ADAMA SCIENCE AND TECHNOLOGY UNIVERSITY
SCOOL OF GRADUATE STUDIES

DEPARTMENT OF PSYCHOLOGY

THE IMPACT OF PERCEIVED ORGANIZATIONAL SUPPORT AND SAFETY CLIMATE ON SAFE BEHAVIOR OF EMPLOYEES

THE CASE OF WONJI-SHOA SUGAR FACTORY EMPLOYEES

BY:
ZELEKE OLJIRA

JUNE, 2016
ADAMA

IMPACT OF PERCEIVED ORGANIZATIONAL SUPPORT AND SAFETY CLIMATE ON SAFE BEHAVIOR OF EMPLOYEES:

THE CASE OF WONJI/SHOA SUGAR FACTORY EMPLOYEES

THESIS SUBMITTED TO THE
SCHOOL OF GRADUATE STUDIES OF
ADAMA SCIENCE AND TECHNOLOGY UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF ARTS IN INDUSTRIAL/
ORGANAZATIONAL PSYCHOLOGY

BY:
ZELEKE OLJIRA

APRIL, 2016
ADAMA

ADAMA SCIENCE AND TECHNOLOGY UNIVERSITY

SCOOL OF GRADUATE STUDIES

Approved by Examining Board:

This is to certify that, Zeleke Oljira has carried out his research work on the topic entitled **"The impact of Perceived Organizational Support and Safety Climate on Safe Behavior of Employees: The Case of Wonji-Shoa Sugar Factory Employees"**

As members of the board of examiners of the final MA open defense Examination, we certify that we have read and evaluated the thesis by the candidate. We recommended that the thesis be accepted fulfilling the thesis requirement for the degree of Master of Arts in Industrial / Organizational psychology.

Board of Examiners

	Name	Signature	Date
1.	_____ Chairman or Head of Department	_____	_____
2.	Habtamu Kebu (PhD) Advisor	_____	_____
3.	_____ Internal Examiner	_____	_____
4.	_____ External examiner	_____	_____

TABLE OF CONTENTS PAGE

LISTS OF TABLES

V

Acronyms and abbreviations

POS:…… perceived organizational support

PAoMTS…… perceived attitude of management toward safety

GNoS…….. Group norm on safety

PSoSO ……perceived status of safety officers

PEoSCoP……. perceived effect of safe conduct on promotion

SBoE …….safe behavior of employees

Acknowledgements

This study would not have been possible without the encouragement and support of several individuals who in one way or another contributed and provided me with their valuable assistance. I take this opportunity to express my gratitude to the people who have supported me for the successful completion of this study.

First and foremost, I would like to express my deepest gratitude to my advisor Dr.Habtamu Kebu, for his invaluable guidance and support not only throughout the preparation of this study but also since I began working on my study. I also would like to thank my wife, Gizesh Hunde ,for her support and patience, without her this study would have never been done.Likewise,I would like to extend my gratitude to the Participants of the research .

Abstract

The purpose of the study was to explore the impact of organizational support and safety climate on employees' safe behaviors and to inform the sugar factory in general and managers in particular about the effective way of rendering organizational support and practicing safety climate. The researcher used descriptive approach of research which is used to evaluate the cause and effect relationship between safe behavior and safety climate components and perceived organizational support to gain new insights and also to verify and illustrate these practices. The data for the study was collected from primary sources which were conducted by using questionnaire that take place with workers. Wonji- Shoa Sugar Factory has various departments from these departments production and engineering departments were selected by simple random sampling. According to the finding of the study majority of workers either sometimes or never comply with safety procedures, because of perceived organizational support, perceived management attitude toward safety and group norm on safety. Therefore the management should give due attention to these hindering factors to ensure safety of the factory.

CHAPTER ONE

INTRODUCTION

1.1. BACKGROUND OF THE STUDY

According to International Labor Organization (ILO, 1998),report, about 250 million workers worldwide are injured annually on the job, 160 million suffer from occupational diseases, and approximately 335,000 workers die each year from occupational injuries. As to (Dekker, 2005), more than 85% of industrial accidents have been caused by unsafe behaviors of individuals. This implies that ensuring safe behaviors of individuals in the work place can reduce accidents to a greater degree in the world of work.

