

VASSP

PROJECT ON STRESS MANAGEMENT IN CONSTRUCTION WORKERS

3rd December, 2018

Project Report

Submitted to Amity Institute of Allied and Behavioral Sciences

AMITY UNIVERSITY MUMBAI

B.A/B.Sc. APPLIED/CLINICAL PSYCHOLOGY

2018

AMITY INSTITUTE OF ALLIED & BEHAVIOURAL SCINCES

AMITY UNIVERSITY

MUMBAI

FOREWORD

All the students who have undertaken this project have worked hard to accomplish the objectives of the project namely, understanding basic level of stress among construction workers in Amity University Mumbai, their approach towards life and recreational activities undertaken by them. Further, on basis of the levels of stress the workshop conducted for construction workers on stress management was a success in terms that all the 30 workers appreciated and reported relief in their stress levels post workshop.

This project will be helpful in need for further intervention among construction workers toward stress management.

Dr. Poonam Sharma

Mentor

Project VASSP

ACKNOWLEDGEMENTS

We have taken great efforts in this project and its report. However, it would not have been possible without the kind support and help of the organization and many individuals. We would like to extend our sincere thanks to all of them.

We thank Amity Institute of Behavioral and Allied Sciences, Amity University Mumbai for creating the opportunity for greater exposure in research. We thank Head of the Department AIBAS and our Mentor Dr Poonam Sharma for her valuable inputs during the project and for her constant support and patience. We are highly indebted to Mr. P K Saini (General Manager-Projects Amity Universities) for helping us with all the necessary permissions and legalities. We would also like to thank Mr. Rishab and Mr. Ashwini for on field support and supervision. We extend our respectful gratitude to our honorable Vice Chancellor Dr D S Rao for all his support. We extend our heartfelt gratitude and respect to all the Construction workers who gave their valuable time for the project and being extremely honest in their answers.

Last but not the least, the examiners of this report, for being, perhaps the keenest readers of this manuscript of research and experience.

ABBREVIATION

ACTH- Adrenocorticotrophic Hormone

APA- American Psychological Association

ANS- Autonomous Nervous System

CWID- Construction Worker Identity

HPA- Hypothalamic Pituitary-Adrenal System

NCEUS- National Commission for Enterprises in the Unorganized Sector

PMS- Premenstrual Syndrome

PNS- Parasympathetic Nervous System

QMPA- Questionnaire for Psychiatric Morbidity among Adults

SAM- Sympathomedullary Pathway

SNS- Sympathetic Nervous System

INDEX

TITLE	PAGE NO
1. Introduction and Background	6
i) Introduction to stress	6
ii) Types of stress	6
iii) Physiological mechanism of stress	7
iv) Impact of stress	7
v) Factors leading to stress	9
vi) Diathesis model of stress	10
vii) Stress and coping	10
viii) Stress management	11
ix) Folkman and Lazarus model	12
x) Studies related to stress with respect to various professions	12
xi) Stress among construction workers	15
2. Rationale for undertaking current project	16
xii) Importance of the project	16
xiii) Objectives of the project	17
3. Design of the project	17
4. Design of the workshop	18
5. Result and Discussion	19
6. Summary and Conclusion	33
7. References	34
8. Appendix	36

INTRODUCTION AND BACKGROUND

Introduction to Stress

Stress is your body's way of responding to any kind of demand. It is a feeling that people have when they are struggling to cope with challenges related to finances, work, relationships, environment, and other situations. Stress is the body's natural defense against real or imagined danger. It flushes the body with hormones to prepare systems to evade or confront danger. This is known as the fight or "flight or freeze response" (Cleveland Clinic, 2018)

It is an individual's response to change in circumstance or to a threatening situation. A moderate amount of stress helps to motivate us to reach a specific goal and we know as "eustress". Signs and Symptoms of stress have been categorized as being either physical, emotional, mental, spiritual, or relational in nature.

PHYSICAL (Appetite Change, Upset Stomach, Pounding Heart ,Accident Proneness, Cold Feet and Hands, Sweating, etc)

EMOTIONAL (Frustration, Depression, Mood Swings, Quick to Anger, Nightmares, Irritability, Easily Discouraged, Worrying, Imagining the Worst, etc)

MENTAL (Difficulty solving problems, Difficulty making decisions, Difficulty concentrating, Difficulty calculating, Negative self-talk, Negative attitude, etc)

SPIRITUAL (Emptiness, Loss of Meaning, Doubt, Unforgiving, Loss of Direction)

RELATIONAL (Isolation, Intolerance, Resentment, Loneliness, Lashing out, Hiding, Clamming up, Sexual Problems, Distrust, Fewer contacts with friends, Lack of intimacy, etc) [What Is Stress? Symptoms, Signs & More | Cleveland Clinic, 2018]

Types of Stress

According to APA there are 3 different types stress — acute stress, episodic acute stress, and chronic stress. The 3 types of stress each have their own characteristics, symptoms, duration, and treatment approaches. (Shawna Freshwater, 2018)

ACUTE STRESS It is the most common and frequent type of stress. Acute stress is most often caused by reactive thinking. Negative thoughts predominate about situations or events that have recently occurred, or upcoming situations, events, or demands in the near future

EPISODIC STRESS People who frequently experience acute stress, or whose lives present with frequent triggers of stress, have episodic acute stress. The individuals who frequently suffer acute stress often live a life of chaos and crisis. They are always in a rush or

feel pressured. They take on many responsibilities, and usually cannot stay organized with so many time demands. These individuals are perpetually in the grips of acute stress overload.

CHRONIC STRESS- Chronic stress is the most harmful type of stress. If chronic stress is left untreated over a long period of time, it can significantly and often irreversibly damage your physical health and deteriorate your mental health. Chronic stress can also set in when an individual feels hopeless, does not see an escape from the cause of stress, and gives up on seeking solutions. Chronic stress can be caused by an aversive experience in childhood or traumatic experiences later in life. Chronic stress kills through suicide, violence, homicide, heart attack, and stroke. [Types of Stress and Health Hazards - Shawna Freshwater, PhD, 2018]

Physiological mechanism of stress

Firstly, our body judges a situation and decides whether or not it is stressful. This decision is made based on sensory input and processing (i.e. the things we see and hear in the situation) and also on stored memories (i.e. what happened the last time we were in a similar situation).

If the situation is judged as being stressful, the hypothalamus (at the base of the brain) is activated. The hypothalamus in the brain is in charge of the stress response. When a stress response is triggered, it sends signals to two other structures: the pituitary gland, and the adrenal medulla. These short term responses are produced by The Fight or Flight Response via the Sympathomedullary Pathway (SAM). Long term stress is regulated by the Hypothalamic Pituitary-Adrenal (HPA) system. The stressor activates the Hypothalamic Pituitary Axis. The hypothalamus stimulates the pituitary gland

The pituitary gland secretes adrenocorticotrophic hormone (ACTH) ACTH stimulates the adrenal glands to produce the hormone corticosteroid cortisol enables the body to maintain steady supplies of blood sugar adequate and steady blood sugar levels help person to cope with prolonged stressor, and helps the body to return to normal. The adrenal cortex releases stress hormones called cortisol. This have a number of functions including releasing stored glucose from the liver (for energy) and controlling swelling after injury. The immune system is suppressed while this happens.

The hypothalamus also activates the adrenal medulla. The adrenal medulla is part of the autonomic nervous system (ANS). The adrenal medulla secretes the hormone adrenaline. This hormone gets the body ready for a fight or flight response. Physiological reaction includes increased heart rate. Adrenaline leads to the arousal of the sympathetic nervous system and reduced activity in the parasympathetic nervous system. Adrenaline creates changes in the body such as decreases (in digestion) and increases (sweating, increased pulse and blood pressure). Once the 'threat' is over the parasympathetic branch takes control and brings the body back into a balanced state. [Physiological Stress Response - Nervous system and hormonal response, 2018]

Impact of Stress

Psycho-social- Psychosocial stress is a perceived social threat in our lives (real or even imagined) and discerns that it may require resources we don't have. Anything that translates to a perceived threat to our social status, social esteem, respect, and/or acceptance within a group; threat to our self-worth; or a threat that we feel we have no control over. All of these threats can lead to a stress response in the body.

Musculoskeletal System: When the body is stressed, muscles tense up. Muscle tension is almost a reflex reaction to stress — the body's way of guarding against injury and pain. With sudden onset stress, the muscles tense up all at once, and then release their tension when the stress passes.

Respiratory System: Stress can make you breathe harder. That's not a problem for most people, but for those with asthma or a lung disease such as emphysema, getting the oxygen you need to breathe easier can be difficult.

Cardiovascular: The heart and blood vessels comprise the two elements of the cardiovascular system that work together in providing nourishment and oxygen to the organs of the body. The activity of these two elements is also coordinated in the body's response to stress. This long-term ongoing stress can increase the risk for hypertension, heart attack or stroke.

Endocrine- When the body is stressed, the hypothalamus signals the autonomic nervous system and the pituitary gland and the process is started to produce epinephrine and cortisol, sometimes called the "stress hormones."

Adrenal Glands (near kidneys)- Stress signals from the hypothalamus cause the adrenal cortex to produce cortisol and the adrenal medulla to produce epinephrine. This starts the process that gives your body the energy to run from danger.

Liver- When cortisol and epinephrine are released, the liver produces more glucose, a blood sugar that would give you the energy for "fight or flight" in an emergency.

