Questionnaire Received Back- 719

Total completed questionnaires in all aspects were 153

Score Interpretation:

PHQ-9 Score	Provisional Diagnosis
5-9	Minimal Depression
10-14	Minor Depression
15-19	Major Depression
>20	Severe Major Depression

Table 1: Age and sex strata of study population, Jan 2018- Mar 2018.

AGE GROUP	FEMALES	MALES	TOTAL
21-30	33	36	69
31-40	28	22	50
41-50	15	9	24
51-60	4	5	9
>60	0	1	1

With regards to the current study, sample size was 153 respondents whose questionnaire was completed in all manner.

Data collection

Survey link was send to various Organizations in Delhi via mail, and purpose of study was explained.

Data analysis

All important data were identified and extracted from main data of the survey and then checked for completeness, inconsistency and outliers. Incomplete and inconsistent data were excluded from the analysis . Data were properly filed and stored in electronic copies with back up.

IV. RESULTS

Socio-demographic characteristics of study participants

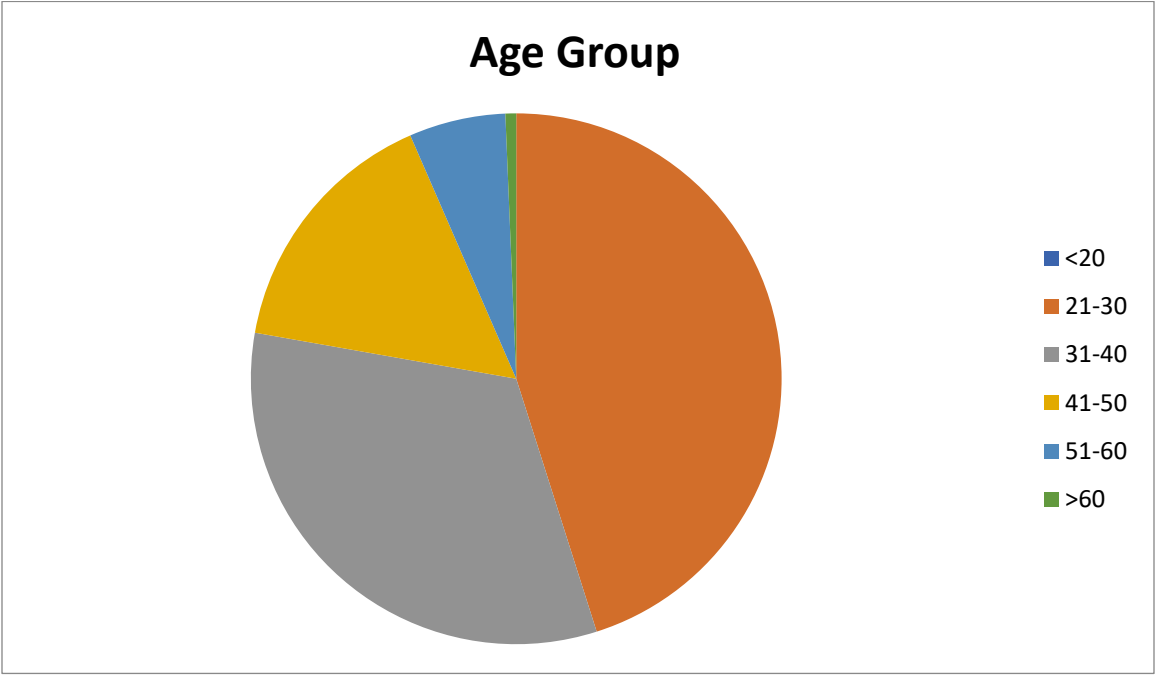
Of the 153 respondents 80 (52%) were females and the rest, 73 (48%) were males with female to male ratio of 1.1:1 .

Table 2: Socio-demographic characteristics of study participants, Jan 2018- Mar 2018 .

AGE GROUP	FEMALES	MALES	TOTAL
21-30	33	36	69
31-40	28	22	50
41-50	15	9	24
51-60	4	5	9
>60		1	1
Educational level			
Graduate	16	26	42
Post-graduate	59	39	98
Doctorate	5	8	13
Departments			
Management	11	18	29
Accounts/Finance	9	19	28

