

## CHAPTER-2

### **REVIEW OF LITERATURE**

Literature review is an important phase of the study as it gives the theoretical basis on the ground of which a researcher full fill his certain objectives related to the thrust area, and contribute valuable efforts in the world of existing literature. Critical analysis and study of the work done by the researcher helps the researcher to understand the concept and phenomena and shows the path for further uncovered areas of interest in terms of clear cut picture of research gaps. A good and sound review of the available exiting literature contributes to rich, sound, and fruitful study. A vast and thorough review of available literature related to the physical and psychological well being of unorganized sectors has been done, in order to magnify the genesis of the study and provide a sound support for it.

**The review is presented in the following subheads -**

**2.1. Theoretical concepts and models**

**2.2. Socio economic profile of workers in unorganized sector**

**2.3. Occupational stress among workers in unorganized sector**

**2.4. Physical and Psychological wellbeing among workers in unorganized sector**

**2.5. Postural discomfort and musculoskeletal disorders among workers in unorganized sector**

#### **2.1. THEORETICAL CONCEPTS AND MODELS**

##### **Concept of Well-being**

**Well-being** or **welfare** is a general term used to represent the positions that of an individual or group attain in various aspect of social, economic, psychological, spiritual or medical state. Well being has been measured in terms of its different levels from high medium and low. The high level of well-being represents that, in some sense the individual or group's are experiencing positive happenings, while low well-being is associated with experiences of negative, happenings. Well-being can be understood as a dynamic process which represent a sense of peoples about how were their lives, with the interaction between their

circumstances, activities and psychological resources. There is no single and exact definition of the well being, only it can be represented in terms of the individual attitudes of a persons or a group. The study of well being is developed through the researches related to the attitude, related to the assessment of interaction of the persons with environment and emotions and their interpretation ability.

The concept of well-being has been investigated by the researchers of different streams, some of them are as fallows.

- Physical well-being.
- Economic well-being.
- Social well-being.
- Development and activity.
- Emotional well-being.
- Psychological well-being.
- Life satisfaction.
- Domain specific satisfaction
- Engaging activities and work (**Centers for disease control, CDC**).

The well being of the person or group has been measured objectively and subjectively

Objective measurement of well being is associated with material, economic and social circumstances. They are generally referred to as social indicators which can be measured objectively through the assessment of the person or group, such like if we are measuring the wellbeing in terms of economic status it is combination of two items property and income which is measured objectively.

**Subjective measurement of the well being** refers to measurement of well being in qualitative terms inherent within inside the individual such like emotions, attitudes, attributes, level of satisfaction, happiness, all these cannot be objectively measured.

Historically the concept of wellbeing is area of debate among the researchers, two different philosophies prevails in the literature. The first school of thought is **Hedonism** approaches, this view of well being is based on that, the wellbeing consists of pleasure or happiness. The second school of thought is **Eudaemonic**. The followers of this thought advocate that, the

wellbeing is not only the happiness but also lies instead in the actualization of human potentials (Ryan and Deci, 2001, cited in Byrd, 2012: 39).

### **Hedonic Psychological Approach**

Hedonic school of thought is based on the concept of importance of the happiness and argues that pleasure is most important intrinsic good for the person or group. In other words it said to be that the maximization of net pleasure (pleasure minus pain) is the ultimate goal of the person or group. Wellbeing is an internal state inherent inside the individual or group, and it represents as the subjective evaluations about the quality of one's life, in several varieties (DelleFave *et al.*, 2011). This commencement of thought originated the construct of subjective wellbeing (SWB). The concept of SWB stems from the thoughts that pleasure is the sole good, and that any notion of "the good life" must be equated with maximum attainment of pleasure (Ryan and Deci, 2001; Waterman, Schwartz, & Conti, 2008), which has generally been included, an affective component, comprising of a preponderance of positive emotional experiences over to the negative emotional experiences, with a cognitive component, based on the ones personal judgment on satisfaction with life as a whole, or with specific life domains, e.g, work or relationships (Diener, 2009). More specifically, SWB has been conceptualized as consisting of: high frequencies of positive affect, low frequencies of negative affect, and a global cognitive evaluation of life as satisfying (Diener *et al.*, 1999).

Affect is the experience of feeling or emotion (Hogg *et al.* 2010). Affect is a key part of the process of an organism's interaction with stimuli. Affects are categories in to two components Negative affectivity (NA) and positive affectivity. Watson and Clark (1984), Koch *et al.* (2013), briefs the **negative affectivity** as which is the personality variables that comprises of experiences of negative emotions and poor self-concept, it includes a vast variety of negative emotions, including anger, contempt, disgust, guilt, fear, and nervousness. Low negative affectivity is characterized by frequent states of calmness and serenity, along with states of confidence, activeness, and great enthusiasm. **Naragon and Watson (2009) Positive affectivity** is defined as it is a characteristic that describes the way of interaction of one's positive experiences with others and with their surroundings. One with high positive affectivity are full of enthusiastic, energetic, confident,

active, and alert, on the other end the one having low levels of positive affectivity surrounded by sadness, lethargy, distress, and un-pleasurable engagement.

**Giboa et al. (2001)** the concept of cognitive well being is developed on the basis of assessment of one's interactions with their outside environment and other people. Individuals perceive feelings of happiness and satisfaction in their lives through the signals of aspiration and needs, contentment and disappointment. Individuals developed their cognitive well-being based on their societal classes that are prevailing in their community, lifestyle and through the assessments of what they have and what they do not have.

### **SUBJECTIVE WELLBEING**

<b>Pleasant affect</b>	<b>Unpleasant affect</b>	<b>Life satisfaction</b>	<b>Domain satisfactions</b>
Joy	Guilt and Shame	Desire to change life	Work
Elation	Sadness	Satisfaction with current life	Family
Contentment Pride	Anxiety and worry Anger	Satisfaction with past	Leisure health
Affection	Stress	Satisfaction with future	Finances
Happiness	Depression	Significant others views of one's life	Self
Ecstasy	Envy		One's group

#### **Components of subjective wellbeing (Adopted from Diener et al. (1999)).**

Positive psychology is particularly concerned with the study of subjective wellbeing. Subjective wellbeing (SWB) tends to be stable over time and is strongly related to personality traits. There is evidence that health and SWB may mutually influence each other, as good health tends to be associated with greater happiness, and a number of studies have found that positive emotions and optimism can have a beneficial influence on health.

Eudaemonic theorists advocates that wellbeing and happiness both are different all the sources of pleasure do not promote the wellbeing. Instead of these, the realization of human

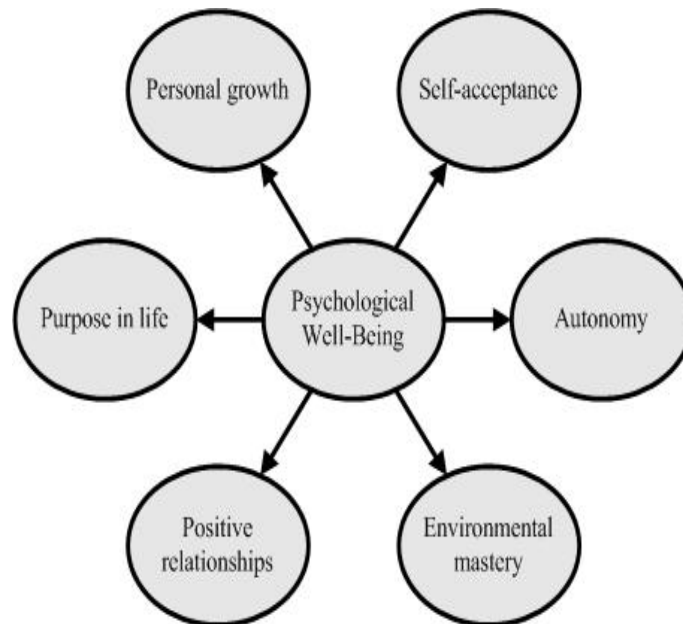
potential (a 'developmental' component) is responsible for the well being rather than simply life-satisfaction.

