

# Herlina J. EL- Matury-Review of Psychosocial Risk Approach, Model and Theory

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Literature Review

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# **Review of Psychosocial Risk Approach, Model and Theory**

## **Literature Review**

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### **Abstract**

Current psychosocial risk theories focus on different dimensions that it is necessary to understand each theory and approach to be able to adequately be analysed any psychosocial risk problem. Psychosocial hazards and risk, along with their relevant significant impacts, are often unrecognized by workers and management. This leads to increasing number of occupational accidents that are partly caused by psychosocial factors, in addition to physical, chemical, biological, and biomechanical factors. This review aims to obtain an in-depth understanding of the approaches/theories/models that are necessary to be able to comprehensively explain how psychosocial hazards and risk occur and their related impacts against workers in a workplace.

**Keywords:** psychosocial risk, work stress, mental health

### **Introduction**

Occupational risks are risks that cannot be avoided due to the interactions between workers, work tools, and work environments that may involve industrial machines, relocation of work hazards, low quality of workers, high workload, and difficult works (WHO, 2001).

The occupational diseases caused by repetitive works and long duration exposure to workplace-related hazards can have not only short-term impacts but also long-term ones. Work-related diseases can also be caused by various potential disease sources including lifestyle factors that can directly or indirectly affect work (Giuffrida, Iunes & Savedoff, 2002).

Schulte (2005) stated that it is very important to raise the issue of occupational safety and health standards to be included in global laws and regulations to obtain the evidence that the incidence of occupational accidents and diseases is related to occupational risk. ILO (2013) reported that more than 2.3 million workers died from work-related accidents and occupational diseases. Mining, construction, manufacturing, and transportation sectors are industrial sectors that have higher risks compared to public administration, trade, services, finance and insurance sectors (Viscusi, 2003).

Cox (1993) suggested that work hazards can be classified into two categories: physical hazards and psychosocial hazards. Physical hazards include noise, vibration, heat, radiation, biological, electrical, bio-mechanical, and chemical hazards while

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psychosocial hazards include job content, work pace, interpersonal relationships, and job control (Leka & Jain, 2010).

Research has discovered the fact that psychosocial hazards can affect workers' psychological and physical health. Warr's (1992) also found that when workers are unable to adapt to job demands, the risk of occupational accidents and occupational diseases will increase. In a study by Suzuki (2004) on a number of industrial workers, it was also found that work errors involved more workers with lower mental health status when compared to workers with good mental health status. This will have a negative impact on the workers and will directly or indirectly contribute to low performance and the occurrence of occupational accidents (Haslam, Atkinson, Brown, & Haslam, 2005).

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Eurofound (2011) stated that psychosocial hazards in the workplace are increasingly emerging. The most frequently experienced psychosocial hazards are stress (62%), bullying and abuse (37%), and overwork (29%). Stress, bullying, and harassment are also felt more in the public sector compared to the private sector. This is due to the fact that workers in the public sector interact with many people with various characteristics (Eurofound, 2011).

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According to Leka & Jain (2010), there are several reasons why experts agree that psychosocial hazards in the workplace are perceived to have significant potential dangers for workers. Some types of psychosocial hazards may cause serious disruption to work behaviours and health of workers.

Work situation will be considered as a psychosocial risk by workers when workers receive and are involved in a job that does not match their knowledge and skills (WHO, 2010). This will lead to risk behaviours that may lead to work accidents. Several studies have revealed that psychosocial hazards are associated with increasing rates of work-related accidents and absenteeism (Clarke, 2006; Oliver, Cheyne, Tomás, & Cox, 2002).

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Strain or stress mediate the effects of psychosocial hazards on workers' health and work behavior (Cox, 1993). In other words, psychosocial hazards in the workplace will have a direct impact on workers while working. This means that every psychosocial hazard experienced in the workplace causes strain on the worker. This tension is often called stress or psychosocial risk. If the psychosocial risk experienced by the worker is perceived as something that is disturbing to the worker when he or she is working, it will trigger risk behaviours. These risk behaviours arising during work can lead to work accidents.

When relationship between physical hazards and psychosocial hazards is examined in a more in-depth manner, some fundamental differences are identified. First is the form of the source of the hazards; physical hazards are produced by concrete hazards sources such as physical, chemical, biological, electrical, and bio-mechanical hazards while the source of psychosocial hazards is more abstract, such as interpersonal relationships, roles, and workloads. Second is the location of the source of the hazards; physical hazards come from the work environment while psychosocial hazards come from the work environment, home environment, social environment, and the individual itself. Psychosocial hazards originating from the work environment are the content of the work, workload, and interpersonal relationships with co-workers. Psychosocial hazards originating from home environment include lack of family support and financial needs. Psychosocial hazards originating from the social environment relate to social activities and hobbies while the psychosocial hazards originating from individuals relate to educational background, age, and personality type (ILO, 1987).