Gastrointestinal:

Esophagus- When you're stressed, you may eat much more or much less than you usually do. If you eat more or different foods, or increase your use of alcohol or tobacco, you can experience heartburn or acid reflux. Stress or exhaustion can also increase the severity of heartburn pain.

Stomach- When you're stressed, your brain becomes more alert to sensations in your stomach. Your stomach can react with "butterflies" or even nausea or pain. You may vomit if the stress is severe enough. And, if the stress becomes chronic, you may develop ulcers or severe stomach pain even without ulcers.

Bowel- Stress can affect digestion, and what nutrients your intestines absorb. It can also affect how fast food moves through your body. You may find that you have either diarrhea or constipation.

Nervous system- The nervous system has several divisions: the central division involving the brain and spinal cord and the peripheral division consisting of the autonomic and somatic nervous systems. The autonomic nervous system (ANS) has a direct role in physical response to stress and is divided into the sympathetic nervous system (SNS), and the parasympathetic nervous system (PNS).

When the body is stressed, the SNS generates what is known as the "fight or flight" response. The SNS signals the adrenal glands to release hormones called adrenalin and cortisol. These hormones cause the heart to beat faster, respiration rate to increase, blood vessels in the arms and legs to dilate, digestive process to change and glucose levels (sugar energy) in the bloodstream to increase to deal with the emergency.

Once the crisis is over, the body usually returns to the pre-emergency, unstressed state.

Male Reproductive System- In the male anatomy, the autonomic nervous system, also known as the fight or flight response, produces testosterone and activates the sympathetic nervous system which creates arousal. Stress can affect testosterone production, sperm production and maturation, and even cause erectile dysfunction or impotence.

Female Reproductive System: Menstruation- high levels of stress may be associated with absent or irregular menstrual cycles, more painful periods and changes in the length of cycles. Premenstrual Syndrome (PMS) - Stress may make premenstrual symptoms worse or more difficult to cope with and pre-menses symptoms may be stressful for many women. [Physiological Stress Response - Nervous system and hormonal response, 2018]

Factors leading to stress

Psycho-social- Psychosocial stress refers to a specific type you experience that originates from any type of interaction with people. Stress may manifest itself in many different ways, such as high blood pressure, sweating, rapid heartbeat, dizziness and feelings of irritability or sadness. Causes of psychological stress, called psychological stressors, can be classified as chronic or acute.

Acute Present Stressors- Psychosocial stress can be caused by upsetting events that happened to you recently

Acute Past Stressors- events from your past can also still affect you throughout your life. Stressor such as child abuse, bullying, violence, or trauma like a war or earthquake.

Chronic Stressors- It is caused by circumstances that could lead to ongoing stress, such as war, discrimination, violence, illness or poverty. It also includes family problems, such as caring for a an ailing parent or disabled child, as chronic psychosocial stressors.

Environmental- Stressors that are found in our surroundings are called environmental stressors. Everyday life is full of environmental stressors that cause minor irritations. If you use an alarm clock to wake up, the loud noise from your alarm is an environmental stressor. Extreme temperatures are also environmental stressors and can lead to discomfort. Other common

environmental stressors include Noise, Crowding, Air quality, Colors, Tornadoes and other natural disasters, War and other manmade disasters, Light, and Insects.

Physical- There is likely a connection between stress and illness. Both kinds of stress can lead to changes in behavior and in physiology. Behavioral changes can be smoking and eating habits and physical activity. Physiological changes can be changes in sympathetic activation or hypothalamic pituitary adrenocorticoid activation, and immunological function. Stress can make the individual more susceptible to physical illnesses like the common cold. Stressful events, such as job changes, may result in insomnia, impaired sleeping, and health characteristics such as age and physical well-being before the onset of the stressor can combine to determine the effect of stress on an individual.

[Causes of Stress, 2018]

Diathesis model of Stress

The diathesis–stress model is a psychological theory that attempts to explain a disorder as the result of an interaction between a predisposition vulnerability and a stress caused by life experiences. A diathesis can take the form of genetic, psychological, biological, or situational factors. A large range of differences exists among individuals' vulnerabilities to the development of a disorder. The diathesis, or predisposition, interacts with the individual's subsequent stress response. Stress is a life event or series of events that disrupts a person's psychological equilibrium and may catalyze the development of a disorder. Thus, the diathesis–stress model serves to explore how biological or genetic traits (diatheses) interact with environmental influences (stressors) to produce disorders such as depression, anxiety, or schizophrenia.

The diathesis–stress model asserts that if the combination of the predisposition and the stress exceeds a threshold, the person will develop disorder. It is useful for the purposes of understanding the interplay of nature and nurture in the susceptibility to psychological disorder throughout the lifespan. Diathesis–stress models can also assist in determining who will develop a disorder and who will not. For example, in the context of depression, the diathesis–stress model can help explain why Person A may become depressed while Person B does not, even when exposed to the same stressors.

[Diathesis-Stress Model | Psychology Concepts, 2018]

Stress and coping

Coping is the process of spending conscious effort and energy to solve personal and interpersonal problems. In the case of stress, coping mechanisms seek to master, minimize, or tolerate stress and stressors that occur in everyday life. These mechanisms are commonly called coping skills or coping strategies.

The three most common distinctions are appraisal-focused, problem-focused, and emotion-focused coping strategies.

Appraisal-Focused Strategies

It attempt to modify thought processes associated with stress. People alter the way they think about a problem by approaching it differently or altering their goals and values.

Problem-Focused Strategies

It aims to deal with the cause of the problem or stressor. People try to change or eliminate the source of stress by researching the problem and learning management skills to solve it.

Emotion-Focused Strategies

It addresses the feelings associated with the stressor. People modify the emotions that accompany stress perception by releasing, distracting, or managing their mental state.

Adaptive vs. Maladaptive Strategies

Adaptive coping include seeking social support from others (social coping) and attempting to learn from the stressful experience (meaning-focused coping). Maintaining a good physical and mental health is extremely important.

Maladaptive might be successful at managing or abating stress, but the result is dysfunctional and non-productive. These strategies provide short-term relief, they actually serve to maintain disorder. Maladaptive strategies include dissociation, sensitization, numbing out, anxious avoidance of a problem, and escape.

Culture and Coping Strategies

Culture and surroundings also affect what coping strategies are practically available and socially acceptable. Some cultures promote a head-on approach to stress and provide comforting environments for managing stressful situations, while others encourage independence and self-sufficiency when it comes to coping with stress.

Stress management

Stress management aims to control or diminish a person's level of stress through both conventional and alternative methods.

Conventional Methods

Some conventional methods of reducing stress include psychiatric therapy and anxiety-reducing medications. As with traditional medicine, conventional methods of stress management tend to focus on evidence-based approaches to both the stressor and the experience of stress. While some conventional methods embrace the power and effectiveness of counseling and therapy in stress management.

Alternative Methods

These methods tend to focus on the person experiencing stress, providing methods for mental reframing or management. Alternative methods such as yoga, meditation, and visualization embrace the transactional model of stress by empowering the stressed person to either view the situation differently or believe in their capability to cope. Other alternative methods to stress management include meditation, deep breathing, and relaxation techniques, spending time in nature, humor, spas, and social activity, among many others. (16.2 Stress and Coping – Introduction to Psychology – 1st Canadian Edition, 2018)

Folkman and Lazarus model

The model "Theory of Cognitive Appraisal" was proposed by Lazarus and Folkman in 1984 and it explained the mental process which influence of the stressors.

According to Richard Lazarus, stress is a two-way process; it involves the production of stressors by the environment, and the response of an individual subjected to these stressors. His conception regarding stress led to the theory of cognitive appraisal.

Cognitive Appraisal:

Lazarus stated that cognitive appraisal occurs when a person considers two major factors that majorly contribute in his response to stress. In general, cognitive appraisal is divided into two types or stages: primary and secondary appraisal.

Primary Appraisal

In the stage of primary appraisal, an individual tends to ask questions like, "What does this stressor and/ or situation mean?", and, "How can it influence me?"

After answering these questions, the second part of primary appraisal is to classify whether the stressor or the situation is a threat, a challenge or a harm-loss. When you look at it as a challenge, you develop a positive stress response because you expect the stressor to lead you to a higher class ranking.

Secondary Appraisal

Secondary appraisals involve those feelings related to dealing with the stressor or the stress it produces. Uttering statements like, "I can do it if I do my best", "I will try whether my chances of success are high or not", and "If this way fails, I can always try another method" indicates positive secondary appraisal. Although primary and secondary appraisals are often a result of an encounter with a stressor, stress doesn't always happen with cognitive appraisal. (Stress and Cognitive Appraisal by Lazarus and Folkman, 1984)

Studies related to stress with respect to various professions

Case 1:

A Study of Stress among Students of Professional Colleges from an urban area in India

Vivek B. Waghachavare, Girish B. Dhumale, and Alka D.

Objective:

Studies across the globe have emphasized that students undertaking professional courses, such as medical and dental studies, are subjected to higher stress. Excessive stress could lead to psychological problems like depression and anxiety. The objective of the current study was to assess stress among students of various professional colleges and its association with various academic, social and health-related factors.

Methods:

This cross-sectional study was conducted from September 2011 to February 2012 among students of medical, dental and engineering colleges from the urban area of Sangli district, Maharashtra, India, using a convenience sampling technique. The calculated total sample size was 1,200. A pretested self-administered questionnaire was used for the data collection. Analysis was done using percentage, the chi-square test, binary logistic regression and multinomial logistic regression.