Maslow (1970), asserts that, though it is assumed that self-preserving act is prioritized by an individual during work than other motives ,careless behavior dominates while doing many jobs, that is making safe behavior an ongoing managerial challenge. This is to mean, though it is believed that an individual is biased to himself/herself by acting safely, contrary to this assumption individuals give more weight to what is achieved by careless behaviors. In support of this fact,Herrnstein (1993) states that violating established safety rules stems from an individual assumption of immediate and preferred outcomes of unsafe behavior (higher speed, greater comfort) than delayed and unsure negative outcomes associated with accidents. This implies that unsafe behaviors which could lead to accidents given outweigh value than safe behaviors.

Organizational support is one of the factors that affect safe behavior of employees. As it is explained in various ways by different scholars: Eisenberger, Huntingdon, Hutchinson and Sowa (1986), workers form general perception to what extent the organization values their contributions and cares about their

well-being. According to this explanation there is a belief of workers about the level of exchange between what they do for the organization and what they received in return to their effort.

Eisenberger, Huntingdon, Hutchinson and Sowa (1986), workers perceive the support of an organization through the measures it takes whenever there is illness, mistakes, and superior performance. Eisenberger emphasized that when perceived organizational support is positive, workers feel that they are valuable and engage in safe behaviors. This is supported by social exchange theory that says resources received from others are more highly valued if they are based on discretionary choice rather than circumstances beyond the donor's control.

According to Zohar (2003), to initiate and involve workers in safe behavior, the role of managers and supervisors in safety performance need to be stated clearly in the document of an organization. On top of this, as Zohar mentioned, managers and supervisors have to communicate safety priorities that the worker should know and implement. This is to mean that giving clear information about safety priorities help the workers to behave safely.

Levinson (1965) stated that workers perceive decisions and actions taken by agents of the organization as indications of the organization's intention as a whole. This implies that whatever action is taken by individuals who are in some positions, workers conclude that it is the stand of an organization. Workers assign to the organization human characteristics for actions taken by agents of the organization according to organizational support theory. Workers, who perceived their management having a higher commitment to safety, have low accident rates(Smith, 1978).

Neal (2000), on the other part, pointed that organization has the most important influences on the safety behavior of the individual worker. As to these scholars the action and contribution of the workers is reciprocate that of the organization.

Another important factor that affects safe behavior in the work place is safety climate.To Vinodkumar and Bhasi, (2009) safety climate is a commonly held perception by the workers about the importance and the priority of the safety together with the safety policies, practices and applications in the workplace. According to this concept, safety climate is the subjective perception of an individual worker about safety and the weight given to it by individual workers.

Sexton (2006),explained safety climate as an individual's and group's values, attitudes, perceptions, competencies, and patterns of behavior that determine commitment, style and proficiency within organization's safety management initiatives. Positive attitudes of workers to ward safety climate helps to prevent the accidents caused by the unsafe behavior of the workers.

Berol (1960) stated that the compliance of workers with safety behaviors is determined by workers' acceptance of the safety message from management. According to this concept Workers'engagment in safe behavior is based on whether they accept or not the intended message of safety.

accidents and injuries of workplace mostly caused by unsafe behavior of the workers than unsafe work environment(Mullen, 2004). Lack of compliance of safety procedures is the major cause of work place injuries than causes for the problem of safety as indicated in many documents work place accidents are increasing, with the expansion of industry. Owing to this fact many ways to tackle the problem have been tried so far. To make this effort more effective some propose that implementing behavior-based safety approach preferable. As (Jason and Geller, 2001) mentioned, promoting injury control approach has advantage of conducting training using an individual with minimum training, possible to reach large people, leaders learn solving problems in specific situations.