The third difference between physical and psychosocial hazards is the interaction between workers and sources of hazards. In physical hazards, the interaction between workers and sources of hazards only occurs when the workers are at work. Hence, when the worker has left the workplace and then the risk of physical hazards disappears. On the contrary, in psychosocial hazards the interaction between workers and sources of psychosocial hazards does not only occur while working but also when workers have left the workplace. Interaction with psychosocial hazards originating from the work environment, home environment, individual, social, and the workers themselves continues even when workers are not in their workplace.

The interaction that occurs between psychosocial hazards originating from work, social and individual environment can either reinforce and weaken each other. Thus, if the interaction is mutually reinforcing, it will produce a higher level of work-related psychosocial risks. The high level of psychosocial risk in the workplace will increase the probability of work accidents caused by risk behaviours.

### <sup>1</sup> ***Psychosocial risk approaches***

There are several theories and models from several experts which try to explain how the psychosocial aspect manifests into psychosocial hazards that will have direct and indirect impacts on accidents in workplace. Kompier (2002) has identified seven main theoretical approaches to psychosocial hazards and work stress; Chern's (1976)

Sociotechnical Approach; Hackman and Oldham's (1980) Job Characteristics Model; Kahn et al. (1964) and French, Caplan & Van Harrison's (1982) Person Environment Fit Model; Hackers' (1964) Action Theory; Karasek & Theorell's (1990) Job Demand Control Support Model; Warr's (1994) Vitamin Model and Siegrist's (1998) Effort Reward Imbalance Model; and Demerouti, Bakker, Nachreiner & Schaufeli's (2001) Job Demands Resources Model. The overall main approach underlines that work design and management are the aspects that underly the occurrence of risk.

Cox & Mackay (1981) have presented three approaches in the psychosocial aspect. The first two approaches are the engineering approach and physiological approach. A very fundamental difference between these two approaches is that the physiological approach considers psychosocial risk to be what happens within the individual while the engineering approach considers what causes psychosocial risks to be from outside the individual (Cox & Griffiths, 2010).

The third approach is the psychological approach that complements the gap between the two previous approaches. Psychosocial risk is defined as a dynamic interaction between individuals and their environment and is often influenced by the existing issues regarding individual suitability to the environment as well as emotional reactions and their interactions (Cox et al., 2000). There are two models in this approach, i.e., the transactional model and the interactional model.

The transactional model focuses on the process of exposure of the work environment. What demands are faced by individuals, how to control them, social support that encourages individuals to experience psychosocial risks, individual reactions as well as coping behavior and their impact on health and behavior. (Cox & Griffith, 2010). Psychosocial risk is conceived as an internal representation of transaction problems between individuals and their work environment (Cox et al., 2000). The term 'transaction' implies that psychosocial hazards can originate in the work environment or come from workers' reactions towards the work environment (Cox, 1978). This model is a clinical psychology approach (Lazarus & Folkman, 1984) which focuses on individuals. This is supported another study stating that the relationship between psychosocial risk and health is mediated by various factors (Cox et al., 2006). Therefore, the transactional model examines the complexity of these relationships by understanding individual variations and differences in the process of occurring psychosocial risks (Cox et al., 2000).

<sup>4</sup>The interactional model focuses on structural aspects of individual interactions with the work environment (Cox et al., 2000). The theory that most influences this model is the Job-Demand-Control-Support Theory (Karasek & Theorell, 1990). <sup>4</sup>Job-Demand-Control-Support theory covers work pace, conflicting demands, and freedom to decide, including authority in deciding something or controlling and utilizing skills (skill discretion). This model emphasizes that if the freedom to decide is high and the work demands are low or medium, the work condition will be very good for the workers' health; however, if the work demands are high and the freedom to decide is low, it will cause health problems.

Another theory that also influences the <sup>4</sup>interactional model is the effort-reward-imbalance model (Siegrist, 1996). <sup>4</sup>Mental and physical problems can arise from an imbalance or disproportion between the amount of efforts performed and the results or rewards obtained (Siegrist, 1996). <sup>4</sup>Rewards refer to extrinsic components such as income, career development, job security, as well as being valued and respected. The direct findings of this model in the case of burnout among bus drivers reveal that the high ratio of imbalance between efforts and reward affects the physical health of the drivers (Siegrist 1996).

The interactional model can explain the relationship between work and physical and mental health. This model can be generalized through a single observation. It has also been widely used in the developed countries.

### ***Psychosocial risk theory***

#### ***Action theory***

<sup>8</sup>The conceptual root for social cognitive theory comes from Edwin B. Holt and Harold Chapman Brown's (1931) that all animal actions are based on the urge to meet the psychological needs of "feelings, emotions, and desires". The most important component of this theory is that individuals cannot be said to <sup>8</sup>learn to imitate until they can imitate. In 1941, Jean Baker Miller and Dollard proposed a theory of social learning.