Results:

Out of the 1,224 respondents, 299 (24.4%) experienced stress. Among them 115 (38.5%), 102 (34.1%) and 82 (27.4%) were dental, medical and engineering students, respectively. There was a statistically significant association between stress and the field of education. Stress was observed in 187 (27.7%) females and 112 (20.4%) males; the association with gender was statistically significant. By applying binary logistic regression, medical studies, health and lifestyle factors, and academic factors were the significant predictors for stress.

Conclusion:

Students from all the three fields studied were exposed to stress. Academic factors were one of the most important stressors. The introduction of stress management education into the curriculum could prove useful in combatting this problem.

Case 2:

Traumatic Stress in Emergency Medical Technicians: Protective Role of Age and Education].

Kiliç C, et al. Turk Psikiyatri Derg. 2015.

OBJECTIVE: Some professions carry higher risk of being traumatized; health care workers, especially those working at emergency services, are at higher risk in this respect. This study aims to examine the psychological effects of different types of work-related traumatic events on emergency health care staff and possible protective effects of factors such as age, education and experience.

METHOD: The targeted population was all emergency health care workers working at emergency wards and first-aid stations within the province of Nigde. Consenting subjects were given self-report questionnaires on traumatic stress and work-related traumatic events. 135 emergency workers (90 female, 45 male), with complete data sets were included in the study.

RESULTS: The subjects reported experiencing 6.8 types of different work-related traumas. Those who are older and with higher education reported higher numbers of event types. Traumatic stress levels were predicted by higher number of reported work-related trauma types. When analyzed separately within age and education groups, number of work-related traumatic events predicted traumatic stress among younger subjects and those with lower education; no such prediction was observed among older or more educated subjects.

CONCLUSION: Findings suggest that lower education and younger age independently predict negative psychological effects of work-related traumatic events. These findings may lead to changes in how emergency health care is organized in Turkey.

Case 3:

Stress at work among military doctors: a preliminary study

Knezević B, et al. *Acta Med Croatica*. 2006.

OBJECTIVE: This preliminary study examined the sources of work stress in military physicians.

SUBJECTS AND METHODS: Forty-eight medical doctors (24 military and 24 civilian) completed a questionnaire on stressors at the work place. The participation in the study was anonymous and voluntary. Out of 24 military physicians, 14 were military general practitioners (mean age 40.5, 14 female), and 10 were consultants of different specialties (mean age 43.5, 7 male and 3 female). Civilian physicians included 13 general practitioners working at primary health care system (mean age 37, 3 male and 10 female), and 11 consultants of different specialties working at out of hospital practice (average age 37, 6 male and 5 female). The questionnaire included items aiming to obtain demographic characteristics (sex, age, marital status, children, academic degree, clinical specialty, work place, average time in practice, average time at current position) and 37 items to determine occupational stressors. The stressors were related to work management, professional demands, interpersonal and patient-doctor relationship. Differences in recognizing work stressors between the groups of civilian and military physicians were statistically analyzed by using chi-squared-test.

RESULTS: The leading work stressors identified by military physicians were inadequate salary, being bypassed for promotion, inadequate continuous education, poor resources, poor communication with superiors, poor management, trouble with superiors, excessive paperwork, unpredictable situations, and 24-hour standby. Civilian physicians reported inadequate salary, poor resources, poor management, misinformed patients, lack of co-workers, lack of time, unpredictable situations, exposure to indictment, dealing with incurable patients and exposure to public criticism and judgment. In comparison with civilian physicians, military physicians significantly more frequently reported inadequate salary ($p < 0.01$), being bypassed for promotion

($p < 0.005$), poor communication with superiors ($p < 0.05$) and inadequate continuing education ($p < 0.025$). In the group of military physicians, military general practitioners identified more stressors with a higher frequency. Nine out of top ten stressors were reported by at least one half of military general practitioners. Poor communication with superiors (12/14), lack of appropriate continuing education (10/14) and trouble with superiors (9/14) were predominantly reported by military general practitioners.

Conclusion: Our preliminary results suggest that military physicians recognize different stressors and to a greater extent than civilian physicians. The reported stressors suggest specific professional environment of military physicians. Stress at work needs careful and thorough consideration, not only because it can cause health problems and emotional suffering in military physicians, but also because it can diminish the quality of medical care that they are expected to provide. The stressors that are remediable should be identified and the job stress reduction procedures should be performed.

Stress among construction workers

Construction industry is one of fastest growing industries of India with annual growth of 10%. According to report of National Commission for Enterprises in the Unorganized Sector (NCEUS) 2006, India about 340 million (roughly 92% of total workers) workforce is engaged in unorganized sector of which around half of them are alone from the construction industry. Stress among construction workers was more in respect of four major factors (too much work- 64.1%, pressure-59.9%, ambitious deadlines-59.7% and conflicting demands- 52.2%)

Psychosocial factors like job satisfaction and social support might influence the prevalence of musculoskeletal symptoms like chronic low back pain in construction workers might be due to awkward posture and repetitive nature of work

Psychological Stress develops among construction workers is due to work load, fixed time frame, lack of training, poor communication among workers as well as with supervisors, inadequate room for innovation, lower wages, ambiguity of job requirement, inadequate knowledge of project objectives, long working hours, tight schedules and unfavorable working conditions etc.

Workers are often asked to put in overtime. Though a welcome source of additional income, this time away from family can also bring additional emotional stressors. Another major stressor for construction workers is job security. Not knowing when or where your next job will be or how long it will last can make life difficult to plan and bring all sorts of stress (financial and others) on workers and their families.

Rationale for Undertaking Current Project

Importance of the project:

The construction industry is one of the fastest growing industries in India with annual growth of 10%. According to the report of National Commission for Enterprises in the Unorganized Sector (NCEUS) 2006, in India, about 340 million (roughly 92% of total workers) workforce is engaged in unorganized sector of which around half of them are alone, which is approximately 46%, from the construction industry.

Stress among construction workers was more in respect of four major factors (too much work- 64.1%, pressure-59.9%, ambitious deadlines-59.7% and conflicting demands- 52.2%). A study was done in Vadodara also found almost 76% of construction workers have a high level of stress. A study done in Kolkata city among construction workers observed that psychosocial stress occurred due to long working hours (73.3%), lower wages (60.4%), job uncertainty (56.9%), poor communication among workers with supervisors (22.7%).

Workers who are stressed are more likely to be unhealthy, poorly motivated, less productive and less safe at work. Job stress is believed to be one of the causes of absenteeism, low workers morale, high rate of accident and poor turnover rates. It was also observed that insomnia, nausea and headaches occur due to psychosocial stresses like job uncertainty, sexual harassment and gender discrimination in women construction workers. Psychosocial factors like job satisfaction and social support might influence the prevalence of musculoskeletal symptoms like chronic low back pain in construction workers (be due to awkward posture and repetitive nature of work). About 17% of the construction workers meet with fatal accidents.

Psychological stress develops among construction workers due to workload, fixed time frame, lack of training, poor communication among workers as well as with supervisors, inadequate room for innovation, lower wages, the ambiguity of job requirement, inadequate knowledge of project objectives, long working hours, tight schedules and unfavorable working conditions. Research studies on occupational health, especially psychosocial stress in construction industries in India are lacking. So, this study was conducted with an objective to study the socio-demographic aspect of construction workers and psychological stress among them.

Objectives of the project:

The main objective of this project was to measure the stress level of construction workers at Amity University, Mumbai. Extensive research has shown that construction workers suffer a great amount of psychological stress due to factors like long working hours, minimum wage, workload, extreme work conditions, lack of safety at workplace and staying away from loved ones for a long period of time. They also tend to rely on substance and other unconventional activities which further puts them at risks. After measuring the stress levels, workers with high levels of stress will be narrowed down and these workers will undergo a workshop which will teach them to manage stress better.

Design of the Project

The survey was designed with the help of their mentor. It was divided into five sections- Demographic Details, Family Details, Work Details, Stress and Recreation and Recreation and Leisure Time Activities. They were also asked if they ever thought whether they felt 'life was worthless.' To maintain confidentiality, the name was taken according to a CWID which consisted of their initials and their age. Under 'Stress and Recreation,' 'yes/no' was provided and if 'yes' was answered, they were asked to rate from one to five, one being the lowest and five, highest. The questionnaire gave us information about any medical ailments they had, the strength of their family and how financially strong they are. We also got some brief information about the kind of work they are currently doing and how much they're getting paid for it. They were asked time and again if they're satisfied with their work, so that if there was any kind of glitch or a stutter and if they were lying about things. They were asked about their future plans to see how satisfied or dissatisfied they were with their job. Recreational activities were also questioned to know if they have involved themselves with any kind of substances and if so, we asked how much they consumed and determined if it could be categorized under abuse.

Design of the Workshop

A workshop was conducted for 30 highly stressed workers who were handpicked on the basis of their results on the questionnaire. Initially, the workers were given a brief introduction about what stress is, the various causes of stress, its damaging effects, the importance of stress etc. A rapport was created before we conducted the activities; we made sure that the workers were comfortable with the environment. The activities consisted of interactive sessions that the workers thoroughly enjoyed and had an eye-opening learning experience.