As to ILO, even though many efforts have been taken, to reduce risks and hazards to workers at work places and loses it brought to the organization is still not to the level it is needed. Moreover, it is indicated by the ILO that, the rates of accidents at work places is increasing in developing countries

more than industrialized countries. Ethiopia is also one of these developing countries, where industries are growing. One of these industries, increasing in number in Ethiopia is sugar factory.Wonji-Shoa sugar factory is one of the sugar factory in Ethiopia which is the pioneer and large sugar factory in the country. Many work forces are engaged in this sector and the country is also expecting from the sector major contribution for the economic development. All these achievements are only possible through healthy and productive workers. Because of this ensuring occupational safety and health of the workers is important. One of the mechanisms of preventing accidents is through organizational support given to workers that enables them to behave safely and ensuring safety climate.

1.2.STATEMENT OF THE PROBLEM

Occupational hazards and accidents of workers in sugar factory like in other industries is also a concern of many professionals. Because many workers of sugar factory work in hazardous and ill-health conditions (Ashraf, 2005). With increasing industrialization and its consequent increase in hazards and accidents, the issue of health and safety management has become more pressing than ever. Workplaces in the sugar factory in Ethiopia are not exceptional. Despite the fact that employer is required to protect the employees' health and safety as stipulated in the Occupational Safety and

Health Act, most of the safety conditions in the factory still pose risks to the workers. Poor ventilation and lighting, slippery floors, leaking steam pipes, high temperatures, hanging electric wires , lack of complying of workers with safety procedures are some of the common conditions in most sugar industries.

The scenario above is evident in Wonji/Shoa Sugar Company despite the fact that the company has a clearly stated health and safety policy as well as a committee to implement the programmes outlined in the policy.

To prevent risks caused by these hazards workers adherence to safety procedures is crucial. Because as to (ILO, 2011) 85% of occupational accidents in the workplace have been caused by unsafe behaviors of workers. Despite this fact, due to reasons like perceived organizational support and attitudes of safety climate workers sometimes fail to compliance with safety practices. Therefore the study answered the following basic questions.• To what extent

1. Demographic,

2. Organizational support, and safety climate of the factory do negatively or positively affect safe behavior of workers at work?

3. Which are the factors that most influence safe behaviors of workers of wonji-shoa sugar factory?

1.6 OBJECTIVES OF THE STUDY

1.6.1 General Objective of the study:

The general objective of the study was to assess the impact of demographic, perceived organizational support and safety climate on safe behavior of the workers of wonji-shoa and to suggest to managements strategies to promote safe behavior of workers which is the base for assuring occupational safety and health of the world of work

1.6.2 Specific Objectives

The specific objectives of the study were:

1. To assess the impact of sex, age, marital status, education,experience of workers on safe behavior
2. To identify whether perceived organizational support has negatively or positively affect safe behavior of workers of Wonji-Shoa Sugar Factory
3. To investigate the effect of the organizational safety climate components like; management attitudes toward safety , values and perceptions of individuals and groups at all levels of the organization, upon the safety behavior of the workers.

1.7 OPERATIONAL DEFINITION OF TERMS

Perceived Organizational support- It is workers' perception to what extent the organization values their contributions and cares about their well-being as measured by Eisenberger, Huntingdon, Hutchinson and Sowa (1986).

Safety climate- Are a shared perception of workers about the importance and the priority of the safety together with the safety policies, practices and applications in the workplace as measured by (Vinodkumar and Bhasi, 2009)

Safe behavior- safety-related activities, actions and behaviors exhibited by workers and it consists of actual behaviors performed by individuals at the workplace and to what extent their actions comply with safety procedures (Griffin and Neal, 2000).

Hazard- the potential to cause harm – which can include substances or machines, methods of work or other aspects of Wonji-Shoa sugar factory.

Risk - the likelihood that the harm from a particular hazard is realized.

Accident -a short, sudden, and unexpected event or occurrence that results in an unwanted or undesirable outcome which is directly or indirectly the result of human activity (Hollnagel, 2004)

1.8 SIGNIFICANCE OF THE STUDY

The final result of this study helps to inform or educate the managers and supervisors in particular about the need to give due attention for perceived organizational support and safety climate, which are the sources of safe behaviors of the workers that improve organizational performance and competitive advantage for the factory. Likewise when management value safety records, it improves the awareness of employees about the importance of safe behavior. This in turn, helps them to view their safe behavior as the major determining factor for the realization of the safety of the factory and they are likely to behave in a safe manner themselves and encourage their coworkers to behave safely which is critical to the success of the organization.