The concept of eudaemonic was coined by Aristotle, (1985), however, it has also been argued by the other ancient philosophers, Plato and Zeno of Citium (Grinde, 2012). Aristotle proclaimed that living a life of contemplation and virtue, in accordance with one's inherent nature (i.e. living authentically, or in truth to one's 'daimon') pathway to wellbeing (Norton, 1976). Aristotle defined acting virtuously as behaving in a way that is noble and is worthwhile for its own sake; often emphasising the virtues of justice, kindness, courage, and honesty. Aristotle further suggested that developing one's potentials in the pursuit of complex and meaningful (both to the individual and society) goals was the hallmark of a good life (Keyes and Annas, 2009). He distinguished between pleasure and the good life, at times denigrating hedonism as a vulgar ideal, as he believed it made humans the slaves of desires. Positive emotional experiences were not central to Aristotle's conception of a good life, though he did acknowledge that often the result of eudaemonic action was hedonic pleasure (Kashdan *et al.*, 2008).

Two of the most prevalent Eudaemonic concepts to pervade the knowledge of well-being have been advanced by the works of Waterman and colleagues' (2010) the concept of emotional well-being (EWB) and Ryff's (1989) concept of psychological well-being (PWB). The central argument of EWB advocated by the Waterman and colleagues', revolve around the perceived identification and development of one's "true self" (i.e., one's best potentials and fullest capacities). Other components of EWB within this conceptualization include: a sense of meaning and purpose in life, investment of significant effort in the pursuit of excellence, intense involvement in activities (flow), and enjoyment of activities as personally expressive.

The theoretical concept of Psychological well-being (PWB) is primarily advocated by Ryff (1989). The concept of PWB aligned with the eudaimonic approaches rather than hedonic based on the conceptions of happiness and subjective wellbeing. PWB consists of the following six factors: self-acceptance, positive relations with others, personal growth, environmental mastery, purpose in life, and autonomy (Ryff, 1989, Ryff and Keyes, 1995).

It includes both a theory and measurement scales designed and advocated primarily by Carol Ryff, she attempts to combine the different concepts of well-being argued by the ancient Greek and modern psychological theory such like the theory Individuation advocated by Carl Jung and Self-actualization theory of Abraham Maslow and others.



**RYFF (1989), MODEL OF WELL BEING**

The most recurrent criterion of well-being evident in the previous perspectives is the individual's sense of **self-acceptance**. This is deemed as a central feature of mental health as well as a characteristic of self-actualization, optimal functioning, and maturity. Life span theories also emphasize acceptance of self and of one's past life. Thus, holding positive attitudes toward oneself emerges as a central characteristic of positive psychological functioning.

Many of the preceding theories emphasize the importance of warm, trusting interpersonal relations. The ability to love is viewed as a central component of mental health. Self-actualizers are described as having strong feelings of empathy and affection for all human beings and as being capable of greater love, deeper friendship, and more complete identification with others. Warm relating to others is posed as a criterion of maturity. Adult developmental stage theories also emphasize the achievement of close unions with others (intimacy) and the guidance and direction of others (generativity). Thus, the importance of

positive relations with others is repeatedly stressed in these conceptions of psychological wellbeing.

There is considerable emphasis in the prior literature on such qualities as self-determination, independence, and the regulation of behavior from within. Self-actualizers, for example, are described as showing autonomous functioning and resistance to enculturation. The fully functioning person is also described as having an internal locus of evaluation, whereby one does not look to others for approval, but evaluates oneself by personal standards. Individuation is seen to involve a deliverance from convention, in which the person no longer clings to the collective fears, beliefs, and laws of the masses. The process of turning inward in the later years is also seen by life span development lists to give the person a sense of freedom from the norms governing everyday life.

**Environmental mastery** The individual's ability to choose or create environments suitable to his or her psychic conditions is deemed as a characteristic of mental health. Maturity is seen to require participation in a significant sphere of activity outside of self. Life span development is also described as requiring the ability to manipulate and control complex environments. These theories emphasize one's ability to advance in the world and change it creatively through physical or mental activities. Successful aging also emphasizes the extent to which the individual takes advantage of environmental opportunities. These combined perspectives suggest that active participation in and mastery of the environment are important ingredients of an integrated framework of positive psychological functioning.

Mental health is deemed to include beliefs that give one the feeling there is purpose in and meaning to life. The definition of maturity also emphasizes a clear comprehension of life's purpose, a sense of directedness, and intentionality. The life span developmental theories refer to a variety of changing purposes or goals in life, such as being productive and creative or achieving emotional integration in later life. Thus, one who functions positively has goals, intentions, and a sense of direction, all of which contribute to the feeling that life is meaningful.

Optimal psychological functioning requires not only that one achieve the prior characteristics, but also, one that continue to develop one's potential, to grow and expand as

a person. The need to actualize oneself and realize one's potentialities is central to the clinical perspectives on personal growth. Openness to experience, for example, is a key characteristic of the full functioning of a person. Such an individual is continually developing and becoming, rather than achieving a fixed state wherein all problems are solved. Life span theories also give explicit emphasis to continued growth and confronting of new challenges or tasks at different periods of life. Thus, continued personal growth and self-realization is a prominent theme in the aforementioned theories. It may also be the dimension of well-being that comes closest to Aristotle's notion of eudaimonia as described earlier.”

**Ryff and Keyes (1995)** tested the theoretical model on the bases of data from a nationally representative sample of adults, aged 25 and older, with the help of Confirmatory factor analyses they provided support for the proposed 6-factor model, and they found that life satisfaction, showed moderate to strong association between the measurement of Self-Acceptance and Environmental Mastery and happiness, life satisfaction, and depression. However, the other four dimensions of well-being show positive relations with others. Purpose in Life, personal growth, and autonomy showed mixed or weak relationships with these indicators.

The psychological environment can be thought of, more specifically, as the set of those characteristics of work environment that affect how the worker feels, thinks and behaves. Based on the behavior, three different types of psychological phenomena are considered: affect (e.g. emotions, mood, psychological symptoms, affective disorders); cognition (e.g. attitudes, perception, decision-making); and behavior (e.g. effectiveness, absence, motivation). **Briner (2000)** stated work environment appear to have both positive and negative impacts on the psychological well-being of workers. He reviewed a number of models and theories that have addressed this issue and argued that there exists no single model to suit all the environments as the concepts of psychological well being take in specific mental health conditions e.g. depression, anxiety disorder, mood states related to motivation e.g. fatigue, tiredness, other mood states e.g. depressed affect, boredom, and specific emotions e.g. anger. Each of these factors is required to be analyzed, understood and finding out which is the most fruitful is a big challenge for the researcher.

**Physical Well Being** “is the ability to maintain a healthy quality of life that allows us to get through our daily activities without undue fatigue or physical stress. The ability to recognize that our behaviors have a significant impact on our wellness and adopting healthful habits (routine checkups, a balanced diet, exercise, etc.) while avoiding destructive habits (tobacco, drugs, alcohol, etc.) will lead to optimal Physical Wellness” (**University of California, Riverside**).

The physical working environment can be simply understood, as the environment in which people work. It is simply in broad category the setting that encompasses the physical setting e.g. heat, equipment, characteristics of the job itself e.g. workload, task complexity, broader organizational features e.g. culture, history and even aspects of the extra organizational setting.

The physical work environment affects the physical health of the individuals and directly measured with certain objectivity through the assessment of physical health of the worker. Working environment also directly influences the psychological well-being, but these effects are very complex in nature and difficult to observe. It is very difficult to understand and develop the different measurement scales for this. Most of the approaches developed in literature by the researcher in the past focus on the negative impacts of work on well-being through job satisfaction.

### **Mental health: a state of wellbeing**

Mental health is a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community. WHO defines the health as contained in its constitution: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (**WHO, 2014**).

### **Stressors**

Stressors are the factors which work between the phenomena of the psychological and physical well being. The stressor can be defined mismatch between the demanded and required, it may be either internal or external and create a physical or psychological strain on the organism. Physical demands can be created by such diverse stimuli as illness caused by

viral and bacterial agents, fatigue resulting from sleep disorders, excessive workload, nutritional deficiency, and traumatic injuries. Psychological situations can be viewed as positive or negative depending on the extent to which the demand is perceived as a short-term or chronic threat to the individual. Categories of psychological demands include attitudes, perceptions, emotional responses, and cognitive abilities.