The activities conducted were as follows-

- 1) Bursting the Balloon- A balloon was given to each participant and they were asked to go around and pop each other's balloons. After a few seconds, only a few people had balloons still in their hand. The balloon here indicates stress, the participants were busy bursting/ helping others with their stress, they didn't think about their own stress.
- 2) Passing the ball- The participants were split into five groups of six people each. One group was called at a time and they were given balls, of different shapes and colours, at intervals. Each ball was indicative of one kind of stress and they were asked to stand in a circle in an orderly manner (they were given numbers). They were asked to pass around the ball in that order, one by one. Eventually, there were many balls for them to handle and they dropped at least one ball. The activity was repeated with all the groups one by one. This shows that if you juggle a lot of things at once, you will get stressed and lose control of some important aspect in your life.
- 3) Popping the Balloon- There participants were given one balloon each and they were asked to blow the balloon as big as they thought their stress level was. Extra balloons were provided, if needed. After everyone had at least one balloon blown by them in their hand, they were asked to pop their respective balloons and then were asked how they felt after they burst their stress. The aim of this activity was to show them that people get stressed because of overthinking and excess working. The balloon popped because there was too much air in it; and letting out all the negative emotions is what relaxes the mind and helps overcoming stress.

These activities were followed by a lecture on stress management which highlighted their main causes of stress. This lecture also facilitated ways to reduce these stressors which was well understood by the workers. A yoga session was later conducted which helped them feel some peace and calm at the moment. The session was conducted by a third-year student who is a part of AmiYoga. The two sessions combined, helped them understand effective stress management.

A vote of thanks was delivered and feedback was taken from the construction workers about the workshop. They were presented with hampers at the end of the workshop and were provided with refreshments after concluding the session.

Result and Discussion

Graph showing age range against work-related stress among construction workers

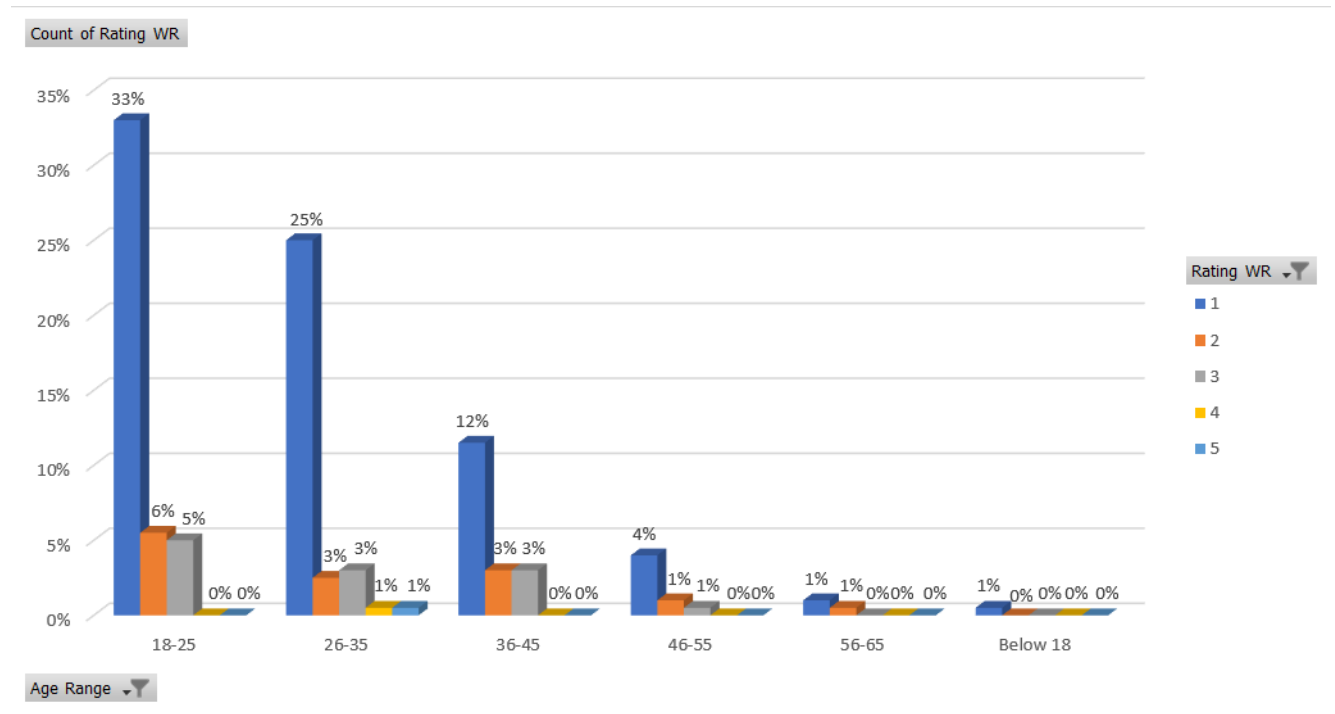


Table-

Count of Rating WR	Column Labels					
Row Labels	1	2	3	4	5	Grand Total
18-25	33%	6%	5%	0%	0%	44%
26-35	25%	3%	3%	1%	1%	32%
36-45	12%	3%	3%	0%	0%	18%
46-55	4%	1%	1%	0%	0%	6%
56-65	1%	1%	0%	0%	0%	2%
Below 18	1%	0%	0%	0%	0%	1%
Grand Total	75%	13%	12%	1%	1%	100%

Graph showing age range against financial stress among construction workers

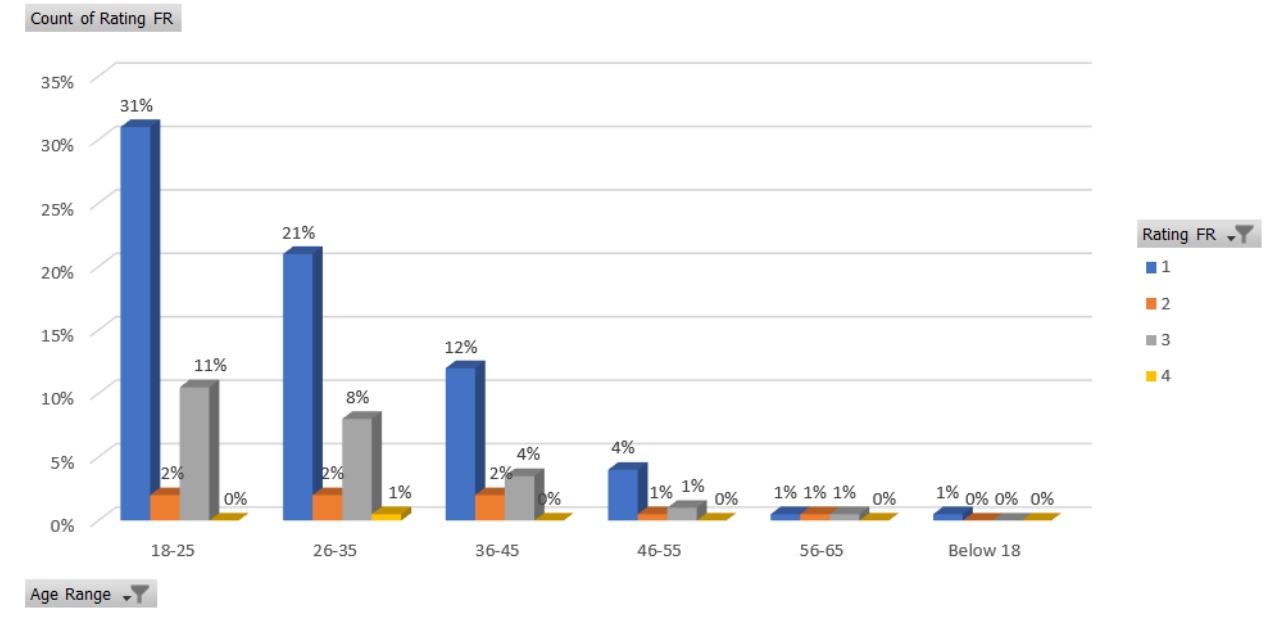


Table-

Count of Rating FR	Column Labels				
Row Labels	1	2	3	4	Grand Total
18-25	31%	2%	11%	0%	44%
26-35	21%	2%	8%	1%	32%
36-45	12%	2%	4%	0%	18%
46-55	4%	1%	1%	0%	6%
56-65	1%	1%	1%	0%	2%
Below 18	1%	0%	0%	0%	1%
Grand Total	69%	7%	24%	1%	100%