In 1977, Bandura, who coined the concept of <sup>8</sup>self-efficacy, denied the traditional learning theories for understanding learning. <sup>8</sup>Miller and Dollard argued that if individuals are motivated to learn certain behaviours, certain behaviours will be learned through clear observation. By imitating observable actions, an individual observer will

reinforce that learning action and will be rewarded with positive reinforcement. They argued that there are four factors contributing to learning: drives, cues, responses, and rewards.

Action theory is used to see the stages of a process that an individual consciously takes to achieve a personal goal or another goal that is imposed on him or her as a worker. Workers are directed to achieve the goals set by the company, which are generally in the form of profits. These goals are plural and can be in a short term or in a long term. Each stage in the theory of action becomes the unit of analysis. In the analysis unit, several variables used involve interactions between individuals with their work design and social environment. The process carried out to achieve the objectives is elaborated by Hacker (1985) into five stages: Goal Development and Role of Tasks; Orientation; Plan Generation and Decisions; Execution – Monitoring; and Feedback.

#### *Socio-technical system theory*

The term Socio-Engineering was first coined by researchers from an institute in the UK, Tavistock Institute of Human Relations, in 1950 in a study on a mining case to determine the causes of failure to increase productivity of the mining company. The company should have integrated those two designs to prevent false prominence in one design. Companies that emphasize technological design will give the impression that the company only wants to increase productivity for the benefit of the company without any regards to the welfare aspects of the workers. Conversely, companies that focus on social design can actually face difficulties in improving their work productivity because they are too busy paying attention to workers' complaints.

Socio-technical system is a system that seeks solutions to optimize the two systems together: Technical system, which consists of the tools, instruments, and techniques needed to do a job towards optimum task fulfilment, and social system, which consists of employees and the knowledge, skills, attitudes, values and needs they bring to the work environment and the reward system and the structure of authority that exists within the organization to achieve optimum quality system user work.

Chern (1976) reviewed these principles and, as the result, 24 principles emerged to replace the 9 principles of Chern. These principles are the clarification value, the design philosophy, uncertainty, technological and organizational choice, work as problem solving action and motivated behaviours, participation, open sociotechnical systems, human values, compatibility, minimum critical specifications, constraint-free design,

<sup>13</sup> self-regulating work groups, work group responsible autonomy, indicators to work, boundary locations, boundary management, <sup>13</sup> joint optimization, organizational uniqueness, support congruence-reinforcement, <sup>13</sup> variance control, multi-functionalism and requisite response variety, information flow, learning, experimentation, and self-design. These principles are categorized into 5 groups that are classified based on their closest relevance for the design process and their work, namely <sup>13</sup> philosophical premises and values, design process, structuring work groups, work design, and continuity.

Mumford and Weir (1976) updated the theory of Socio-Technical System into the Effective Technical and Human Implementation of Computer-based Systems (ETHICS) where the principle is the similar to the Socio-Technical System principle. This principle presents a double design attempt consisting of IT/IS-based design (to carry out technical system analysis) and work process design (giving rise to workers' job satisfaction requirements).

The socio-technical approach is an approach to the work design of a complex organization that recognizes the presence of interactions between humans and technology in the workplace. The advantage of this theory is that this theory strongly follows the progress of the technology. While the disadvantage is this theory only looks at two aspects, namely the social and technical aspects. The target of the social aspect is to optimize the quality of the work of the system user while the technical aspect has the goal to optimize the fulfilment of the task (organization/institution).

#### *Warr's vitamin theory*

Peter Warr (1990), a workplace psychologist, developed a theory called the Vitamin model to explain the most common work characteristics that have an influence on workers' welfare. Initially, Warr was only intended to do a workplace study on 1,900 workers and testing the impact of job characteristics on job satisfaction, work-related anxiety, and work-related depression. However, based on the results of this study Warr then criticized Karasek's model which stated that the relationship between characteristics and work pressure is linear. Warr argued that the relationship between characteristics and work pressure takes the form of a linear curve. He proved this linear-curve form of relationship by analogizing the characteristics of work as vitamins. He stated that if a vitamin is consumed according to the dose, the vitamin will increase the physical power of the worker, but if it is consumed in an amount that is higher than the recommended dose, it will not give good effects or may even cause a harmful effect.