Stress response outcomes include psychological and behavioral reactions to demands. The reaction can be temporary, short-term strain (a few minutes, hours, or days), or chronic (weeks, months, and years). Although some stress may have a positive effect by stimulating productivity or fostering feelings of self efficacy and self-worth, prolonged stress has been established as a potential risk factor in both physical and psychological illnesses. Disease states that have been related to stress include heart disease, stroke, suicide, cancer, and impaired immunologic competence associated with increased vulnerability to infection and neoplasm. Heightened levels of stress can result in dysfunction that produces such disorders as hypertension, arrhythmia, angina, migraine headache, and Reynaud's syndrome.

### **Occupational Stress**

Occupational stress is defined as the condition in which some factors or combination of factors interferes with the worker and interrupts his or her physical and psychological health. Physical ill health includes headache, migraine, abdominal pain, lethargy, backache, chest pain, fatigue, heart palpitation, sleep disturbance and muscle ache which negatively affects an individual's productivity, effectiveness and quality of work (George and Jones, 1996; Newell, 2002; World Health Organization, 2005). While psychological ill health consists of anxiety, depression, burnout, job alienation, hostility, tension, anger, nervousness, irritability and frustration experienced by an individual at the workplace. (Lufthansa, 1992; Millward, 2005, cited in Sharma and Kaur, 2015). In addition, **Raeissi and Tavakoli (2002)** has generalized that a small amount of stress can bring about an increase in individual's efficiency which is the positive stress known as 'eustress', while too much stress results in mental and physical ill health which is negative stress known as 'distress'.

The term occupational stress, associated with the person's job, may include physical, social, drug, fatigue or cyclical stressor. Physical stressor mostly include environmental stressors like internal and external heat, cold, light, dark, noise and vibration. Individual response to

such exposure varies according to the protective measures followed by the industry, unfortunately hardly there is any scope for protective work culture in the unorganized sector. Social stressors include unorganized society low wages, family disturbances, family oriented malnutrition, which may lead to cognitive dysfunctions and extreme stoicism about own health. Regarding drug stressor medical, social & narcotic use, caffeine, narcotics and alcohol directly affects the CNS.

Buffers are factors that can reduce the negative effects of exposure to stressors. Some of the most common buffers include a positive lifestyle, social support, spending time away from work, being involved with leisure activities, and stress management. Whereas training programs can provide valuable information on injury prevention, ergonomics, health and safety, other non-work factors have also been identified.

### **Musculoskeletal Disorder**

The term Musculoskeletal Disorders (MSDs) refers to the injuries and disorders which affects directly the human body's movement or musculoskeletal system i.e. muscles, tendons, ligaments, nerves, discs, blood vessels, etc. Some of the Common MSDs are as fallows.

- Carpal Tunnel Syndrome
- Tendonitis
- Muscle / Tendon strain
- Ligament Sprain
- Tension Neck Syndrome
- Thoracic Outlet Compression
- Rotator Cuff Tendonitis
- Epicondylitis
- Radial Tunnel Syndrome
- Digital Neuritis
- Trigger Finger / Thumb
- DeQuervain's Syndrome
- Mechanical Back Syndrome

- Degenerative Disc Disease
- Ruptured / Herniated Disc,

Based on the causes of damage in body parts and muscles there are several other forms of MSDs prevail in the present world. The terminology is based on identification of cause such like injuries due to motion it is said as motion injury, “repetitive stress injury”, “and overuse injury”. These types of MSDs are limited up to medical languages. The researcher related to MSD are consider and investigates the MSDs are outcome of the several factors working simultaneously. Major Factors are discussed as below (**Middlesworth, 2015**).

### **Exposure to Risk Factors**

A worker or an individual working in any of the job or work are exposed to MSD risk factors. When fatigue outruns beyond their body’s recovery system, musculoskeletal imbalance begins to start in the body parts and as the time passes, this fatigue continuously increases and goes beyond the recovery system of the body and it becomes permanently MSDs.

The risk factors to MSDs are categorized in to two parts first is the work-related (ergonomic) risk factors and second is individual-related risk factors. The root causes of development of MSDs are these factors.

MSDs are developed through a continuous fatigue in the body or a part of the body it is important to that an individual’s body or some part of the body receives signals of fatigue for a long time, and it is only the job on which he has to put his body for such type of risk on continuous bases for the long life that’s why the workplace designs has played an important role in the development of an MSD. When a worker performs work beyond his body’s capabilities and limitations, he put his body at risk to develop the musculoskeletal disorder. An objective evaluation of the workstation designs informs us the appropriateness of the design along with the worker’s body recovery capability. The evaluation will also tell us that ergonomic risk factors are present and the worker is at risk of developing a musculoskeletal imbalance and musculoskeletal disorder is an imminent reality. There are three primary ergonomic risk factors and they may lead to the MSDs due to the work or job.

- **High task repetition-** Many jobs and work are repetitive, cycle in nature. The worker has to perform an activity repetitively within the few minutes and seconds, generally these are targeted to achieve a certain amount in fixed, these types of works require stable awkward position for a long time ultimately they contribute to the MSDs.
- **Forceful exertions-** There are several work tasks that requires the high level of force to be implied by the workers such as extraction, drillings, lifting loads. These types of work make fatigue to the human body which leads to increase the MSDs in human body.
- **Repetitive or sustained awkward postures-** The work requires awkward postures for a long time to the workers; these postures put excessive pressure on joints and compel the muscles and tendons effecting the joints permanently. The joints of the body efficiently work around the mid-range motion. When joints are worked from outside of this mid-range repetitively for sustained periods of time without adequate recovery time, puts joints in the risk of MSDs.

The MSDs are an out comes of the combination of all of factors, in order to reduce the risk of MSD, one must have to take care and preventive strategy.

Major disorders, Risk factor and symptoms of MSD are presented in a tabular form below-

<b>Identified disorders, occupational risk factors and symptoms</b>		
<b>Disorders</b>	<b>Occupational risk factors</b>	<b>Symptoms</b>
Tendonitis/tenosynovitis	Repetitive wrist motions Repetitive shoulder motions Sustained hyper extension of arms Prolonged load on shoulders	Pain, weakness, swelling, burning sensation or dull ache over affected area
Epicondylitis (elbow tendonitis)	Repeated or forceful rotation of the forearm and bending of the wrist at the same time	Same symptoms as tendonitis
Carpal tunnel syndrome	Repetitive wrist motions	Pain, numbness, tingling, burning sensations, wasting of muscles at base of thumb, dry palm
DeQuervain's disease	Repetitive hand twisting and forceful gripping	Pain at the base of thumb
Thoracic outlet syndrome	Prolonged shoulder flexion Extending arms above shoulder height Carrying loads on the shoulder	Pain, numbness, swelling of the hands
Tension neck syndrome	Prolonged restricted posture	Pain

**Source:- Canadian Centre for Occupational Health and Safety (CCOHS).**

## **2.2. Socio Economic Profile of Workers in Unorganized Sector**

Increasing population and industrialization has increased the gap among different groups of the society, the globalization has increased the industrial development which divide the society into different working class, there are large number of temporary cottages at outer areas of the city, the workers having low income, or engaged in temporary works, they are never think about the superior life style, these workers full fill the small and small services to the residents as well the different big industries although they have to struggle every day for their living, the societal values may be changed among the group of these people of these cottages due to working conditions, nature of the work, and changes in the demography as they are migrated from different parts of the country and settled down in highly industrialized cities. They are migrated in hope of employment opportunity and increase in income, some of them pass around whole of their lives in these places. Changes in the socio-demographic profile of these workers influence their life in several aspects like health, wellbeing etc.

**Dewan (2013)** examined the relationship of demographic factors and mental health of factory workers in Jharkhand using General Health Questionnaire (GHQ)-12, they measured the mental health and concluded that out of the three factors namely; gender, religion and age only gender and religion were found to produce significant main effects on mental health, the impact of other factor no shows any effects on the mental health of the worker, which means it may be said that the mental health of the worker do not relate with age.