Graph showing age range against family-related stress among construction workers

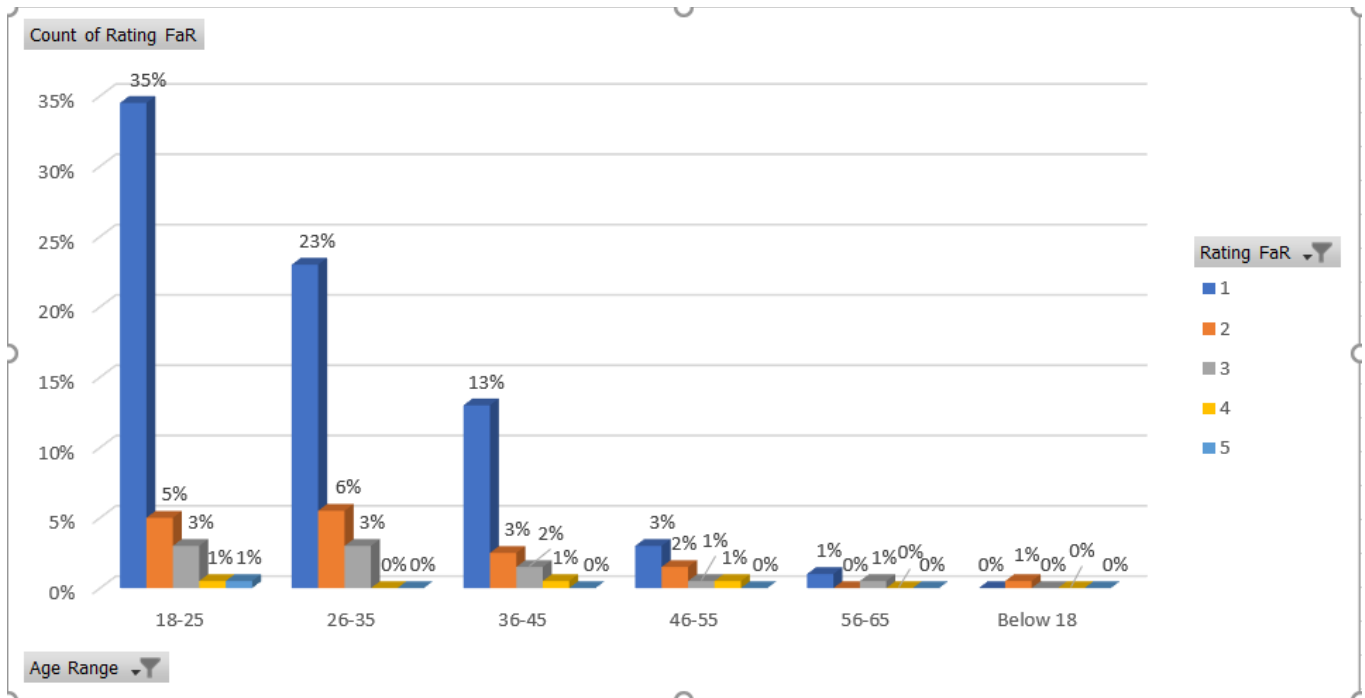


Table-

Count of Rating FaR	Column Labels	1	2	3	4	5	Grand Total
Row Labels	18-25	35%	5%	3%	1%	1%	44%
26-35	23%	6%	3%	0%	0%	32%	
36-45	13%	3%	2%	1%	0%	18%	
46-55	3%	2%	1%	1%	0%	6%	
56-65	1%	0%	1%	0%	0%	2%	
Below 18	0%	1%	0%	0%	0%	1%	
Grand Total		75%	15%	9%	2%	1%	100%

Graph showing age range against health related stress among construction workers

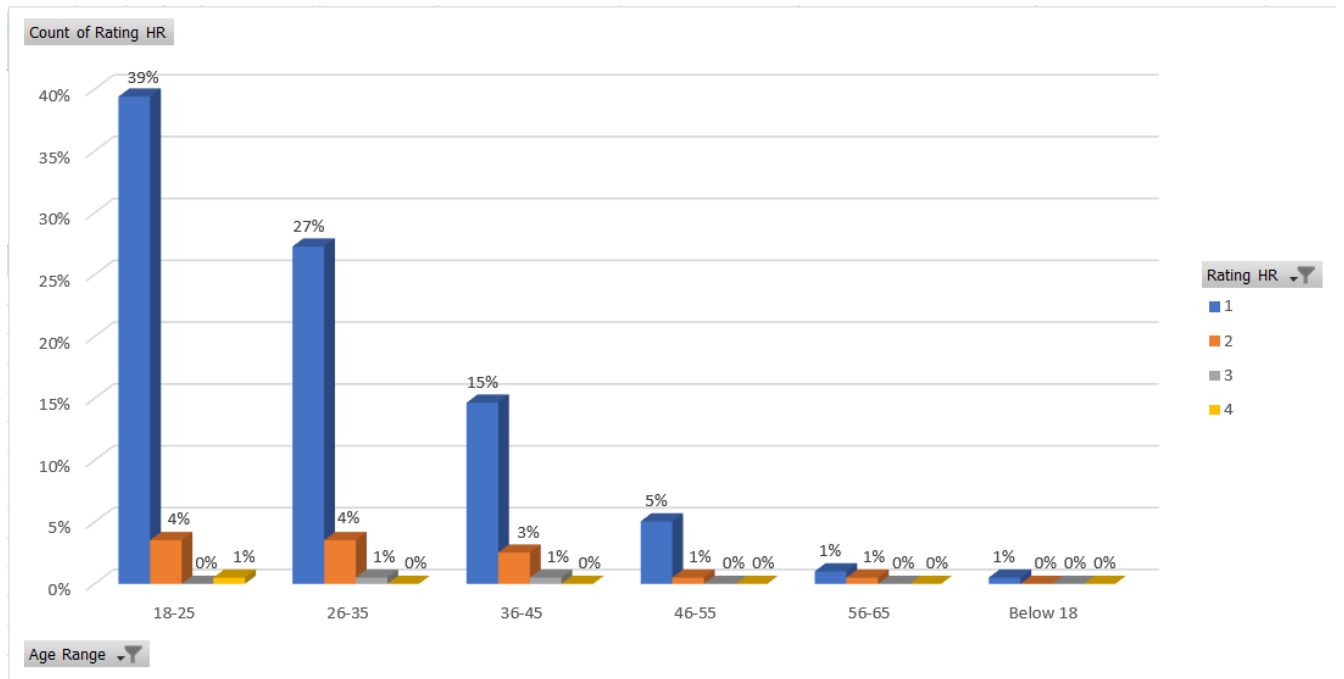


Table-

Count of Rating HR	Column Labels	1	2	3	4	Grand Total
Row Labels						
18-25		39%	4%	0%	1%	43%
26-35		27%	4%	1%	0%	31%
36-45		15%	3%	1%	0%	18%
46-55		5%	1%	0%	0%	6%
56-65		1%	1%	0%	0%	2%
Below 18		1%	0%	0%	0%	1%
Grand Total		88%	11%	1%	1%	100%

Graph showing recreational activities and age range of construction workers

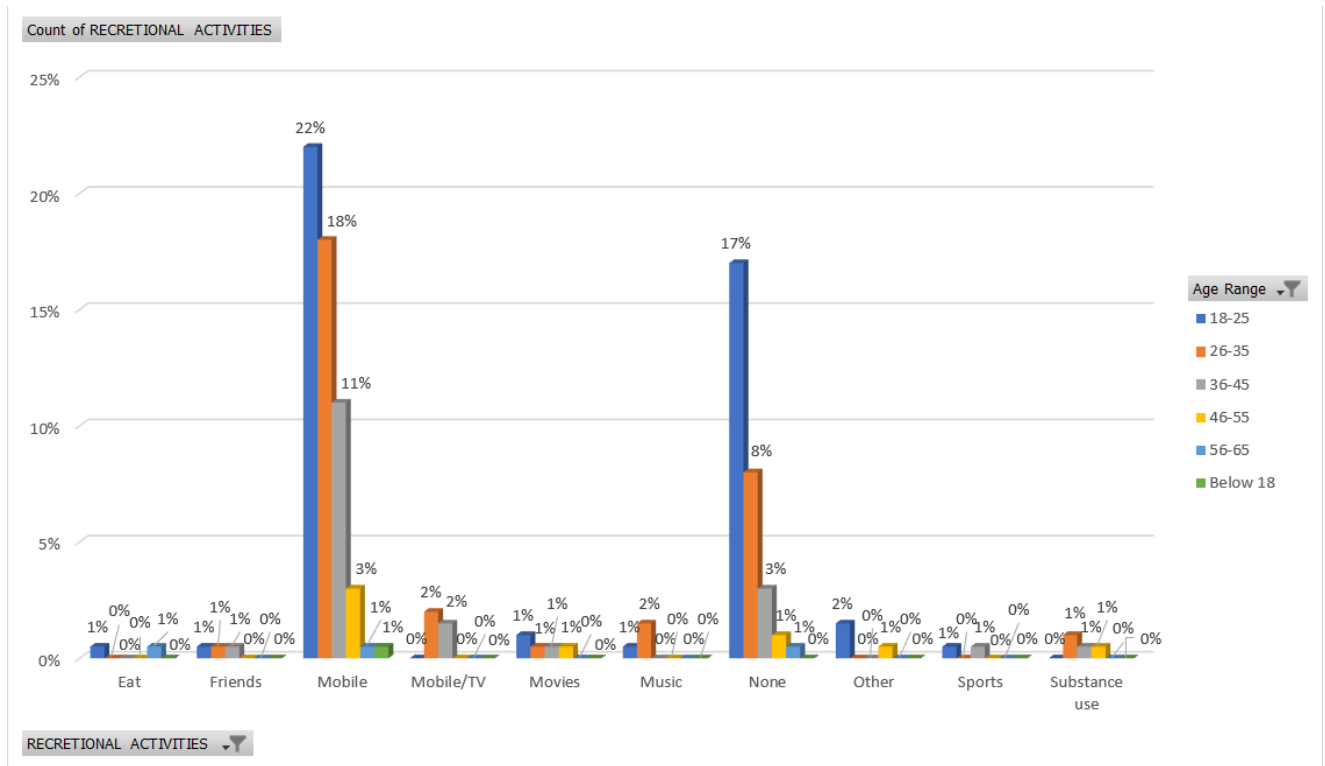


Table-

Count of RECRETIONAL ACTIVITIES	Column Labels										
Row Labels	Eat	Friends	Mobile	Mobile/TV	Movies	Music	None	Other	Sports	Substance use	Grand Total
18-25	1%	1%	22%	0%	1%	1%	17%	2%	1%	0%	44%
26-35	0%	1%	18%	2%	1%	2%	8%	0%	0%	1%	32%
36-45	0%	1%	11%	2%	1%	0%	3%	0%	1%	1%	18%
46-55	0%	0%	3%	0%	1%	0%	1%	1%	0%	1%	6%
56-65	1%	0%	1%	0%	0%	0%	1%	0%	0%	0%	2%
Below 18	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%
Grand Total	1%	2%	55%	4%	3%	2%	30%	2%	1%	2%	100%