The Vitamin Model is also built on two other main features. First, job characteristics that are grouped into nine categories that have different relationships with human mental health outcomes according to the type of vitamin they have and, second, the three-axial complex model of affective well-being as a core aspect of mental health. "Vitamin" gives a certain influence on the human body. Lack of vitamins leads a decrease in physical performance and can cause physical diseases (deficiency diseases). According to Warr (1987, 1994), vitamin C (constant) and vitamin E (effect) have similar effects on the human body. Moreover, vitamin overdose (hypervitaminosis) can be toxic to the body and disrupt the body's functions which may cause diseases. Vitamin A and Vitamin D are considered to be analogous to this effect because of vitamin A and vitamin D are known to be toxic when consumed in large quantities.

It is important to know that the Vitamin Model postulates that job characteristics affect mental health, not the process that starts in reverse order (Warr, 1994). For example, job autonomy is assumed to follow the AD pattern: very high levels of job autonomy are potentially harmful to employee mental health because it implies uncertainty, difficulty in decision making, and high responsibility for work (Warr, 1987). However, the suggested causal pattern has not been empirically justified or is not justified. Furthermore Warr (1987, 1994) distinguishes five components of mental health: (1) affective welfare; (2) competence; (3) autonomy; (4) aspirations; and (5) integrated function.

Warr (1987, 1994) came up with nine job dimensions that act as determinants of work-related mental health potential. Not surprisingly, these characteristics include those shown in the Job Characteristics Model (Hackman and Oldham, 1980) and Demand, Control, and Support Models (Johnson and Hall, 1988; Karasek and Theorell, 1990). Warr (1987, 1994) assumed that six job characteristics (i.e. job autonomy, job demands, social support, utilization of skills, variance, and feedback assignments) have similar effects to vitamins A and D while the remaining three characteristics of work (i.e. salary, safety, and task significance) should follow the CE pattern. The dimensions of the Vitamin Model can be described as follows: Opportunity for Control, Opportunity for Skill Use, Clarity of Goals and Rules, Variety, Environmental Clarity, Availability of Money, Physical Comfort and Security, Social Support and Contact, Valued Social Position. (Warr, 1987).

### *Person-environment fit (P-E Fit) theory*

The basic principle of the P-E Fit theory is that psychosocial risk arises from a mismatch between people and the environment. P-E Fit is a theory that explains the framework for assessing and predicting how the combination of characteristics of employees and the work environment determine the welfare of the workers themselves. The P-E Fit theory looks at the perspective of the employee's needs as well as environment's demands. This Employee's needs refers to the extent of employee needs such as the need to use skills and abilities and whether these needs can be met in the work environment and whether there are opportunities to meet those needs. Meanwhile, job-environment's demands refer to the extent to which job demands are met with the skills and abilities of employees.

There are two basic differences for P-E Fit theory. The first and most basic difference is between people and the environment. This difference is a prerequisite for the conceptualization of P-E fit and provides a basis for examining mutual causal relationships between people and the environment. The second difference is between the objective and subjective representations of the person and the environment. The object of the person refers to the nature of the individual, while the subject of the person symbolizes the perception of the individual's nature.

The theory of P-E Fit is influenced by the perspective of the worker to the environment. The perspective can be objective and subjective perspectives. The objective perspective is how workers see people and their environment in accordance with their original conditions, not based on the perceptions of the workers and without being subjective. The dimensions of the P-E fit theory include person-job, person-organization, person-group, and person-supervision.

Basically, the P-E Fit theory argues that humans have positive needs to adjust to their environment. This is the same as people adjusting to an organizational environment that will eventually become an organizational culture. This P-E fit theory has been used in psychology organizations to explain the development of organizational culture.

Person-job fit is the suitability of a worker with the work he does. This specifically explains the suitability between job demands and the ability of an individual, or the needs of someone who facilitates those needs. Demands-abilities fit consists of dimensions of knowledge, talent, and abilities and character of workers whereas needs-supplies fit consists of dimensions of interest and job characteristics. A person can do

his job well if he has an ability that is equivalent to the requirements of the work he does. These requirements include knowledge, talents, abilities, and characteristics of the worker, which is sure to provide better performance.

In needs-supplies fit, Holland (1996) uses interest as a dimension in this NS fit. The theory uses six types of personalities that describe a person's interest in career and environment: realistic, investigative, artistic, social, enterprising, and conventional. In general, the suitability of work with interest contributes to positive outcomes such as satisfaction and achievement. People also compare their needs with the availability of facilities in their environment and people produces better work if their needs are met by facilities from their environment.

Person organization (P-O) fit is the suitability between an individual and his organization that occurs when at least one party provides what the other party needs or happens if both parties have the same characteristics, in this case values and objectives. Value in the world of work relates to desire and is a form of benefit, security, and success of the work itself. In cognitive terms, knowledge is a belief system about good attitude and broadening knowledge, contributing to the environment, and doing meaningful work. The value of an appropriate job can produce pleasure as well as good relationships between individuals and with the organization. P-O Fit can also have a positive correlation with employee's satisfaction, trust, as well as satisfaction with colleagues and supervisors.