**Fuler *et al.* (2004)** has examined gender differences in psychological well-being among the married male and female Asians in United States. In their study, they found that generally married men were enjoying a higher level of psychological well-being in comparison to the married women. Their study does not provide support for role strain theory, where as it supports to role enhancement theory. Further they argued that social support has little effect on psychological well-being, but that social strain not only has a significant effect on well-being but also largely accounts for gender differences in well-being.

**Ryan *et al.* (2005)** examined the impact of unemployment on worker's well-being across 104 empirical studies with 437 effect sizes. They concluded that unemployed individuals

had lower psychological and physical well-being than did their employed counterparts. Duration of employment and sample type (school leaver vs. mature unemployed) moderated the relationship between mental health, but the current unemployment rate and the amount of unemployment benefits did not. Within unemployed samples, work-role centrality, coping resources (personal, social, financial, and time structure), cognitive appraisals, and coping strategies displayed stronger relationship with mental health than did human capital or demographic variables.

**Anastasia (2007)** has examined the relationship between perceived age discrimination and mental health and determined whether psychosocial resources explain or buffer (i.e., reduce the strength of) this relationship on the bases of the data of Mid life Development. In the United States survey, two major components of psychological well being, the psychological distress measured with six items indicating depression or anxiety, such as feeling nervous, hopeless, and positive well-being is indicated by an index of six items indicating positive emotions, such as cheer, extremely happy, in good spirits during the last 30 days. Through experiences of the respondents they and that perceived age discrimination is associated with higher psychological distress and less positive well-being, although sense of control buffers the relationship between perceived age discrimination and psychological distress. In the era of 21<sup>st</sup> century, people has to work a lot for their survival. The work load and working environment as well as the employer style along with the workforce play an important role in the psychological wellbeing of the workers. The changing environment and political conditions also hamper the mental health of the people as the marketization increase the personal economic and social conditions. **Sparks et al. (2001)** has highlighted that areas related to the workplace transitions, an organization should be concerned about employee well being, should focus on four issues related to the job insecurity, work hours, control at work, and managerial style. The intensity of the intervention should be increased at the lower level of the organization and increases. Economic well-being reduces distress and partly compensates for the disruptive effects of market transition.

**Dey and Parida** have investigated the major problems faced by the migrant workers. The workers suffer from physical problems like injuries, diseases due to high amount of work pressure and lack of safety regulation at the workplace, lack of access to proper sanitation

and basic health facilities at work place, Those working in quarries, construction sites and kilns suffer from various health hazards like lung disease, skin disease etc.

**Mohanaraj and Manivannan (2013)** analyzed the influence of socio economic factors, and demographic factors (age, gender, marital status) on the stress level of migrated workers in unorganized sectors of Erode and Tripura districts. From the analysis, it was found stated that there is close association between age, gender and marital status, as the older married men were having more stress in comparison to the other younger unmarried male and females in a seminal work.

**Gaurav et al. (2013)** studied the socio-demographic aspect of un-organized workers and psychological stress among them. Their study revealed that almost 35.8% participants had “extreme high level stress” and 40.7% participants had “high level stress”. Workers who are working in unorganized sectors have moderate to extreme level of stress.

**Tiwary et al. (2013)** reported that construction industry plays a vital role in development of infrastructure of a country. About 50% of the subjects of unorganized sector belonged to construction industry in our country. The questionnaire based cross sectional prospective study was undertaken to know the socio-economic status and the psychosocial stress & strain faced by the workers due to occupational exposure. The average age of the workers was  $30.6 \pm 10.9$  years. Majority of them (79.2%) were literates and earned below Rs 5000/-. About 59% were smokers and 37% consumed alcohol. The mean duration of present occupational exposure was  $8.6 \pm 8.0$  years. The workers were victim of different health impairments like occupational health hazards, psychosocial stress & strain etc. The psychosocial stress & strain were due to long working hours (73.3%), lower wages (60.4%), job uncertainty (56.9%), and poor communication among workers with supervisors (22.7%). Exploitation by labour contractor, gender discrimination, sexual harassment was observed. Low job satisfaction (42.4%), injuries & accidents (47%) were also reported. About 94.6% of the workers were not aware of different social security schemes.

**Anbarasu and Narmadha (2014)** reported that the demographics of a person like, age, marital status, education level and family size influences the attitude and willingness for the training programs and promotional policies introduced by the municipals corporations.

Further they argued that the older age, larger family compositions, low literacy level and married women are not willing for training where as the results reverts for the reverse cases of the variables.

**Sharma et al. (2013)** has conducted a focus group discussion on the demographic, socioeconomic, working conditions and health care facility in Anand city at Gujarat. They argued that all the workers are migrant form the other states and their work is temporary in nature for 8 months after this period they go back to their native places. Their working condition is very pleasurable as they work at night in summer seasons and get fixed amount of Rs. 300/- for the productions of 1000 bricks. The contractor provides them health care facility and all other basic enmities like drinking water, fuel for cooking and feeding etc but the workers feel some pain at different body parts.

**Santha and Athena (2013)** studied the association between the extent of poverty and size of households among the brick kiln workers at Coimbatore city with the help of **Sen Poverty Index**. They showed that the intensity of poverty in the selected area is very less (only 2.4 percent).  $P = H [R + (1 - R) G] = 0.12 [0.1884 + (1 - 0.1884) (0.0143)] = 0.0240$  **The extent of poverty is very less in the selected area** because of two main reasons: (i) construction industry in Coimbatore region is witnessing a boom and consequently the brick making sector is facing huge demand and labour shortage and (ii) high wages are offered in the region due to the concentration of textile, hosiery and engineering industries.

Clay making and moldings work is an important activity, which decides the quality & finish of bricks that requires hard and long hours of work in similar positions and postures. These postures can irritate soft tissues such as muscles, ligaments and spinal discs. They have to sit on the ground which leads to great pressure on different body parts such as leg, knee, thigh, back, spinal cord and on shoulders & feet as well. This posture can lead to contact stress on the popliteal fold (back of the knees) and pooling of blood in the feet. These awkward postures can cause fatigue and discomfort and place the worker at risk of developing a work related MSD.

### **2.3. Occupational Stress among Workers in Unorganized Sector**

**Suraksha and Chhikara (2014)** have reviewed nine different models of the stress proposed by the Selye, S, Richard Lazarus, Cox, Hackmans and Oldhams, Vitamin, Michigan, Karases, Demerouti, Bakker, Nachreiner schaufeli, Bridger et.al., Existed in literature, and concluded that all the models focus on the job related stressor, occupational stressors. There are several other factors which affect the well being but the limitation is that at a time no one can control all the factors, only job related stressor can be controlled in a well manner in order to enhance the level of well being among employees and productivity of the organization.

Majorly, stress affects the psychological well-being, physical health and job satisfaction. There are number of researcher that has been done by the researcher in past related to the work related stressors which have been linked to an increased likelihood of an individual experiencing negative stress outcomes. The milestone work in this areas has been contributed by Cooper and Marshall's (1976) original model of work related stress included five sources of stress at work, each of which are represented in the revised model of stress on which ASSET is based

(Robertson Cooper, 2002b). Cooper and Marshall's five sources of stress, with examples of the components of these sources given for each, are:

- (1) Intrinsic to the job, including factors such as poor physical working conditions, work overload or time pressures;
- (2) Role in the organization, including role ambiguity and role conflict;
- (3) Career development, including lack of job security and under/over promotion;
- (4) Relationships at work, including poor relationships with your boss or colleagues, an extreme component of which is bullying in the workplace (Rayner and Hoel, 1997); and
- (5) Organizational structure and climate, including little involvement in decision-making and office politics.

The amount of stress a person experiences at work is likely to be a result of the interaction of a number of factors such as the type of work they are doing (their occupation), the presence of work stressors, the amount of support they receive both at work and at home and the coping mechanisms they use to deal with stress. Different

occupations will have different basic stressors, for example, the threat of violence, lack of control over work decisions or long working hours. However, people working in the same occupation will experience different levels of stress due to the interplay of many other factors, for example, their personality type and the support mechanisms available to them. It is not possible therefore, to say that all people working in a certain occupation will experience the same amount of stress. It is however, reasonable to state that employees working in high-risk occupations will have an increased likelihood of experiencing negative stress outcomes.