Graph showing age range against attitude towards life among construction workers

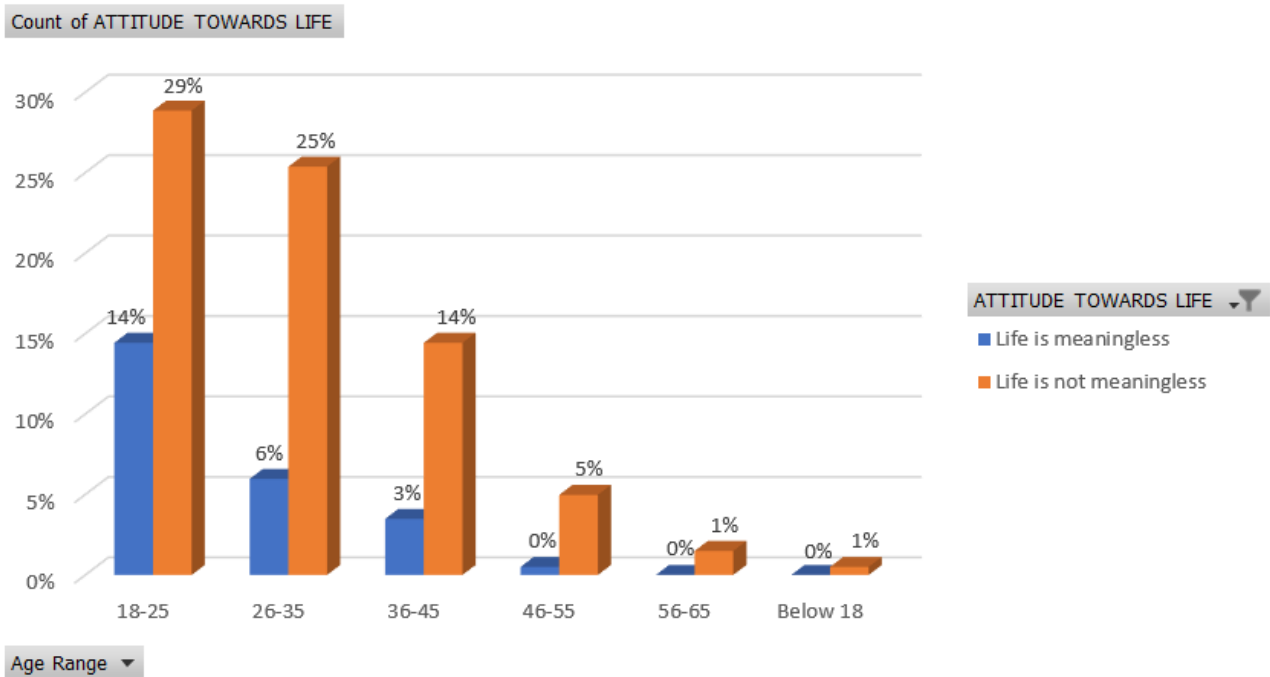


Table-

Count of ATTITUDE TOWARDS LIFE			
Row Labels	Life is meaningless	Life is not meaningless	Grand Total
18-25	14%	29%	43%
26-35	6%	25%	31%
36-45	3%	14%	18%
46-55	0%	5%	5%
56-65	0%	1%	1%
Below 18	0%	0%	0%
Grand Total	24%	76%	100%

Graph showing work-related stress against attitude towards life among construction workers

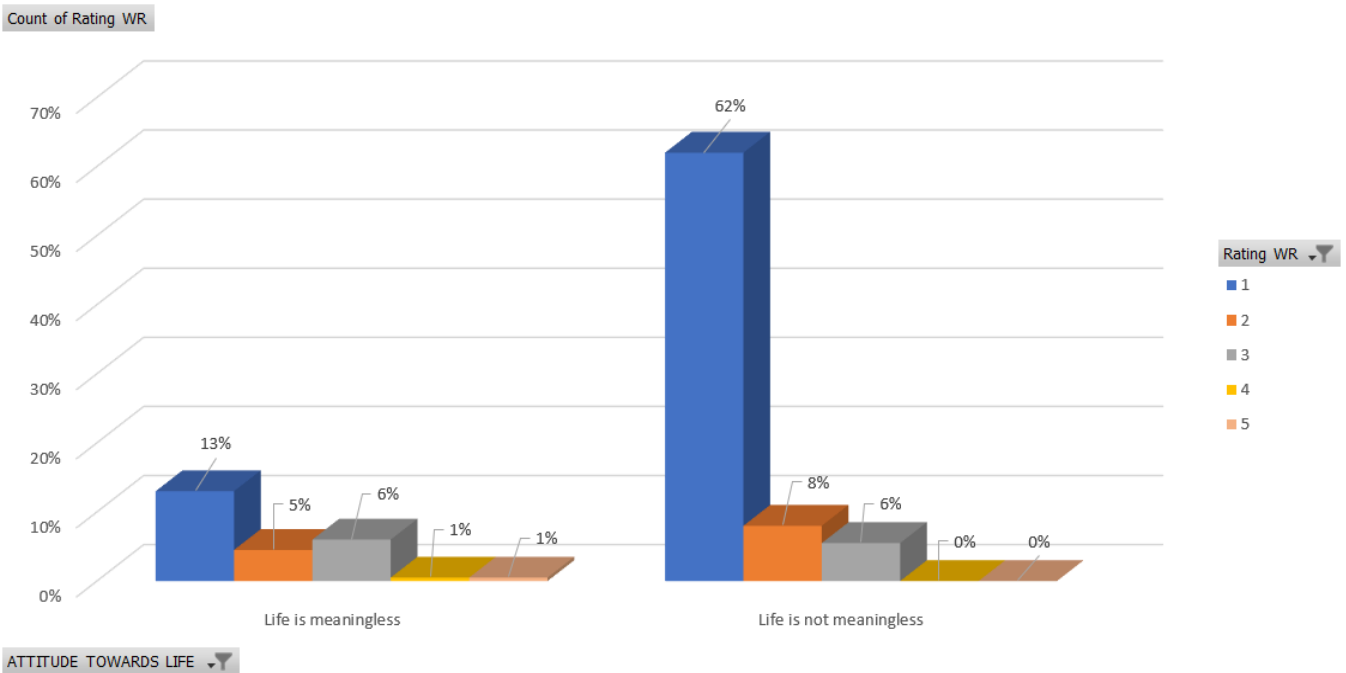


Table-

Count of ATTITUDE TOWARDS LIFE			
Column Labels	Life is meaningless	Life is not meaningless	Grand Total
Row Labels			
1	13%	62%	75%
2	5%	8%	13%
3	6%	6%	12%
4	1%	0%	1%
5	1%	0%	1%
Grand Total	25%	76%	100%

Graph showing financial stress against attitude towards life among construction workers

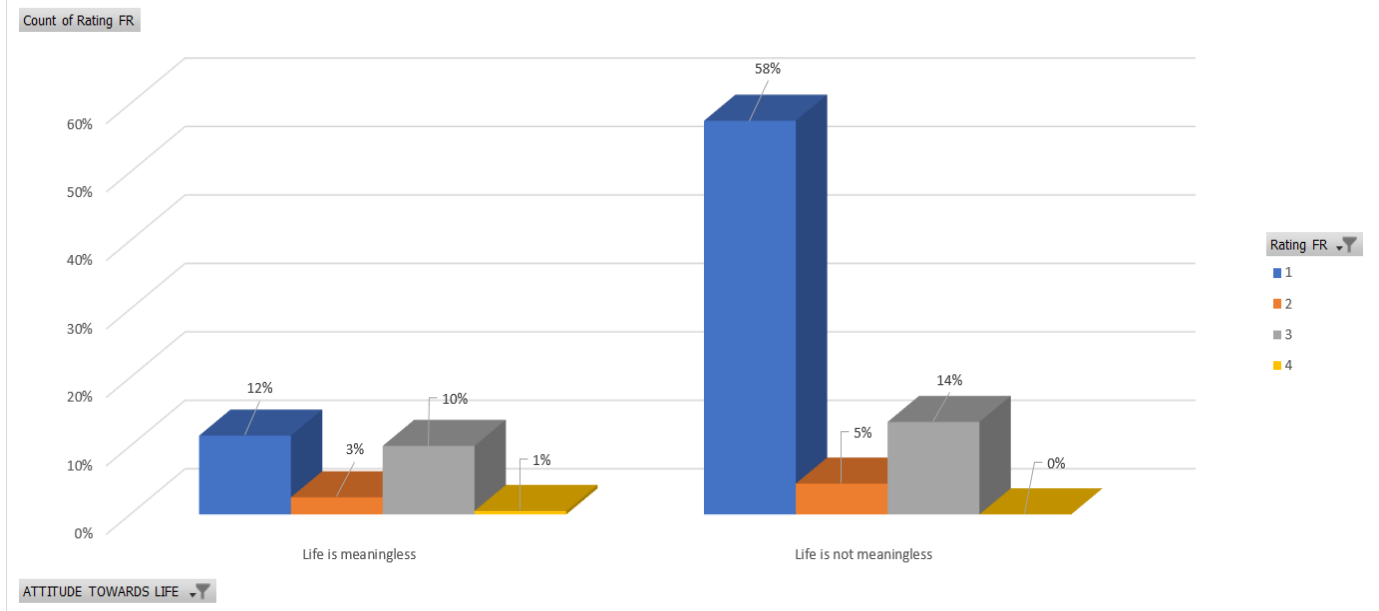


Table-

Count of ATTITUDE TOWARDS LIFE Column Labels			
Row Labels	Life is meaningless	Life is not meaningless	Grand Total
1	12%	58%	69%
2	3%	5%	7%
3	10%	14%	24%
4	1%	0%	1%
Grand Total	25%	76%	100%