P-O Fit occurs when an organization meets the needs of workers, meaning that—based on the demands-abilities perspective—there is a match between people and organizations or, in other words, workers have abilities that are suitable for the demands of the organization. Edwards (1991) stated that these two perspectives refer to the need and ability to form dimensions for person while supplies and demands form the dimensions of the job.

Person - Group is defined as a compatibility between individuals and their work groups. The interest paradigm predicts that someone will be attracted to others who have similarities with themselves in their social environment. Study found that personality similarity helps facilitating communication between employees and encourages social integration. Suitability between individuals and groups focuses on values, goals, and attributes of group members (personality, work style, and lifestyle). Conformity between individuals and work groups can affect individual performance, job satisfaction, intentions, and commitment to the organization.

Person – Supervision signifies the compatibility between the individual and his supervisor in the work environment. Interpersonal attraction theory explains that an individual is attracted to other individuals on the basis of similar characteristics regarding the purpose of life, personality, choice of activities, values, and so on. A subordinate and boss who are attracted to each other on the basis of similarity are said to be suitable or appropriate to each other. Conformity between subordinates and superiors can influence the performance of roles, job satisfaction, intentions, and commitment to the organization.

#### *Job demand control theory*

According to Karasek and Theorell (1990), job demand or psychological demand is an illustration of how hard a person works. Job control or commonly called latitude decision is the ability of workers to overcome or resolve a given workload. Demand is called a unidimensional construct, meaning that it only has one dimension, namely the job demand itself (in Sale & Kerr, 2001). This dimension relates to one's perception of how hard he or she works, where the subdimensions used are workload, pressure in time, and personal conflict (Karasek & Theorell, 1990).

Job demand is influenced by the workload and the time limit given to the worker to complete the work. It also relates to the personal conflict experienced by the worker in completing the work. Job control or latitude decision refers to the ability of workers to regulate their own tasks and how to get the existing workloads done (Karasek & Theorell, 1990, p. 58).

According to Karasek and Theorell (1990), there are four types of employment: Passive Job (When job demands and job control are at a low level. This is characterized by low job demands, High Strain Job (This type is characterized by a lot of workloads, a deadline for work settlement, and work demands that must be quickly met) (Karasek et al., 1998), Low Strain Job (The work situation in this type is almost too good to be true; job demands are low and the job control is high (Karasek & Theorell, 1990, Active Job (This happens when job demands and job control are both in the high category. This type of work is characterized by a high workload, several challenging work situations, and type of professional work requiring a maximum level of performance but without a negative psychological strain (Karasek & Theorell, 1990).

Demand Theory - Control - Support (DCS) (Johnson & Hall, 1988) is an extension of Job Demand - Control (JD-C) Model (Karasek, 1979, 1989; Karasek & Theorell,

1990) developed to predict and explain stress related to work and motivation which focuses on two important aspects of the work environment, namely job demands and job control. Based on the JD-C model, work with high demands (workload and excessive time pressure) and poor control (limited autonomy) can increase stress reactions or strains (physical or mental fatigue) in workers.

In 1989, Johnson argued that control efforts related to job control are not the only way to overcome the high job demand and suggested that social support from colleagues or superiors could also function as moderators that influence the relationship between job demands and reactions to psychosocial risks. In 1988, Johnson and Hall formulated the JD-C model by adding work-related social support as a third important aspect of the work environment that is referred to as the DCS model. Based on the DCS model, a work environment that has the potential to increase psychosocial risks is not only caused by high job demands and poor job control but also the absence of good social support.

### ***Job Characteristic Model Theory***

The first redesign of the work began in the 1960s. Until then, the prevailing attitude was that work had to be simplified to maximize production. However, it was found that when experiencing monotonous and repetitive tasks, the benefits of simplification sometimes disappear because of workers' dissatisfaction. This shows that work must be enriched with improved design motivation, not only simplified on repetitive and monotonous tasks. This perspective becomes the foundation of the Job Characteristics Model theory development.

The identification of appropriate job characteristics related to a particular job has an important role related to the various attitudes of workers in the organization. In 1975, Greg R. Oldham and J. Richard Hackman developed the theory of Job Characteristics Model that provide the basic objectives of job characteristics in job design and an explanation on how work structures influence workers' behaviour and their attitudes toward working conditions. Job Characteristics Model is based on the ideas that work itself is the key to workers' motivation.

Variation, autonomy, and decision authority are three ways to increase challenges in work. Work enrichment and job rotation are two ways to increase variety and challenge. The core dimensions of specific skills, task identities, task significance, feedback and autonomy, Hackman and Oldham (1975) explain how these elements can

influence the work and motivation of workers. The high level of work dimensions leads to high levels of satisfaction, motivation, and performance as well as low levels of absenteeism and employee turnover.