**Aadya and Kiran (2013)** has studied the occupational history and compared and analyzed the occupational stress among the women workers involved in construction work, chikankari work and sanitary work in Lucknow city. Total 60 workers from each occupation were interviewed through structured interview schedule and rating scale. Using chi-square test they found that there exists significant differences in the level of occupational stress i.e., physical stress ( $X^2=56.94^{**}$ ,  $p<0.001$  &  $p<0.005$ ) and biomechanical stress ( $X^2=17.81^{**}$   $p<0.001$  &  $p<0.005$ ) among various types of work and it was also revealed that highest amount of stress is perceived by the women involved in sanitary work.

**Dwivedi and Kiran (2013)** assessed the occupational health hazards among farm women and analyzed the areas of body discomfort among farm workers. The study sample comprised of 120 farm women in Lucknow district. Occupational health hazards scale developed by Singh and Sinwal (1971) and Nordic musculoskeletal questionnaire by Kuorinka *et al.* (1987) were used to assess the pain and discomfort of the body parts. The results showed that the farm women feel highly stressed working during the season. Majority of the workers had pain in upper arms and lower arms as they were exposed to high level of repetitive task during threshing. It was concluded that majority of the farm women reported high incidence of hazards. Farm women lead a highly stressful life as they are involved in multiple roles.

**Sharma and Mahajan (2013)** using OSI scale evaluated the levels of stress among zari workers. They found that majority of them showed moderate to high stress. The reason for the same may be their poor socioeconomic status, poor working conditions, job insecurity or

poor social support. The workers with less than 10 years of experience in current job encounter lower level of stress whereas almost all the workers with more than 30 years, experiences high levels of stress. The parameters like poor working environment, work deadlines, too much work, lack of support and liberty for the work may play a significant role in causation of stress among them.

**Terry *et al.* (2011)** in his study investigated the relationship among levels of work stress, social support, and well-being. It was proposed that high levels of work stress (role ambiguity, role conflict, work overload, and underutilization of skills) would have a negative impact on job satisfaction and psychological well-being. A study on employees of a large public sector organization revealed that there was some support for the proposed affects of work stress and social support on well-being. Role ambiguity and role conflict emerged as significant predictors of both psychological well-being and job satisfaction. There was also some support for the proposed role of under utilization of skills; however, contrary to expectations, the experience of quantitative work overload did not have a significant main effect on either psychological well-being or job satisfaction.

**Niharika and Kiran (2014)** have studied the relationship among the occupational stress and other variables, hierarchy, work experience and type of bank. Their work revealed that private bank employees had high occupational stress due to strenuous working conditions, unreasonable group, and role conflict, under participation, peer relations and intrinsic impoverishment in comparison to nationalized bank employees because of their heavy workload and work pressure to achieve their target. A positive highly significant relationship was observed between occupational stress and independent variables. Positive relationship was also observed between types of bank with role overload. Highly significant negative relationship also was observed between independent variables and occupational stress.

**Beh and Loo (2012)** examined the major job stressor among the nurses. They identified that heavy workload, repetitive work, and poor working environment were among the stressors. Other than these factors the inconsiderate and inequitable level, lack of recognition, and conflict within the groups were the stressors.

**Ibem *et al.* (2011)** in their study among professionals in the building construction industry in Nigeria, identified the principal sources of stress as high volume of work, uncomfortable site offices, lack of feedback on previous and ongoing building projects, and variations in the scope of work in ongoing building projects.

**Rajan (2014)** has analyzed sources of stress under four dimensions namely rank role and motivation related stressors, work shift and working hour related stressors, organization related stressors among sanitary workers' specific stressors.

Impact of stress has been discussed under two dimensions namely individual life especially at work place and health and family and social life of the sanitary workers working in single and multispecialty private hospitals in Tamil Nadu. Their study has identified and confirmed that almost majority of stressors of all the dimensions, sources of stress and its impact on individual and family and social life are equally experienced by sanitary workers of both types of hospitals. The demographic variables (sex and marital status) do not have significant relationship with dimensions of sources of stress.

**Johnson *et al.* (2005)** has investigated the relationship of occupational stress across a large and diverse set of 26 occupations, with the other stress related variables as psychological well-being, physical health and job satisfaction. The relationship between physical and psychological stress and job satisfaction at an occupational level is also explored. The study revealed that six occupations reported worse than average scores on each of these factors – physical health, psychological well-being and job satisfaction (ambulance workers, teachers, social services, customer services – call centers, prison officers and police). Differences across and within occupational groups, for example, teaching and policing, are detailed. The high emotional labor associated with the high stress jobs is discussed as a potential causal factor.

**Akintayo (2012)** investigated the relationship and influence of occupational stress on psychological well-being, and behavior, demographic variables among the manufacturing industries workers and their work. For the purpose of measurements they utilized three sets of questionnaire the “Occupational Stress Assessment Scale” (OSAS) developed by Dunhem (1992), “**Job Satisfaction Scale**” (JSS) with a 6-items scale developed and validated by

Tsui, Thomas and Edward (1992), “Psychological Well-Being Scale” (PWBS) developed by Welsman and Werman (1997). They concluded that the pressure emanated from the job has been considerably influenced the perceived level of job satisfaction, commitment, and compliance of the workers. Occupational stress has had a deleterious effect on the psychological well-being of the workers. Both male and female respondents have been affected by occupational stress with its corresponding effect on their attitude to work. There was a significant difference in the perception of old and young respondents on the effect of occupational stress on their level of satisfaction in the job, commitment and compliance at workplace.

**Jonson and Ruppe (2002)** has studied the practices of tool box, trainings, Computer-Assisted Biofeedback Stress management technique, among drywall painting and carpentry workers and finds that these practices are effective in reducing the level of stress, hazards and injuries.

#### **2.4. Physical and Psychological Wellbeing Among Workers in Unorganized Sector**

**Winefield *et al.* (2012)** investigated the relationship between psychological well-being, psychological distress and socio demographic variables. Positive relations with others, environmental mastery, and satisfaction with life are the variables which are positively associated with psychological well-being and negatively associated with psychological distress and vice versa. Psychological well-being is not exactly the opposite end of the continuum to psychological distress.

**Pease and Raether (2003)** examined the association between shift work and physical and psychological well-being of police officers who work in the day shift and the night shift and concluded that night shift workers have more physical (i.e. lack of sleep and poor well-being) and psychological (i.e. depression) symptoms than day shift workers.

**Cho *et al.* (2011)** highlighted the way in which physical health influences the psychological well-being among oldest-old adults. The subjective health was strongly associated with psychological well-being (e.g., affect), physical health impairments. Biomarkers had

independent direct effect on the subjective health and they had an indirect association with psychological well-being.

**Loscocco and Spitze (1990)** analyzed the effects of four kinds of working conditions-job demands, job deprivations and rewards, physical environment, and work-related social support-on the well-being of female and male factory workers in similar jobs. The buffering (interaction) effects of social support (from co-workers, supervisors, and company programs) on relations between working conditions and well-being among the seven manufacturing industries in south central Indiana: electrical machinery, chemicals, prefabricated metals, food processing, nonelectrical machinery, transportation equipment, and printing and publishing were buffered. Their study revealed that all types of working conditions affect well-being, but there are almost no gender differences in the effects of working conditions on well-being. Although work-related social support promotes well-being among both women and men, it does not (at least as measured here) buffer effects of other stressful working conditions. In general, the results indicate considerable gender similarity in the processes through which the job affects well-being.

**Cooper and Codinhoto (2008)** has explored the relationship and effect of physical environment on mental wellbeing. They categorised the physical environment into different dwellings (houses, detached houses, semi-detached houses, flats or apartments, high-rises, low rises, single family, family etc.), neighborhoods, urban/rural spaces, natural spaces (i.e. green space), educational settings (schools, universities, day care facilities).Workplaces (offices, factories, shops), health care settings (hospitals, care homes, care units etc). Besides other factors the concept of well being may be also hampered by the sex differentiation and other demographic status of the persons.