Graph showing family-related stress against attitude towards life among construction workers

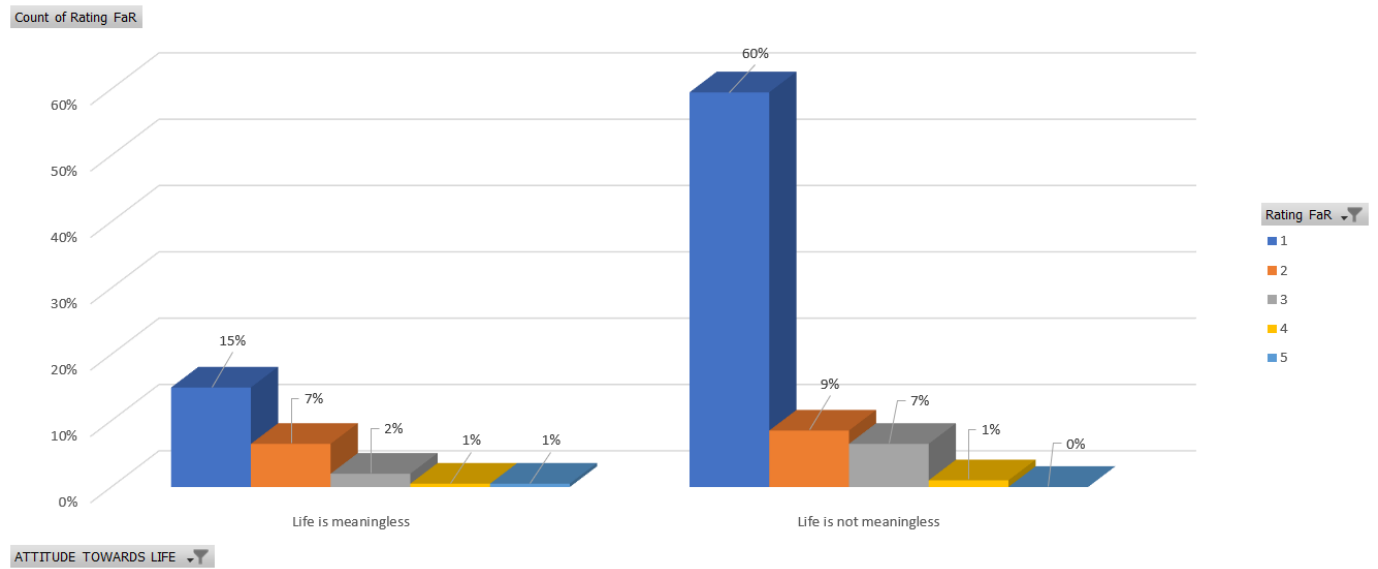


Table-

Count of ATTITUDE TOWARDS LIFE	Column Labels		
Row Labels	Life is meaningless	Life is not meaningless	Grand Total
1	15%	60%	75%
2	7%	9%	15%
3	2%	7%	9%
4	1%	1%	2%
5	1%	0%	1%
Grand Total	25%	76%	100%

Graph showing health-related stress against attitude towards life among construction workers

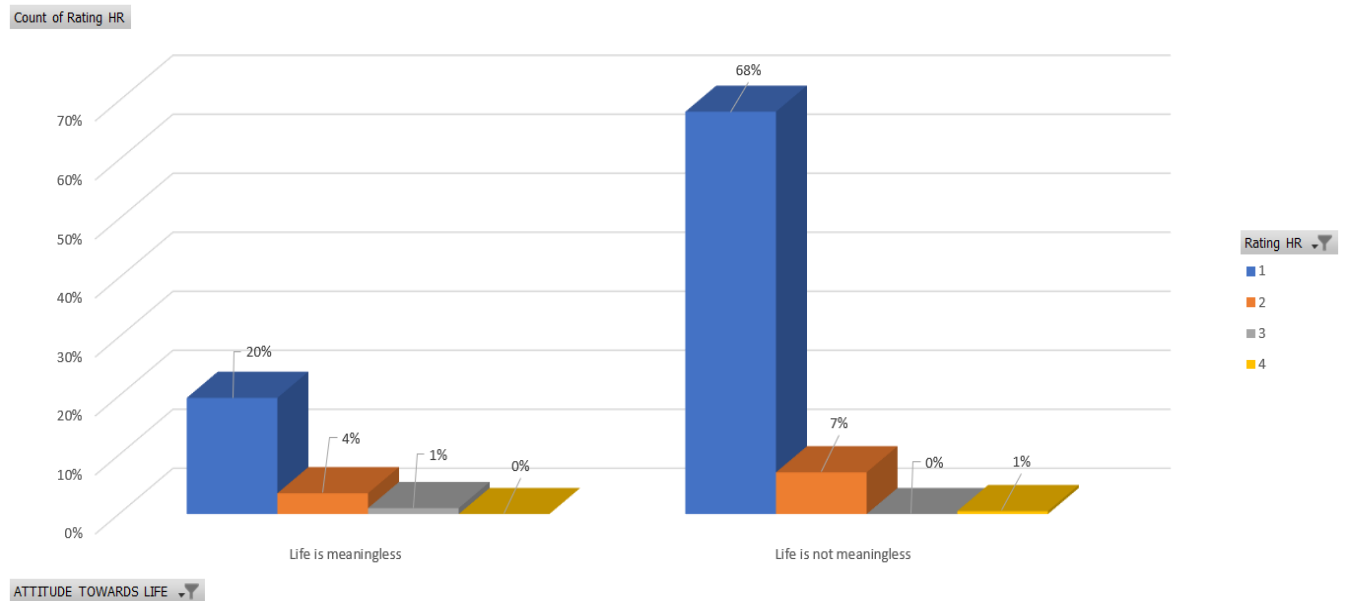


Table-

Count of ATTITUDE TOWARDS LIFE	Column Labels		
Row Labels	Life is meaningless	Life is not meaningless	Grand Total
1	20%	68%	88%
2	4%	7%	11%
3	1%	0%	1%
4	0%	1%	1%
Grand Total	24%	76%	100%

Out of the 200 construction workers the survey was conducted on, 108 workers reported to be under some kind of stress, which is more than half of the sample size. It makes up 54% of the total construction workers on whom survey was conducted. It was either stress related to their work, stress related to money, stress related to their family, or stress related to their health. Often times it was a combination of two or more of the above mentioned stressors and sometimes the cause of their stress was something else altogether. The other causes of stress included getting

their kid(s) married, their child has graduated but not working, they are unable to spend time with their family, and not being able to work according to their qualification.

When the workers were asked if they are satisfied with their current job and pay, 38 out of the 108 workers answered that they were not satisfied with either the job, or the pay, or both, which is 35.19% of the stressed workers. A remarkable pattern came to notice that the workers who reported to be dissatisfied with their job always reported to be dissatisfied with the pay, but not vice versa. This means that not all workers who are dissatisfied with the pay are dissatisfied with the job they currently perform.

When asked about what they do for relaxation, the workers reported to watch films, talk to their families on the phone, go shopping, travel around, consume substances like alcohol or tobacco, listen to music, watch TV, play games, study, dance, sing, talk to friends, etc. However, 38 out of the 108 workers (35.19%) reported to not do anything for recreational purposes. When these 38 workers were asked about what they do for entertainment or relaxation, they said that they do not do anything. This may indicate that they have no way of relieving the stress that builds up over time due to various reasons.

Post- workshop feedback of the construction workers

When asked about their attitude towards life, 43 of the 108 workers (39.81%) reported that sometimes they feel like life is meaningless to the extent that they have considered suicide while 63 of them (58.34%) reported to not having such thoughts. Two of the construction workers did not respond to the question at all.

The feedback of the participants of the workshop indicates that this stress management workshop has successfully served the cause of its conduction. The happiness and satisfaction of the workers was reflecting on their faces and they expressed their gratitude in simple yet overwhelming words.

They said that they felt stress free and tension free. Even though they had a lot of tensions and worries in their family and professional lives, they had forgotten all of it for at least some time which resulted in the decreased stress level. They also considered the workshop very interesting as they didn't feel bored throughout the program from the very beginning. They liked the yoga session a lot as they felt a bit of ease and peace. They also liked a specific hand exercise a lot in the yoga session. On the whole they enjoyed the workshop.

The workers' coordinator even said that he didn't expect this workshop to be this good as he was doubtful of the workers being so patient throughout the workshop. He expressed his heartfelt gratitude on the behalf of his team and gave credit for the success of this workshop to the organizers.

Pictures of the Workshop







Summary and Conclusion

The main objective of the project was to measure the stress level of construction workers working at Amity University, Mumbai. Construction industry is one of the fastest growing industries in India and workers who are stressed are more likely to be unhealthy, poorly motivated, and less safe at work. There are various causes of stress among construction workers which can have adverse effects on their physical and mental health as well as their private and professional life. Hence, this study was conducted with an objective to study the psychological stress among them.