Marketing	15	13	28
Sales	16	11	27
Human Resource	23	9	32
Others	6	3	9

Prevalence of depression by age

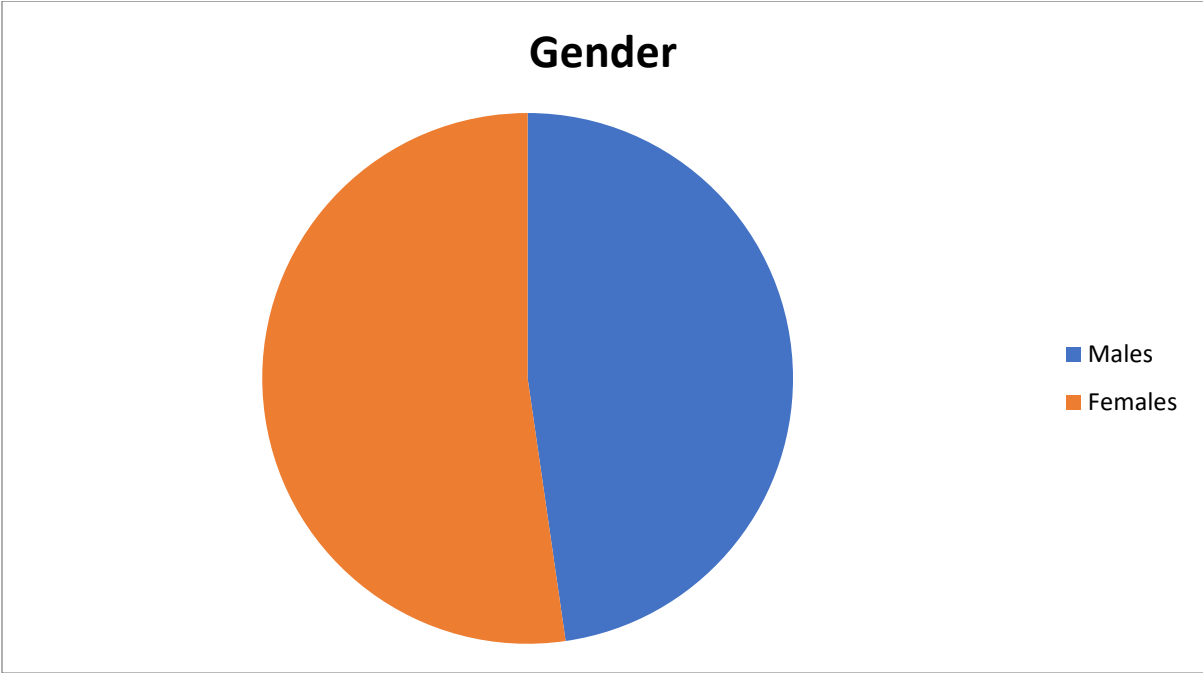


Age Group

PHQ-9 Score	21-30	31-40	41-50	51-60	>60	Provisional Diagnosis
5-9	33	16	6	4	0	Minimal Depression
10-14	16	23	16	2	1	Minor Depression
15-19	14	9	2	3	0	Major