**Nordenmark (1999)** analysed psychological well-being among the unemployed. The commitment to employment has important role in the well being. He has measured the commitment to employment and psychological well-being using the 'Work Involvement Scale' (WIS) and the 'General Health Questionnaire' (GHQ), respectively. They found that age and family situation affect unemployed women and men levels of commitment to paid employment in different ways. Further, it was analyzed that both unemployed men and

women who are strongly motivated to find employment for non-financial reasons have significantly higher risks of poor mental well-being than those with lower commitments to employment.

**Sett and Sahu (2014)** evaluated the effect of workplace heat exposure on the well-being, physiological load, and productivity of female brickfield workers in India. They concluded that high heat exposure in brickfields during summer caused physiological strain in both categories of female brickfield workers. A coping strategy employed by the brick carriers was to reduce their walking speed and thus lose part of their earnings. The lost productivity for every degree rise in temperature is about 2% in the brickfields. This reduction will be exacerbated by climate change and may undermine the quality of life of female brickfield workers.

## **2.5. Postural Discomfort and Musculoskeletal Disorders among Workers in Unorganized Sector**

**Singh and Kiran (2013)** assessed the postural discomfort in child labour involved in different construction sites, brick kilns, Chikankari workers, workshop and bakeries/restaurant in Lucknow city. The sample size of total 150, comprising of 30 children from each area by using multistage random sampling has been selected for the information collection. The data was collected through interview schedule by using Nordic Musculoskeletal Questionnaire (developed by Dickinson C.E.K., A.F. Foster and S.J. Newman). They concluded that children who work in construction site, workshop and brick kilns have high risk of body pain compared to chikankari worker and workshop, because they do high intensity of hard work like lifting heavy loads, risk of shock and use hard material.

**Elwafa (2012)** in his study conducted on solid wastage workers in Egypt they reported that the musculoskeletal complaints are highly prevalent among municipal solid waste collectors which require engineering, medical and legislative measures.

**Norman *et al.* (2013)** has studied the prevalence of different kinds of body discomfort among the workers of solid wastage management workers as they have to perform

continuous strenuous activities involving pulling, pushing, lifting and carrying of heavy objects as well as bending to pick items or to sweep the ground for long hours. The workers have to face problems related to the neck, wrist and back pain. These discomfort affect all age groups and often cause frequent disabilities and handicaps. The appropriate health and medical interventions should be provided to the workers.

**Salwe *et al.* (2011)** has assessed the prevalence of musculoskeletal pain and different body postures adopted among the house keeping department of a hotel in Texas, and concluded that these problems were highest among the workers who worked with the back in the awkward postures (65%) followed by employees who work with their arm and neck in the awkward posture respectively (64%). The employees who cleaned bathrooms had a prevalence of 64% followed by those who mopped floor and carried/emptied garbage (63%). The prevalence of musculoskeletal pain in the participants, who carried heavy loads, made beds, moved furniture & used the vacuum ranged between 61% and 63%.

**Srivastava and Kiran (2014)** have investigated the prevalence of work-related musculoskeletal disorders associated with different body parts especially the back, neck lower and upper limbs depending upon the physical movement characteristics, and the ergonomics and mechanical design of work task among the 120 taxi drivers having a driving experience of above 8 hours per day, in urban areas of the Lucknow district of Uttar Pradesh. Their study revealed that taxi drivers possess significant work related musculoskeletal disorder among different body parts.

**Sandeepm *et al.* (2015)** studied the prevalence of various morbidities among workers aged above 14 years in building construction industry. They found that the psychological distress, respiratory diseases, musculoskeletal diseases, hypertension and dermatitis are the most prevailing morbidity problems among the construction workers. They argues that the use of first aid sand safety measures, periodic general health check-up facilities health education activities health insurance schemes, etc. will ensure health promotion, health protection and highest degree of well-being among the construction workers.

**Love *et al.* (2010)** investigated the nature of self and social supports and mental health among construction professionals in Australia among different category of workers. The

workers working in a contracting organization and working on-site showed higher levels of poor mental health and work stress, self stress in comparison to the workers working as consultants. Further they argued that self, work, social support have important role in order to achieve a good mental health.

**Rai and Sarkar (2012)** studied about the major issues related to workplace culture of women construction laborers, analyzing the major health and safety issues at construction sites. They concluded that construction worker have restricted access to basic facilities like safe drinking water and sanitary facility. The problem of wage payment as well as discrimination prevailing with regard to workplace culture are prevalent. They have to work under hostile workplace sexual harassment at work place is another problem, the contractor recruits the young women in order to increase the productivity with exploitation. Common Health Hazards: lifting, awkward postures, repetitive motion, flying or falling objects, low level of job satisfaction among the workers, low level of job satisfaction etc are important predictors for symptoms of increased psychological and physiological distress.

**Bharara et al. (2012)** investigated the injury and disease among female construction workers and revealed that most of them belonged to the age group of 21-30 years, were married and lived in nuclear family setup. Mean weight and height of respondents were below the normal value. Cardiovascular responses, basal Metabolic Index and Body Surface Area were very much within normal value. Injury data of sampled population revealed incidences of abrasion of skin, falls, slips, trips, crushing and pinching of body parts, boils in hands and feet, burns, sprains, cuts and bleeding and eye injury/hurt were found to be more frequent occurring injuries during work. Illness data of respondent's correlated affect of work on their health as most frequently reported illnesses were: weakness, cough/chest infection, urinary tract infection, sore throat, cervical pain, skin allergy, dehydration, back pain, generalized fatigue and heat stroke.

**Pekarinae (2009)** evaluated the physical stress factors in cleaning work and their relationship with musculoskeletal disorders among the professional cleaners in North Finland. They argued that as they are able to schedule their works up to some extent and mostly their jobs are performed by the upper part of the body, their study has confirmed the

relationship between the physical workload and musculoskeletal disorders, and workers were found to be more and more benefitted from the ergonomic working techniques learned from the different vocational schools and training programs.

**Vad and Kines (2011)** reported that construction workers generally do not perceive the use of AD as obvious countermeasures to MD. As opposed to accidents and injuries, MD is generally perceived as an inevitable part of the occupational activity. The presence of planning, related to motivation and correct use of AD are vital for actual counteractions of MD and need to be aligned with realistic production and safety goals.

**Lee *et al.* (2013)** has examined the relationship between musculoskeletal symptoms and work-related risk factors in hotel workers in Seoul. Their focus was on structural risk factors in the working environment, such as the gender-based division of labor, shift work and labor intensity that demonstrated a statistically significant correlation with the work-related musculoskeletal symptoms of hotel workers. Both men and women reported different prevalence rates of work-related musculoskeletal symptoms among different departments. This could indicate that a gender-based division of labor produces different ergonomic risk factors for each gender group. However, only females displayed a statistically significant correlation between shift work and labor intensity and musculoskeletal symptoms. Thus, minimizing ergonomic risk factors alone does not suffice to effectively prevent musculoskeletal diseases among workers. Instead, work assignments should be based on gender, department, working hours and work intensity should be adjusted to address multi-dimensional musculoskeletal risk factors. In addition, an approach that seeks to minimize shift work is needed to reduce MSDs.

**Tiwari (2008)** analysed that, sanitary workers other than social atrocities they face, they were also exposed to certain health problems by virtue of their occupation. These health hazards include exposure to harmful gases, such like Hydrogen sulfide etc. which causes the cardiovascular degeneration, musculoskeletal disorder related to the UBP and LBP are associated with age, disability, and working hours. The workers are exposed to smells of the different kinds of chemicals used in the jobs which create problems in their respiratory

systems the symptoms including sore throat, cough, chest tightness, breathlessness, thirst, sweating.

**Bandyopadhyay *et al.* (2012)** has conducted a study in order to determine the pervasiveness of musculoskeletal and other health problems, and investigated the association between musculoskeletal problems with occupational and socio demographic factors of garment industry workers in Kolkata. The results of their study showed that majority of the (63.4%) respondents belong to the 15-44 years age group, most of them around 70.3% were literate it was noted that around 73.8% workers are suffering from musculoskeletal disorders in comparison to (78.5%) for hyperacidity and heartburn (23.3%), necks (60.7%). The major factors related to these problems were found to be education, income and years, hours and nature of work which had significant association with musculoskeletal problems.