1.6 LIMITATIONS OF THE STUDY

The researcher has encountered lack of review literature about perceived organizational support and safety climate especially in African context. The document about the status of occupational health and safety in Ethiopia was also not well documented to support the study with relevant literature.

1.6. SCOPE OF THE STUDY

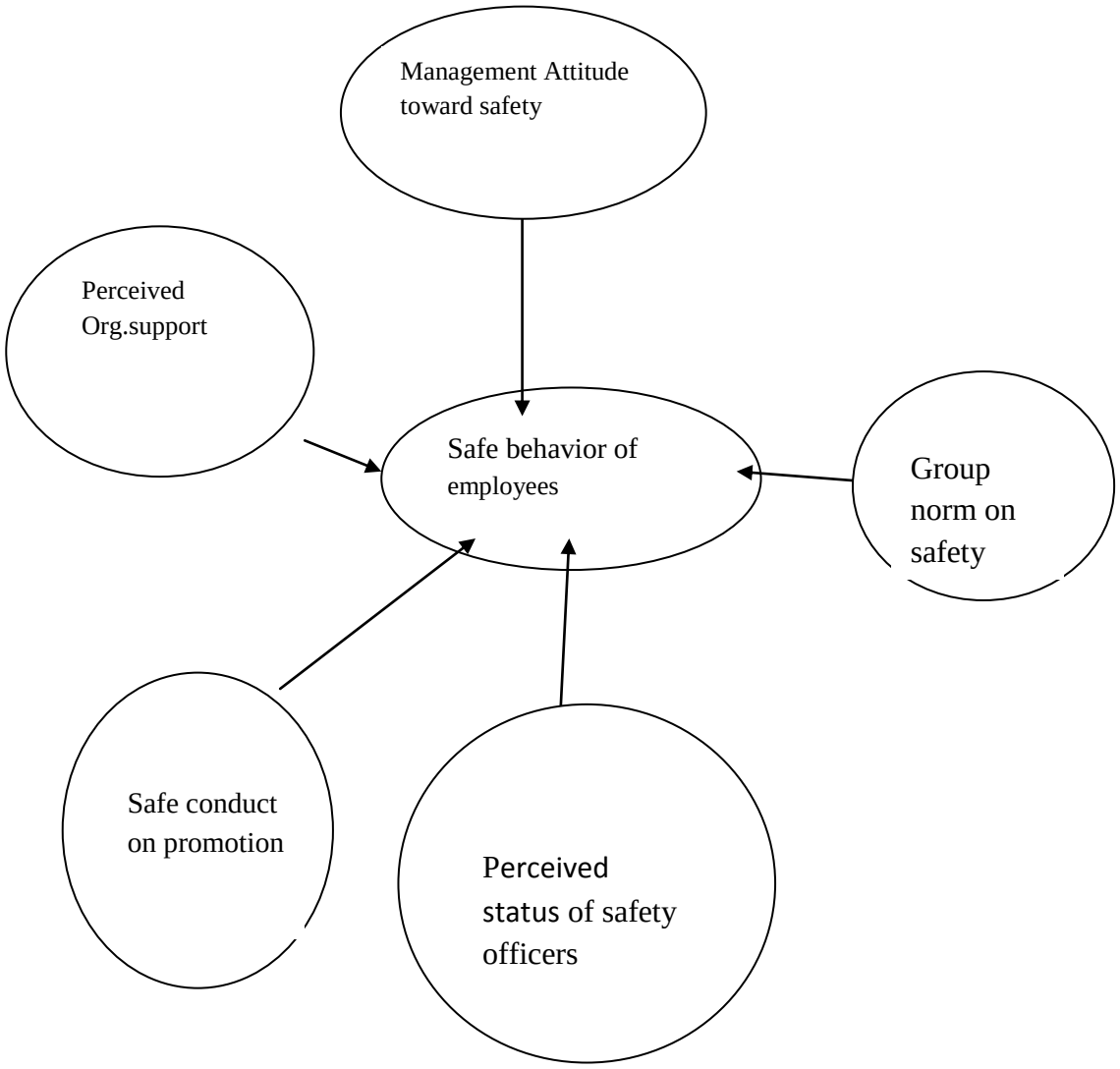
In Ethiopia, the sector of industry is growing and a great number of workforce is employed in this field. One of the industry sectors which are expanding in the country is sugar Factory. The number of sugar factories in Ethiopia is increasing recently and many workers are working in this industry. However due to time and budget constraints, the researcher preferred to make frame to assess the impact of organizational support and safety climate on safe behavior of workers in Wonji-Shoa sugar Factory.