						Depression
>20	6	2	0	0	0	Severe Major Depression

Prevalence of depression by gender

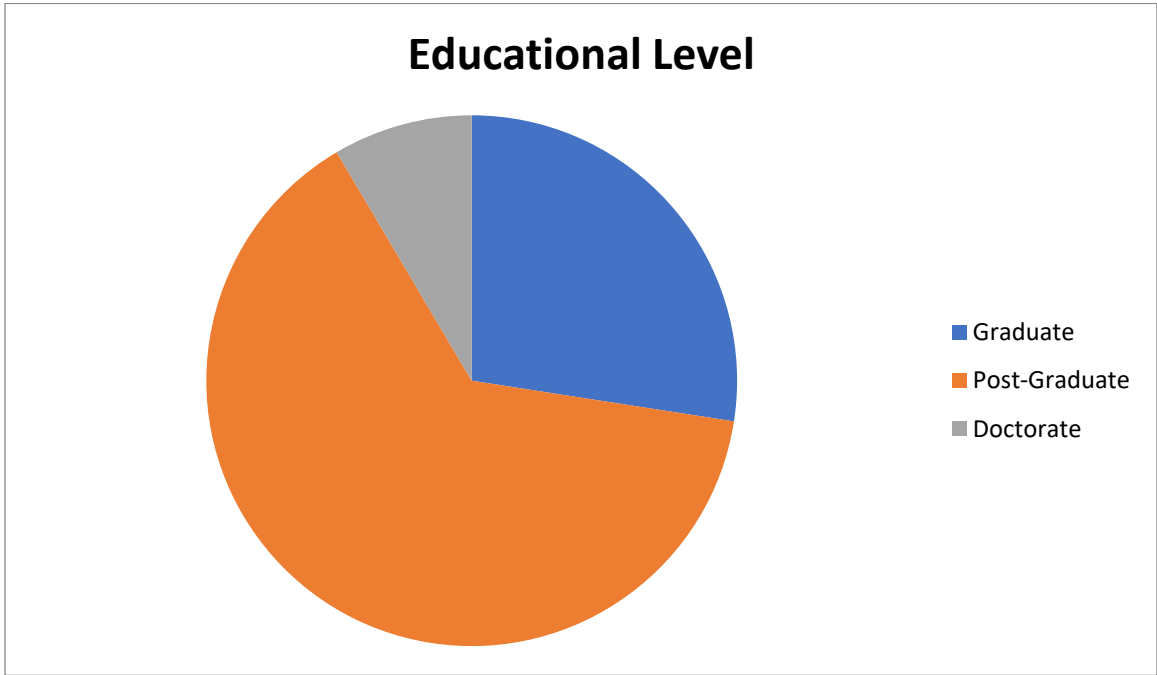


Gender

PHQ-9 Score	Females	Males	Provisional Diagnosis
5-9	21	17	Minimal Depression
10-14	35	36	Minor Depression
15-19	17	11	Major Depression

>20	7	9	Severe Major Depression
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Prevalence of depression by Educational Level



Educational Level: Graduate

PHQ-9 Score	Number of Employees	Provisional Diagnosis
5-9	6	Minimal Depression
10-14	21	Minor Depression
15-19	13	Major Depression
>20	2	Severe Major Depression

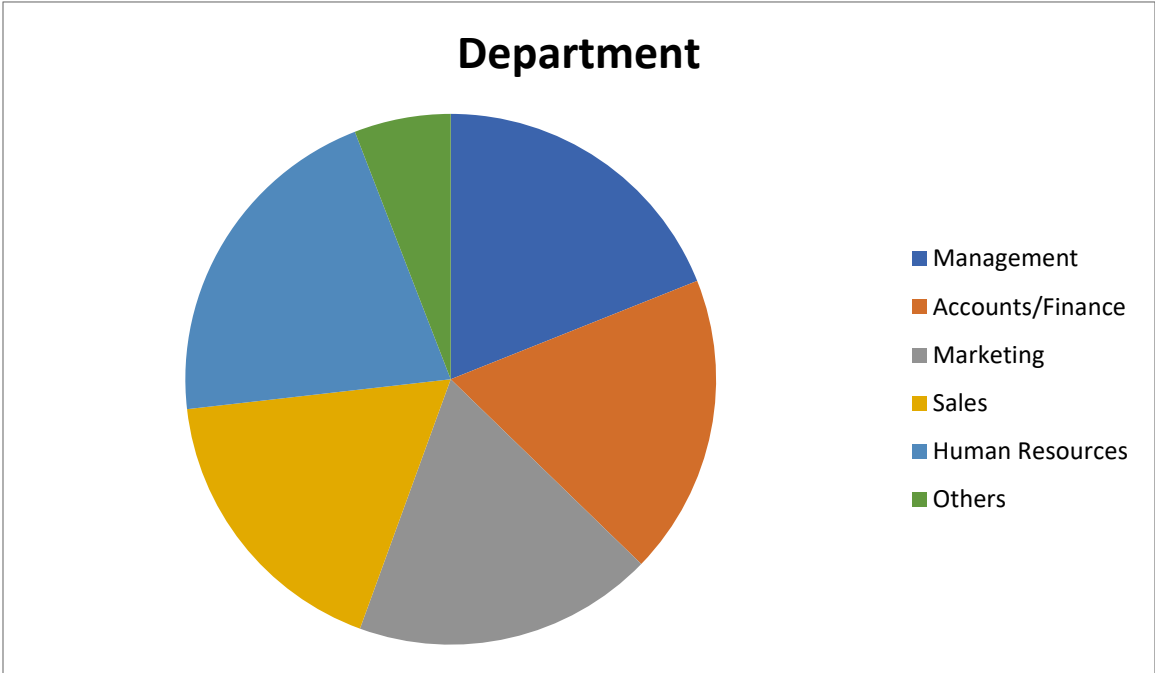
Educational Level: Post-Graduate

PHQ-9 Score	Number of Employees	Provisional Diagnosis
5-9	28	Minimal Depression
10-14	39	Minor Depression
15-19	26	Major Depression
>20	5	Severe Major Depression

Educational Level: Doctorate

PHQ-9 Score	Number of Employees	Provisional Diagnosis
5-9	3	Minimal Depression
10-14	6	Minor Depression
15-19	4	Major Depression
>20	-	Severe Major Depression

Prevalence of depression by department



Department: Management

PHQ-9 Score	Number of Employees	Provisional Diagnosis
5-9	9	Minimal Depression
10-14	12	Minor Depression
15-19	7	Major Depression
>20	1	Severe Major Depression

Department: Accounts/ Finance

PHQ-9 Score	Number of Employees	Provisional Diagnosis

5-9	14	Minimal Depression
10-14	6	Minor Depression
15-19	8	Major Depression
>20	-	Severe Major Depression