**Nayak *et al.* (2013)** has examined the prevalence of dermatological problems in the occupation among the sanitary workers. They discussed that the potential sources of this issue ranges from prolonged outdoor activity and contact with potentially infective substances, chemicals, human and animal excreta, as well as sharp objects. In this study, high incidence of fungal infections was noted; this may be due to high humidity and high temperatures in the tropics. Poor personal hygiene may be another reason. Detection of facial Melanesia, melasma, and polymorphous light eruption stresses the need for the use of photo protective measures because of the increased outdoor work in these workers. A significantly low incidence of use of personal protective measures such as gloves, masks, and proper footwear was noted among only one of the 87 workers reporting the use of any adequate protective measures.

**Lee *et al.* (2011)** studied work related psychosocial and work related musculoskeletal disorders among migrant female workers living in Korea. Their study clearly figure out that physical load is an important factor with respect to the etiology of work related musculoskeletal disorder among female migrant workers. They argued that researchers will have to expand their focus to psychosocial factors, including acculturation and work related psychosocial factors. These are likely to be successful guides in assessing multiple works

related musculoskeletal disorder risk factors and developing interventions programmed for migrant's workers.

**Thorn *et al.* (2004)** examined work-related symptoms and inflammatory responses among five sewage treatment plants and compared it with control group which were not exposed. They found that gastrointestinal and airway symptoms, joint pains, unusual tiredness, and toxic pneumonitis were more common among operators, and the proportion of blood Neutrophils was higher among operators as compared with the control group.

**Gangwar and Kiran (2014)** has conducted a study on postural body discomfort among the sanitary workers working in academic institutions, hospitals and public places with respect to the sweeping, mopping, dustbin lifting, removing cobwebs activities in Lucknow city of Uttar Pradesh India, with the help of Nordic questionnaire (body discomfort scale) by Kournika, and body mapping technique. They measured the body discomfort and found that postural discomfort significantly differs across the working place and related activities. For sweeping the respondents from public places showed higher mean pain in upper back, mid back pain, shoulder pain and buttocks pain in respect to other institution and with mopping, lifting dustbins, removing cobwebs the respondents from academic institutions showed higher mean postural body discomfort as they feel more pain in shoulder, neck, upper back and buttocks in comparison to other institutions.

**Ferguson (2010)** has studied the problem of burn out among construction labor, as burnout has been associated with various mental health problems, including psychological distress, anxiety, depression, reduced self-esteem and substance abuse. Workers who have a substance abuse diagnosis, including those who smoked, tend to be high users of health care services and have excess health care costs and concluded that construction workers are at higher risk for disability (e.g., some forms of cancer and chronic lung disease) compared to other occupations. Risk of injury is also a concern for this industry.

**Mudalige and Dharmathilake (2000)** examined the major health problems faced by the sanitary workers engaged in solid waste and drainage jobs. The problems of back pain and traumatic injuries, itchy rashes, chronic cough and shoulder pain were the most prevailing among both type of workers. They further argued that there was a lower prevalence of non -

occupationally related diseases in the study group. Alcohol consumption was higher among the solid waste collectors than the drainage cleaners and the prevalence of smoking was higher among drainage cleaners than the solid waste collectors. Except for the difference in the occurrence of shoulder pain which was greater in sewage-drainage cleaners than other workers, the differences of symptoms and diseases among the three groups were not statistically significant.

**Dharmalingam (1995)** has studied the proneness to occupational injuries among brick workers in south India. They argued that, most often they experienced cutting the foot while mixing the soil with spades and foot injuries caused due to falling bricks. Their income is low and they are not paid any extra medical allowances or supportive medical benefits, even though they have to lose the working days and income due to these injuries.

**Quansah (2005)** examined the prevalence of musculoskeletal symptoms among the Sanitation workers of fish processing factory in Ghana. They found that musculoskeletal symptoms were widespread among sanitation workers of the fish industry, they were particularly prevalent in the low back, the shoulder, the upper back, the neck and the wrist and hand regions.

**Krause *et al.* (2005)** in his study examined the prevalence of musculoskeletal problems, neck-pain, and its associations with physical workload and ergonomic problem among hotels in Las Vegas. Their work showed that hotel room cleaners are high risk group for painful and disabling work related musculoskeletal disorders in relation to rates of occupational injury far exceed national rates for hospitality workers and service workers in general, which indicate that there are huge requirements of ergonomic intervention for job specific physical workload and worksite injuries prevention.

**Stambuli (2012)** through their study among the street sweepers in ILALA municipality reported that street sweeping dust was the main associated factor to cough, phlegm, wheezing, nose irritating and wheezing outcomes, while age is associated with cough and phlegm outcomes and duration of employment is associated with cough outcomes among street sweepers, Respiratory health symptoms are associated with street sweeping dust.

**Naz *et al.* (2012)** argued that the sweepers in government hospital in Pakistan are facing the problems of low salary and workload, most of the hospital staff is frustrated and disappointed with the extra workload and facilities of the hospital.

**Jorgensen *et al.* (2011)** has assessed importance of physical coordination training intervention for reducing chronic neck, shoulder pain among cleaners. Their study showed that the Cognitive behavioral training indicates a prevention effect on neck and should pain.

**Sahu *et al.* (2010)** has assessed the working conditions and nature of work performed by the teen agers girls working in brick manufacturing in West Bengal. Their study has shed light on these issues. The girls are supposed to carry 8-10 unbaked and sun-dried bricks ( $49.11 \pm 2.13$  Kg) from the brick field to the kiln-top and again they have to carry the baked bricks back from the kiln to some other corner of the brick field, under the hot sun. They found that almost 86 % of them were suffering from work related pain in different body parts, and there was an increase in their physiological and psychological parameters after work, the frequent use of awkward postures while at work (OWAS) and performing heavy to moderate types of tasks in the field were found to be determinants of the deterioration in their health condition.

**Qutubuddin *et al.* (2013)** in his study conducted on brick industries located in North Karnataka, India they investigated the self reported Work related Musculoskeletal Disorders (WRMSD) experienced by the workers during the raw brick making activities and analyzed the causes of discomfort related to various postures adopted by the workers. A detailed work related musculoskeletal pain/discomfort were analyzed in different activities using the revised Nordic Questionnaire. The study revealed that, majority of the workers were feeling pain and discomfort in different body parts. It was also observed that the workers worked continuously in awkward postures during certain raw brick making activities. Consequently they may suffer from discomfort in different parts of the body. Postural analysis using RULA and REBA methods indicate that different parts of the body are vulnerable to injury and musculoskeletal disorders and require immediate ergonomic intervention.

**Bagchi *et al.* (2014)** studied postural discomfort and pain in different parts of the body of the female workers, in West Bengal. They concluded that the brick moulders had more pain in the low back and parts of the legs because most of the time they sit continuously in the

same awkward posture to mould the bricks. They suffered from more discomfort and pain in the head, neck, shoulder and trunk regions. Musculoskeletal pain was not felt by the workers before work or at work. 38.89 % of the female workers felt severe pain just after their whole day's work, i.e. in the evening. Others felt pain in different body parts when they went to sleep at night or took rest. The percentage of pain was higher (90.48%) in the case of the female brick carriers. However, as the socio-economic conditions of the workers were very poor, so to earn more, they carried more bricks even if they get exhausted. The percentage of swelling and stiffness was lower but cannot remain unnoticed.

**Chaudhuri et al. (2012)** categorized the components of neuropathic and nociceptive pain with reference to chronic low back pain, its probable causes and its impact on functional variables like hand grip strength, number of man days lost etc. Female subjects [n=220] in the age range of 28-45 years from different brick fields of Hooghly and Birbhum district of West Bengal, India with a work experience of more than 10 years participated in this study. Pain categorization was done by PAIN DETECT TOOL. Hand Grip dynamometry done to evaluate grip strength. NIOSH equation was used to standardize RWL. It showed that pain/discomfort was mainly at the low back (90%), neck (72%) and wrist (62%). 72% of workers had a pain of >20 in the pain scale of the pain detect tool & 80% of workers were not satisfied with treatments of analgesics/antipyretics which indicate the involvement of neuropathic component of pain in them. The impact of pain was revealed on functional and productivity endpoints like reduced grip strength which also lead to absenteeism, loss of average man days [4.5/month]. Injuries [in 33% of workers] and monotony [85% workers] were found to be the probable causes of the chronic low back pain and may be due to radiculopathy from repetitive lifting of bricks over and above the Recommended Weight Limit [Lifting Index 1.8].