1.7 .ORGANIZATION OF THE PAPER

The paper contains five chapters. The first chapter is back ground information, statement of the problem, objectives of the study, significance of the study, definition of key terms, and organization of the paper. The second chapter is literature review on work place hazards, perceived organizational support, safety climate and safe behavior of workers.

Chapter three deals with the study of method. The fourth chapter is data analysis, results and discussions and chapter five contains conclusion and recommendations. The paper has annexes and references.

1.9. CONCEPTUAL FRAME WORK



- Source .Researcher

As depicted above safe behavior is found in the center and it is a function of perceived organizational support, perceived attitude of management toward safety, perceived status of safety officers, group norm on safety and perceived effect of safe conduct on promotion .

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter gives an extensive discussion of the theoretical frame work of the study, a review of work place accidents, perceived organizational support, safety climate and safe behavior of employees.

2.1. Work place Hazards

According to (Jahoda, 1982), People spend more of their lives at work, and often their jobs bring meaning and structure to their lives. Cox (1993) on his part says work may dominate the lives of many individuals. This implies that work is the major dimension of lives of many people.

Although work provides many economic and other benefits, a wide range of workplace hazards also present risks to the health and safety of people at work, (Fanning, Fred E. 2003).

It is understood that employees should have a safe and healthy work environment. Workers should not have to worry about accidents or illness. To prevent work place accidents and to ensure safety of workplace legislation has been introduced in many industrialized countries (Kompier, 1996).Despite the efforts that have been made, work place accidents in industries cause significant hazards, resulting in more operational costs and loss of life (Wiegmann & Shappell, 2003). As mentioned by these scholars other costs, like physical suffering and psychological damage to individuals and families, the reduced ability to perform social roles, and loss of community morale, are costs of work place accidents. International Labor Organization (ILO, 1998)report that about 250 million workers worldwide are injured annually on the job, 160 million suffer from occupational diseases, and approximately 335,000 workers die each year from occupational injuries.

Mottiar (2004) also stated that the overall costs of accidents and ill health in the European Union in 2002 as being approximately €20 billion and approximately €171billion in the U.S.

Mossink and De Greef (2002) on their part mentioned that the European Union lost up to 3 % of GDP due to accidents and ill health in 1998.They also added that,whatever the initial costs associated with the accident, the consequential costs go beyond what may or may not be visible and subject to insurance cover. These include disruption to production, bad publicity, administrative costs, legal costs and lost workdays.

Amati and Scaife (2006) on their part mentioned that accidents of workers in the work incur medical and transportation expenses. According to these scholars their family and friends' also lose pay and time from work to care them.

Despite the magnitude of different losses associated with accidents at work, Mossink and De Greef (2002) reported that it is difficult to convince employers and decision makers of the benefits of workplace accident prevention. They further stated that this may be due to the economic consequences of accidents being obscure, inaccessible or difficult to calculate.

The US National Safety Council (2002) estimated that the total cost of work-related injuries and deaths in 2001 amounted to $132.1 billion and 130 million work days lost.

The accidents in the work place also become a wide problem in developing countries where work is becoming mechanized.In these countries a number of work processes have been designed that treat workers as tools in production putting their health and lives at a risk. The occupational health lessons learned during the industrial revolution should be born in mind in planning for health in developing countries if such problems are to be avoided, (WHO Regional Office for the Eastern Mediterranean Cairo 2001)

2.2. Causes of Work Place Accidents

There are various causes of accidents in the workplace, of which eighty five percent of all industries accidents are caused by human error (Shappell & Wiegmann, 2000). This statistics implies that a great amount of work-related injuries are caused by unsafe behaviors of workers. Historically, the traditional perspective on these losses has focused on individuals and the most recent unsafe behaviors alone, but contemporary human error models emphasize organizational behavior as a latent factor contributing to unsafe behavior in the work environment (Reason, 1990; Wiegmann & Shappell, 2003; Dekker, 2005).