Job Characteristics model explains that there is a relationship between job characteristics and individual response to a work done. This theory focuses on the specifications of the work conditions to reach a point of welfare for the workers. Hackman and Oldham have divided the job characteristics into five categories: skill variety, task identity, task significant, autonomy, and feedback. Hackman and Oldham (1975) admitted that not all workers will respond positively to work that requires high motivation. Therefore, there are three characteristics of people that are quite important in mediating the relationship between job-psychological states relationship and psychological states-outcome relationship namely knowledge and skills, growth need strength, and work context.

#### *Effort reward imbalance model theory*

At first, the theory of Effort-Reward Imbalance (ERI) was used to investigate cardiovascular outcomes. In 1998, a new ERI theory was introduced as a pioneer theory that links psychological and behavioral outcomes. ERI Theory was introduced by Johannes Siegrist in 1998 as a sociological framework that is useful for understanding that the role of work is crucial to meeting one's mental needs in their daily lives. Work provides opportunities for employees to achieve mental satisfaction (good performance), a high level of confidence (recognition from coworkers), and social integration (belonging to a social group).

In the big picture, humans will not passively settle in high-effort-low-reward imbalance situations, but they will cognitively, as well as in attitude, reduce their effort and/or maximize their rewards (such as the Cognitive Theory in Emotions by Lazarus, 1991 and the Theory of Hope from Motivation by Schönplugg and Batmann, 1989). According to Siegrist (1996), the negative impacts associated with ERI may unconsciously enter into the assessment, because the things that are questioned in this theory are everyday things (Gallard & Wientjes, 1994). Siegrist also identifies several specific conditions where a high cost/low gain condition is maintained: (1) there is no alternative choice in the labour market, (2) for strategic reasons (expecting future profits), and (3) when employees are characterized by excessive work-related overcommitment motivational patterns.

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This theory focuses on the notion of social reciprocity, a fundamental principle in interpersonal behaviour, and the 'old evolution' of social exchange grammar. Social reciprocity is characterized by the investment of mutual cooperation based on the norm of hope, again where effort is equalized with appropriate rewards. Failure to reciprocate will result in a violation of this norm and generate strong negative emotions and an ongoing stress response because it is contrary to the fundamental principles. In its application, the Effort-Reward Imbalance theory stated that reciprocity that fails in high-effort-low-reward terms can trigger the emergence of prolonged negative emotions and an ongoing stress response in exposed people. Conversely, positive emotions are generated with appropriate social rewards with the welfare of life.

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The rewards are then distributed through three systems: money, self-esteem, and career opportunities (including job security). The Effort-Reward Imbalance theory with a high-effort-low-reward model continues to be applied in the world of work under the following conditions: First, employment contracts are poorly defined or workers have little choice from alternative workplaces (usually due to low skill levels, lack of mobility, and an irregular labor market); Second, workers can accept this imbalance for strategic reasons (this strategy was chosen to improve future good employment prospects with anticipatory investment); and Third, high-effort-low-reward experiences in work often occur in groups of people who have specific cognitive and motivational patterns to overcome demands marked by a commitment to excessive work (over commitment).

A new direction in ERI analysis in work challenges the development of OHS aspects on how psychosocial risks relation to health can be conceptualized and measured in various ways. In the initial level basic theory, a questionnaire perhaps can question whether social reciprocity in work-related exchanges is present. These questions again become very important for the health and well-being of workers. The relevance of social validation of self-esteem is very important for individuals who have social productivity. So, the theoretic basis of Effort-Reward Imbalance theory is still applicable in its development in the future of work life. However, the measure of the application of this theory and its single component need to be reconsidered.

ERI Model Roots from the idea of reciprocity and fairness between the elements of reward and sacrifice (cost). The sacrifice, in this case, is also called effort. The element of reward is distributed into 3 things: money, self-esteem, and career opportunities that include security at work. Sources of effort are divided into two, namely intrinsic and

extrinsic sources. Intrinsic source consists of motivations in individual workers in carrying out their work assignments and in responding to the situation of their job demands, while the extrinsic source is the workload itself that comes from outside of the workers.

The big concept of the ERI theory is based on three main components: effort, reward, and over commitment.<sup>25</sup> This theory stated that the imbalance between high effort and low reward can cause a response in the form of prolonged stress. As this theory develops, Siegrist stated that high level of commitment or overcommitment also increases the health risks. In the future, there is a possibility for this theory to experience difficulties in its application due to the ongoing technological developments related to work that will cause changes to the existing work system.

### ***WHO psychosocial risk theory model***

The WHO psychosocial risk model developed by Cooper & Davison (1987) describes that psychosocial risks can be learned by using a multidisciplinary approach to science such as by studying the psychological, sociological and physiological problems that become demands and stimuli for individuals in their work environment.