A survey questionnaire was designed under the mentorship of Head of Department AIBAS Dr. Poonam Sharma which was later conducted on 200 construction workers working at Amity University, Mumbai, to measure their stress levels. This questionnaire was divided into five sections namely demographic details, family details, work details, stress and recreation, and Recreation and Leisure time activities. They were asked various questions which would help us gain access to their mind-sets and their stress levels. The questionnaire was especially translated in Hindi for easier understanding of the questions.

The result of the survey was that 108 of the 200 workers were stressed due to various reasons. It was found that 30 construction workers were highly stressed. A workshop was conducted for those 30 construction workers who were stressed, where discussions about causes of stress and ways to release stress took place. Activities were conducted dedicated to management of stress, followed by a yoga session. In this workshop, facts about stress were stated and various tips on coping with stress was discussed.

References

Cleveland Clinic. (2018). What Is Stress? Symptoms, Signs & More | Cleveland Clinic. [online] Available at: <https://my.clevelandclinic.org/health/articles/11874-stress> [Accessed 1 Dec. 2018].

Shawna Freshwater, P. (2018). 3 Types of Stress and Health Hazards - Shawna Freshwater, PhD. [online] Shawna Freshwater, PhD. Available at: <https://spacioustherapy.com/3-types-stress-health-hazards/> [Accessed 1 Dec. 2018].

Explorable.com. (2018). Physiological Stress Response - Nervous system and hormonal response. [online] Available at: <https://explorable.com/physiological-stress-response> [Accessed 1 Dec. 2018].

<https://www.apa.org>. (2018). Stress Effects on the Body. [online] Available at: <https://www.apa.org/helpcenter/stress-body.aspx> [Accessed 1 Dec. 2018].

Cold, F., Health, E., Disease, H., Disease, L., Management, P., Conditions, S., Problems, S., Disorders, S., Checker, S., Interviews, E., Boards, M., Answers, Q., Guide, I., Doctor, F., Medications, M., Identifier, P., Interactions, C., Drugs, C., Pregnant, T., Management, D., Obesity, W., Recipes, F., Exercise, F., Beauty, H., Balance, H., Relationships, S., Care, O., Health, W., Health, M., Well, A., Teens, H., Kids, F., Pregnant, G., Trimester, F., Trimester, S., Trimester, T., Baby, N., Health, C., Vaccines, C., Kids, R., Cats, H., Dogs, H., Weight?, C., Recalls?, W., Narcissist, A., Heart, W., Gene-Edited BaClaim Raises Questions, C., Boards, M., Blogs, E., Center, N. and Balance, H. (2018). Causes of Stress. [online] WebMD. Available at: <https://www.webmd.com/balance/guide/causes-of-stress> [Accessed 1 Dec. 2018].

Psychologyconcepts.com. (2018). Diathesis-Stress Model | Psychology Concepts. [online] Available at: <http://www.psychologyconcepts.com/diathesis-stress-model/> [Accessed 1 Dec. 2018].

Opentextbc.ca. (2018). 16.2 Stress and Coping – Introduction to Psychology – 1st Canadian Edition. [online] Available at: <https://opentextbc.ca/introductiontopsychology/chapter/15-2-stress-and-coping/> [Accessed 1 Dec. 2018].

Courses.lumenlearning.com. (2018). Coping with and Managing Stress | Boundless Psychology. [online] Available at: <https://courses.lumenlearning.com/boundless-psychology/chapter/coping-with-and-managing-stress/> [Accessed 1 Dec. 2018].

Waghachavare VB, e. (2018). A Study of Stress among Students of Professional Colleges from an Urban area in India. - PubMed - NCBI. [online] Ncbi.nlm.nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/23984029/> [Accessed 1 Dec. 2018].

F, K. (2018). [Traumatic Stress in Emergency Medical Technicians: Protective Role of Age and Education]. - PubMed - NCBI. [online] Ncbi.nlm.nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/26731020/> [Accessed 1 Dec. 2018].

L, K. (2018). [Stress at work among military doctors: a preliminary study]. - PubMed - NCBI. [online] Ncbi.nlm.nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/17048782/> [Accessed 1 Dec. 2018].

Berry, M. (2018). Stress increases in construction industry - Personnel Today. [online] Personnel Today. Available at: <https://www.personneltoday.com/hr/stress-increases-in-construction-industry/> [Accessed 1 Dec. 2018].

Appendix

Basic Survey of Construction Workers-

Demographic Details

1. Name (optional):
2. Age:
3. Marital Status:
4. Number of children:
5. Educational Qualification:
6. Languages known:
7. Hometown:
8. Any medical ailments:
9. Contact number:

Family Details

1. Family structure:
2. Number of members in family:
3. Current location of family:
4. Family income (per month):
5. Amount of time spent with family:
6. Occupation of adults in family:

Work Details

1. Current type of work:
2. Hours worked per day:
3. Time given for rest:
4. Payment per hour:
5. Satisfied with current job: Yes/No
6. Satisfied with current payment: Yes/No
7. Facilities provided at work:
8. Mode of travel to work:
9. Months/Years at this kind of work:
10. Type of work done before the current one:
11. Other sources of income (if any):

12. Health problems due to work (if any):

13. Type of work you want to do in future:

Stress and recreation

Type of Stress faced (if yes, rate from 1-5)

1. Work related stress: Yes/No (if yes, elaborate)
2. Finance related stress: Yes/No
3. Family related stress: Yes/No (if yes, elaborate)
4. Health related Stress: Yes/No
5. Any other cause of stress: _____

Recreation and leisure time activities

6. Recreational Activities:
7. Activities done in free time:

Did you ever feel like life is worthless: Yes/No

Basic Survey of Construction Workers in Hindi

जनसांख्यिकीय विवरण

1. नाम (वैकल्पिक)-
2. उम्र-
3. वैवाहिक स्थिति-
4. बच्चों की संख्या-
5. शैक्षणिक योग्यता-
6. भाषाएं ज्ञात हैं-
7. गृहनगर-
8. कोई भी चिकित्सा बीमारियां-
9. संपर्क सूचना-

पारिवारिक विवरण

1. पारिवारिक संरचना-
2. परिवार में सदस्यों की संख्या-
3. परिवार का वर्तमान स्थान-
4. पारिवारिक आय (प्रति माह)-
5. परिवार के साथ बिताए गए समय की मात्रा-
6. परिवार में वयस्कों का व्यवसाय-

कार्य विवरण

1. वर्तमान प्रकार का काम-
2. रोज़ाना कितने घंटे काम करते हैं-
3. आराम के लिए दिया गया समय-
4. प्रति घंटा वेतन-
5. वर्तमान नौकरी से संतुष्ट- हां / नहीं
6. वर्तमान वेतन से संतुष्ट- हां / नहीं

7. काम पर उपलब्ध सुविधाएं-
8. काम करने के लिए यात्रा का माध्यम-
9. इस तरह के काम पर महीने / साल बिताये-
10. पूर्व काम का प्रकार-
11. आय के अन्य स्रोत (यदि कोई हो)-
12. काम के कारण स्वास्थ्य समस्याएं (यदि कोई हो)-
13. भविष्य में आप जिस काम को करना चाहते हैं उसका प्रकार-

तनाव और मनोरंजन

विविध प्रकार के तनाव (यदि हां, 1-5 से दर)

1. कार्य से संबंधित तनाव- हां / नहीं (यदि हां, विस्तार से लिखें)
2. वित्त से संबंधित तनाव- हां / नहीं
3. परिवार से संबंधित तनाव- हां / नहीं (यदि हां, विस्तार से लिखें)
4. स्वास्थ्य से संबंधित तनाव- हां / नहीं
5. तनाव का कोई अन्य कारण- _____

मनोरंजन और अवकाश समय गतिविधियों

1. मनोरंजक गतिविधियां:
2. नि: शुल्क समय में की गई गतिविधियां:

क्या आपने कभी ऐसा महसूस किया है कि जीवन बेकार है- हां / नहीं

3. Design of the Workshop

INTRODUCTION:

Extensive research has shown that construction workers suffer a great amount of psychological stress due to factors like long working hours, minimum wage, workload, extreme work conditions, lack of safety at workplace and staying away from loved ones for a long period of time. They also tend to rely on substance and other unconventional activities which further puts them at risks. After measuring the stress levels, workers with high levels of stress have been narrowed down and these workers will undergo the workshop which will teach them to manage stress better.

OBJECTIVE:

Participants of the workshop will develop the ability to:

1. Understand how stress works and develop sustainable behaviours.
2. Develop their personal resources and avoid stress “over-draft”.
3. Recognise negative stress and its symptoms.
4. Identify the causes of unidentified stress.
5. Avoiding negative stress whilst enhancing positive experience.
6. Utilise effective relaxation and stress reduction techniques.

AGENDA:

SR.NO	SESSION	FACILITATOR	DURATION	OBJECTIVE
1	Inauguration ceremony	Abhishek K	20 mins	Inauguration
2	Project highlights	Abhishek K	20 mins	Understanding

				project VASSP
3	Introduction	Palchhin and Vidhi	50 mins	Insights on stress
4	Ice-breaking	Samritha	10 mins	Creating rapport
5	Activities	Samritha and Saloni	45 mins	Recognising stress
6	Management of stress	Saloni P	20 mins	Overcoming Stress
7	Relaxation	Vidhi and Samritha	30 mins	Effective Stress reduction
8	Conclusion	Abhishek K	5 mins	Summarising