Department: Marketing

PHQ-9 Score	Number of Employees	Provisional Diagnosis
5-9	9	Minimal Depression
10-14	11	Minor Depression
15-19	7	Major Depression
>20	1	Severe Major Depression

Department: Sales

PHQ-9 Score	Number of Employees	Provisional Diagnosis
5-9	9	Minimal Depression
10-14	13	Minor Depression
15-19	5	Major Depression

>20	-	Severe Major Depression
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Department: Human Resources

PHQ-9 Score	Number of Employees	Provisional Diagnosis
5-9	6	Minimal Depression
10-14	16	Minor Depression
15-19	7	Major Depression
>20	3	Severe Major Depression

Department: Others

PHQ-9 Score	Number of Employees	Provisional Diagnosis
5-9	2	Minimal Depression
10-14	4	Minor Depression
15-19	3	Major Depression
>20	-	Severe Major Depression

Tests of Association between	Null Hypothesis	Alternate Hypothesis	Calculated χ^2	Tabulated χ^2 at 95% Confidence Interval	Null Hypothesis (Accepted/ Rejected)	Alternate Hypothesis (Accepted/ Rejected)
Age and Depression	There is no association between Age and Depression	There is association between Age and Depression	21.607	26.026	Accepted	Rejected
Gender and Depression	There is no association between Gender and Depression	There is association between Gender and Depression	42.619	7.815	Rejected	Accepted
Educational Level and Depression	There is no association between Educational Level and Depression	There is association between Educational Level and Depression	4.125	12.592	Accepted	Rejected
Department and Depression	There is no association between Department and Depression	There is association between Department and Depression	15.270	24.996	Accepted	Rejected

Factors affecting depression

Factors associated with depression were seen by analyzing above data.

From the above listed independent variables: age, sex and department, survey showed that there is association between Age and Depression, and between Gender and Depression, while there is no association between Educational Level and Department with Depression.

V. DISCUSSION

The overall work satisfaction was reported among study population in various organizations, among various departments.

There's a difference between being occasionally feeling low, and chronic depression. But for most, it's difficult to differentiate between the symptoms. The earlier it is, the easier it would be to control the damage.

The symptoms of clinical depression include:

- Feeling angry and irritable: everyone gets on your nerves for minor reasons
- Feelings of guilt and blaming yourself for (perceived) failure
- Memory and concentration issues, lack of focus
- Lack of interest in day-to-day activities: even pleasurable activities like hobbies, sex, sports, music seem uninteresting
- Changes in the appetite: not feeling hungry or the reverse – binge-eating, accompanied with a sudden change in body weight
- Feeling there's no hope, and nobody to help
- Changes in the sleep pattern: insomnia (lack of sleep) or the reverse (over-sleeping)
- Chronic exhaustion: always feeling drained of energy
- Body aches and pains that won't go away

While the symptoms of depression are important to keep track of, it is also important to know what might be triggering them.

Depression can be caused due to many reasons.

- Employment issues (not having a job, being in the wrong job)
 - Life experiences (traumatic events in childhood)
 - Financial ill-health
 - Substance abuse (drugs, alcohol)
 - Medical history of depression in the family
 - Chronic health problems
 - Relationship issues (marriage, love affair)
 - Isolation and lack of social support
-
- This study demonstrated statistically significant association between depression and age of participants
 - This study demonstrated statistically significant association between depression and gender of participants
 - This study demonstrated statistically no significant association between depression and educational level of study participants

- This study demonstrated statistically no significant association between depression and department of study participants

VI. CONCLUSION

The prevalence of measured depression among study population was high in this study. From the socio-demographic characteristics, sex and occupation of respondents were found to be independent predictors of depression.

The broad message from the literature on the link between happiness and productivity is that both positive and negative emotions have a potentially powerful economic effect. Experiments involving close to 800 subjects found that a rise in happiness leads to a marked increase in productivity in a paid piece-rate task. This effect appeared in each session of the experiment and in both male and female subjects. The study found that the effect operates through a change in work output rather than in work quality.

These findings have several implications for company practice and for research. First, if happiness in a workplace carries with it a return in terms of enhanced productivity, there are enormous implications for firms' promotion policies and for the way they structure their internal labor markets. For example, managers could be rewarded on the basis of employees' job satisfaction, and workers could be allowed to take a more active part in decision-making, which in general raises job satisfaction. Second, the effect running from happiness to productivity raises the possibility of self reinforcing spirals—ones that might even operate at a macroeconomic level. Happiness might lead to greater productivity in an economy, and that might in turn result in greater well-being in the population. These happiness–productivity–happiness spirals would be a fundamental propagation mechanism linking short-term shocks to the longer term and represent an important avenue for future research. Finally, the evidence surveyed here indicates that economists need to pay more attention to the effect of emotions when they analyze and design policies.

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APPENDIX