By using a multidisciplinary approach, it becomes obvious that the source of psychosocial hazards in a certain place can affect individuals both at home and in their social environment, and vice versa.<sup>26</sup> Therefore, when sources and manifestations of psychosocial risks in specific work groups are studied, it should be borne in mind that there are sources of stress outside the organization that can affect the performance, mental, and physical health of individuals in the workplace. There are 2 main areas that come from the outside the organization that can pose psychosocial risks, namely home confusion (e.g. marital relations and financial problems) and social environment (e.g. social activities and relationships) as well as living in the countryside and on the suburb areas.

There are a large number of potential sources of psychosocial risk in the work environment such as work schedules, skills that are rarely used, excessive workloads, role conflicts, unbalanced wages, relationships at work, and career ambiguity.<sup>16</sup> This model comprehensively explains the dynamics of the source of stress and that the impact of psychosocial risk is interconnected between one source of psychosocial hazards and the other. Hence, work environment, home, and social condition influence

each other and interact with individuals. In other words, the psychosocial hazard source that comes from one environment can influence the psychosocial hazard sources from other environments.

There are 5 main sources of psychosocial risk in the work environment: Intrinsic factors of work (workload, physical hazard, job suitability, job satisfaction, training, work schedule, self-assessment, and work equipment), Roles in the organization (role ambiguity, role conflict, responsibility, and organizational boundaries), Career development (excessive promotion, loss of job security, unclear work in the future, dissatisfaction with wages, and unclear status), Social support (relationships with superiors, peers, and subordinates), Organizational structure and climate (politics, consultation, communication, involvement in decision-making, people who are considered influential for workers, and limited space).

<sup>16</sup> The source of psychosocial hazards originating from the home environment includes family dynamics, marital relationships, support from partners, support from close friends, relationships with children, family care for safety, living environment, financial problems, and developmental stages. The source of psychosocial hazards originating from the social environment include alienation, social climate, diet, mobility, driving, rural vs. urban atmosphere, hobbies, sports, social contact, and social activities. In addition, there are psychosocial hazards from individuals including genetic factors, characteristics, history, demography, religion, nationality, ethnicity, age, education, coping abilities, personality types, significant others, and events. All sources of psychosocial risk can have an impact and are tangible including those related to job dissatisfaction, low self-assessment, alcohol consumption, smoking, marital dissatisfaction, divorce, illicit drug abuse, and diet.

Each arena, both originating from the workplace, home, social environment, and individuals, interacts reciprocally. The interactions among arenas may increase the psychosocial risks (additive or multiply effects) or may reduce the psychosocial risk. This will depend on the dynamics of the individual and his environment. However, in the end individual aspects such as resistance to stress and coping abilities will also determine the responses that occur both physically and psychologically in individuals when dealing with psychosocial risks.

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### *Cox's psychosocial stress work hazard model*

Cox (1993) proposed a work stress model which explains that psychosocial risk of work is the interaction of two factors, the content of the work and the work context. The content of the work includes the contents of the task (monotonous tasks, no work, and work skills are not frequently used), load and work speed (overloaded work, little workload, high work pressure, and high work pace), work schedule (uncertain work schedule, night work, unpredictable or excessive working hours), and environment & equipment (work equipment mismatches, lack of maintenance, minimal lighting, noise and narrow workspace).

The work context is work characteristics, including control (lack of participation during decision making, no control of workload, work schedule and work speed), culture and organizational functions (lack of communication, lack of clarity in work agreements, organizational goals), interpersonal relationships in the workplace (physical or social alienation, poor relationships with supervisors, personal conflict, bullying/abuse/violence), roles in the organization (conflict of roles and responsibilities to others), career development (slow and unclear careers, excessive and lacking promotion, low wages, job insecurity, low work values), and conflicts of interest between home-office (conflict of home and office, lack of support from home, double career).

### **Discussion**

From the above explanation on the psychosocial risk approaches/theories/models, the psychological interactional approach can be assumed to be a more comprehensive approach explaining the occurrence of psychosocial risk in workers compared to the other two approaches: engineering approach and physiological approach.

In general, each theory on psychosocial risk explains the occurrence of psychosocial risks to workers due to things that come from work and the environment around the work. The theory of action focuses on the interaction between behavior, work design, and characteristics of work and organization to achieve a specific goal which include personal and organizational goals (Hacker, 1985). Social system theory combines social aspects related to workers' welfare and technical aspects that emphasize the productivity of production machinery in order to achieve a balance between the two (Chern, 1976).