**Manoharan et al. (2012)** has studied the problems of workers engaged in rimming and clay making process complained of back, leg, ankle, heel and foot pain from the long hours of standing, and concluded that workers in Clay and mould making process perceived pain in the upper extremities of the body (shoulder, upper back, elbow and wrist/hand) was significantly ( $p < 0.05$ ) high as compared to the workers engaged in other processes. Perceived pain in the lower extremities of the body (thigh, knee and ankle/feet) regions was

also ( $p < 0.05$ ) significantly high for Clay and mould making workers as compared to workers engaged in other processes.

**Nemade (2014)** studied the incidence of musculoskeletal disorders among brick kiln workers working in Pune, India and explored on the importance of health education of workers to reduce the incidence of musculoskeletal disorders. Descriptive analysis of data revealed that a total of 27% of the workers suffered low back pain, 8% workers reported knee pain, 6% workers experienced shoulder pain 14% of the workers experienced neck pain and 10 % had hand and foot pain. Health education and training of workers helped to reduce the incidence of musculoskeletal disorders and during follow up visit after 3 months incidence of musculoskeletal disorders was reduced by 55% and 89% of the workers were following measures to reduce development of musculoskeletal disorders.

**Choudhari *et al.* (2014)** has studied the hazards among the workers engaged in jewelry making as the workers has to deal with cyanide, lead, zinc, cadmium, palladium, iridium, sulphuric acid, nitric acid, chalk moulds containing high percentage of silica, etc. with the help of experimental research techniques. The spirometry lung functions were assessed in goldsmith workers and compared with the control group. Under the observation group, twenty males working as goldsmith workers since last 10 years and above with period of exposure to chemical fumes  $> 5$  hours/day were tested for spirometry lung function parameters of Forced Vital Capacity (FVC), Forced Expiratory Volume at the end of one second (FEV1) and Maximum Voluntary Ventilation (MVV). They showed that the Mean  $\pm$  Standard Deviation (SD) of FVC was  $63.95 \pm 9.77\%$  in cases and  $76.95 \pm 8.1$  in controls. The Mean  $\pm$  Standard Deviation (SD) of FEV1 was  $67.25 \pm 7.65\%$  in cases and  $73.3 \pm 8.31$  in controls. The Mean  $\pm$  Standard Deviation (SD) of MVV was  $61.8 \pm 10.54\%$  in cases and  $81 \pm 5.04$  in controls. All the parameters studied were significantly less in goldsmith workers.

**Ghosh *et al.* (2010)** using the modified Nordic questionnaire measured the postural discomfort among the gold smith workers in Karnataka district and concluded that MSDs were the major problem of the goldsmiths. The activities of the goldsmiths were also highly repetitive. Moreover, the study revealed that most of the workers were affected by occupational disorders like pain at neck (80%), shoulder (20%), wrist (45%), and low back

(75%) and also eye problems like irritation (30%) and burning sensation (70%). They also performed their job in hazardous postures. It was recorded that the workstations were poorly illuminated (19 Lux) in respect to precision work. Accidents like cuts and burns occurred frequently due to the unsafe condition of the workstation. Healths of the goldsmiths were highly affected due to improper body posture and workload.

**Tiwari and Gangopadhyay (2011)** has highlighted the problems related to the construction workers belonging to the unorganized sectors and critically evaluated the government policies related to these. The hazards include handling of different materials required for construction, and exposure to harsh environmental conditions like sun, rain, and so on. On account of this, in adverse conditions, it results in accidents and adverse health conditions cause psychosocial strain and the like. They are victims of headache, backache, joint pains, skin diseases, lung disorders like silicosis, other muscular skeletal disorders, and so on. The repetitive nature of the work causes boredom and the disproportionate earning compared to the requirements puts them under psychological stress and strain and other abnormal behavioral disorders. The Government of India has realized the importance of this industry and has promulgated an Act in 1996. The state governments are being asked to adhere to this, although only a few states have partially enforced it. In this article, attempts have been made to review some of the important available articles for giving a broad idea of the problem and for furtherance of research in this field.

**Bijetri and Sen (2014)** examined the occupational profile, impact of work factor in terms of physiological, biomechanical, musculoskeletal and psychosocial discomforts prevalence among women workers in brick kilns engaged in different jobs around Uttarpara (District Hooghly) and Dhibdhibi West Bengal. The physical parameters such as body weight, height, grip strength; occupational status based on socioeconomic profile; physiological parameters like pulmonary status, biomechanical assessment; and psychosocial assessment were assessed. Postural assessment was done with the help of REBA, RULA, and OWAS. They found that most of all falls under severe chronic energy deficiency; Majority of them feels pain at wrists, back, both knees, both thighs and both ankles due to the awkward postures adopted by them. The workers worked for more than 8 hours per day, with very less income. Long working hours without adequate rest, low wages, job insecurity and bullying by

superiors contribute to various physiological and psychosocial stresses which in turn tends workers to various addictive behaviors.

### **Summary and Research Gaps**

From the review it can be concluded that psychological well being and physical well being are the thrust areas among the researchers conducting research work in different unorganized industries.

From the review of section 2.2, it can be observed that a lot of research work related to the demographic variables of the workers e.g., age, gender, marital status, religion and their influences on mental health, psychological well being and stress has been investigated by the researchers. As far as age of the individuals is concerned, the increase in age declines the physical and psychological well being and on the other hand it will increase the stress. The employment status, marital status, gender, migration, has positive effects on both type of the well being. The researcher in the past has not considered the impact of socioeconomic variables e.g., income, family size, literacy level on the wellbeing. In the present research, in addition to the previously studied variables to test the previously proposed hypothesis in selected sectors, socioeconomic/demographic variables were added to explore the interaction of newly added variables with physical and psychological well being in the context of selected sectors.

From the review of section 2.3, it can be deduced that the past studies has looked polarized in one direction as most of the researchers has tried to capture the negative aspect of the psychological well being in terms of measuring psychological distress. The interaction of stress among the workers is not fully explained as the presence of the stress among the employees has both positive and negative impacts on the workers productivity. The level of stress among the employees up to some extent is good for employee productivity. Occupational stress, job stressor has been measured through role ambiguity, role conflict, working condition, underutilized skills. The interactions of these factors with the psychological well being has been thoroughly studied but still the interaction and measurement of physical well being is still required to gauge the concepts.

After reviewing the section 2.4, it can be concluded, that past researches has used the measurements of psychological wellbeing through the factors related to life satisfaction, environmental mastery, positive relations with others. Physical well being with working conditions, job demand and job deprivations. The variables used in the past has shown the association with both type of well being but the direct interaction of two types of well being is still missing along with this the issue of socio-demographic factors for the interaction with psychological well being are least investigated and in the present research, both the issues are thoroughly addressed across different sectors.

From the review of section 2.5, it is clear that the workers suffer from musculoskeletal disorders in different body parts. Majority of the workers feel pain in upper arms, lower back, backache, and lower arm. These disorders causes the physical illness and decline in well being with increase in the rate of work lose and stress. The researchers in the past measured the postural discomfort and musculoskeletal disorder with the help of NORDIC instrument and analyzed only with simple percentage analysis. The interactions of musculoskeletal discomfort with well being and occupational stress, socio-demography of worker in unorganized sectors is still required for exploration. The present study will address these issues in context of selected sectors specially the ornamental and chikankari workers, along with construction labors, sanitary and brick kilns workers. Apart from the gaps related to the different factors and variables, it is also observed in course of reviewing the literature that the issue of using analytical tools in order to extract the complete information from the data is also vital and which will enhance the quality of information. The research gaps are tried to be explored and further studied to enhance the clarity in assessing the selected parameters.