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Suitability Theory between workers and the work environment basically refers to the theory of Person constructs in relevant studies on stress including Type-A behavior (Friedman & Rosenman, 1959), locus of control (Rotter, 1966), hardiness (Kobasa, 1979), coping styles (Menaghan, 1983), environment that is constrained as stressful life events (Rabkin & Struening, 1976), daily hassles (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982), chronic stressors such as role conflict and ambiguity (R. Kahn, Wolf, Quinn, Snoeck, & Rosenthal, 1964; Jackson & Schuler, 1985), role overload and underload (French & Caplan, 1972), and job demands and decision latitude (Karasek & Theorell, 1990).

The theory of person-environment fit looks at the employee's need perspective as well as the environment's demands. This Employee's needs refers to the extent of employee needs such as the need to use skills and abilities and whether these needs can be met in the work environment and whether there are opportunities to meet those needs. Meanwhile, job-environment's demands refer to the extent to which job demands are met with the skills and abilities of employees (Schlenker, 1980).

Theory of Job Demand Control is influenced by job demands and control of work. Job demands are related to workload, work pressure, the time limit given to workers to complete the work, and personal conflicts experienced by workers in completing their work. Work control refers to the ability of workers to manage their own tasks and by completing existing workloads (Karasek & Theorell, 1979). Johnson (1989) argued that control work related to job control is not the only way to overcome high job demands. Johnson also proposed that social support from colleagues or superiors can influence the relationship between job demands and reactions to psychosocial risks.

Greg R. Oldham & J. Richard Hackman (1975) developed the theory of Job Characteristics Model which stated that work itself is the key to worker motivation. Job Characteristics model explains that there is a relationship between job characteristics and individual response to a work done. This theory focuses on the specifications of the work conditions to reach a point of welfare for the workers.

Siegrist (1998) suggested that the Effort-Reward Imbalance (ERI) Theory could be used to link psychological and behavioral outcomes. This theory is a sociological framework that is useful to understand work is crucial to meet one's mental needs in their daily lives. Work provides opportunities for employees to achieve mental satisfaction, a high level of confidence, and social integration. In the big picture, individuals will not passively settle in high effort-low reward situations, but their

cognitive and attitudes can <sup>14</sup> reduce their effort and/or maximize their rewards (as stated in the Cognitive Theory in Emotions by Lazarus (1991) and the Theory of Hope from Motivation by Schönplugg and Batmann (1989)).

The psychosocial risk model from WHO developed by Cooper & Davison (1987) describes that psychosocial risks can be learned by using a multidisciplinary approach to science such as when studying problems that are psychological, sociological and physiological that become demands and stimuli for individuals in the work environment. This model explains that the source of the occurrence of psychosocial risks in the workplace does not only come from the work environment but can come from the workers, home, and social environment. There are 4 arenas that interact or influence the occurrence of psychosocial risk in the workplace, namely work arena, home arena, social arena, and individual arena.

According to this theory, the four arenas will influence each other dynamically. The interaction of mutual influences can be mutually reinforcing and can also reduce each other (give positive or negative influence). This means that the four arenas contribute <sup>23</sup> to the occurrence of psychosocial risks in the workplace. It is also necessary to look into the impact of the occurrence of psychosocial risk. It would even be very good if one or more arenas (of the four arenas) could reduce or decrease the psychosocial risks in the workplace.

Cox (1993) stated that psychosocial risk is the interaction of two factors, job content and job context. Content of the work includes job characteristics such as content of the work, load and speed of work, work and environmental schedules, and equipment while the context of work comprises of work characteristics such as control, culture and organizational functions, interpersonal relationships in the workplace, roles in the organization, career development, and conflicts of interest between home and office. This theory focuses on only 2 aspects of the source of psychosocial risk, i.e, job content and job context. This means this theory consider aspects or factors outside the work environment as constant or there are no problems at all.

## Conclusion

From the description of <sup>2</sup> several approaches/theories/models of psychosocial risk, it can be concluded that the psychological interactional approach and model from WHO (Cooper & Davidson, 1978) are the most relevant approach and model to be used to explain how psychosocial risks occur in the workplace, which are the results interaction

between workers and the work environment and environment outside of work. This model explains comprehensively that the sources of psychosocial risk do not only come from workers, jobs, and the work environment but also can come from outside the work environment such as from home and social environment.

Thus, the occurrence of psychosocial risk is a dynamic condition where inter-arenas/factors will interact with each other to strengthen or weaken each other. This will make it identification of the sources of psychosocial risks faced/felt by workers easier. With the knowledge of the source of psychosocial risks, the intervention program that will be carried out will be more targeted and effective. The focus of intervention is not only on the work environment and workers, but also on aspects/factors outside the work environment and workers, if possible. This intervention should also ensure that the sources of psychosocial risk coming from outside the work environment and workers are addressed.

### Conflict of Interest

The authors declare that there are no conflicts of interest

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