Bird‘s (1974) domino theory and Reason‘s (1990) Swiss cheese model of error causation state that, the latent factors behind human-related behavior hinder ensuring safety. According to this perspective, preconditions of unsafe acts, unsafe supervision, organizational influences, and social environment are the antecedents of unsafe behavior of workers. Factory accidents are the consequence of a series of events, in which the last one, the individual‘s unsafe action, is an output of these factors (Helmreich & Merritt, 2001).Because of this reason, minimizing accidents of workplace depends on reducing human error, as more than 85% of industrial accidents have been attributed to unsafe acts committed by an individual (Shappell & Wiegmann, 2000; Dekker, 2005).

2.3 Safe Behavior

Safe behavior is described as doing jobs in a safer method, supporting co-workers to behave as the safety procedures of the organization, using personal protective equipment properly and cooperate with supervisors on safety practices (Griffin and Neal, 2000). Though people most of the times do not intend to harm themselves, routine works may invite risky behaviors.

According to Maslow (1970) careless behavior prevails during many routine jobs, making safe behavior an ongoing managerial challenge. This is lack of concentration of workers on their jobs which can be due to repeated activities or lengthy and overload of works. According to the suggestion of Plous (1993) the appraised benefits of unsafe behavior often outweighs those of safe behavior.

Zohar (2002) also suggested that behavior is guided by the principle of maximizing expected utility. According to (Herrnstein, Lowenstein, Prelec, & Vaughan, 1993), this assumption is explained as a cost/benefits analysis incorporating melioration bias and self-relevant negative-events bias., and this inequality will become stronger due to successive reinforcement learning effects (Baron, 2001). Melioration bias concerns the tendency to assign greater weight to short-term results when choosing among action alternatives, while self-relevant negative-events bias concerns the tendency to under-estimate the likelihood of being adversely affected by rare negative events (i.e. 'it will never happen to me' syndrome). Thus, the immediate costs of safe behavior, such as slower pace, extra effort, or personal discomfort, are given greater weight than low-probability long-term benefits, resulting in a situation where the expected utility of unsafe behavior exceeds that of safe behavior. This inequality is strengthened by the fact that safe behavior results in non-events (i.e. avoidance of low-probability injury), whereas unsafe behavior leads to immediate reinforcement and tangible benefits (e.g. increased pace, greater comfort), resulting in reinforcement-based learning favoring unsafe behavior patterns. Safe behavior poses thus managerial challenges.

Thorndike (1913) also pointed out that people try different behaviors, assess their effects, and do more of those with better effects and less with those with worse. This implies that people engage in behavior that have pleasant outcomes and avoid behavior that has unpleasant outcomes.

Traditional safety efforts have focused on the engineering aspects of safety; however, relatively few accidents (10%) are a consequence of unsafe mechanical or physical conditions. While most on-the-job accidents and injuries appear to result from employees' unsafe acts, incidents typically are not caused by single operator errors, but are end-events in a chain of interacting factors on several systems levels (Wilpert, 1994). While many unsafe acts are committed, very few will penetrate an organization's defenses to result in accident or injury (Reason, 1994).This implies that there are a chain of events which resulted to unsafe behavior of employees, though all the acts of individuals are resulted to accidents.

According to Geller, S.E. (2001) a bitter competition in the manufacturing industry is influencing companies to look for means that enables them competent by reducing their cost. To this association one of the major costs of these manufacturing companies is work place injuries, so tackling this problem improves their position in the market. As it is mentioned by different researchers many accidents in the workplace are caused by unsafe behaviors of workers. Even though various organizational factors are contributing to the practices of unsafe acts of workers, giving more value to the consequences of unsafe behaviors than the results of safe behaviors is the major cause.

Formerly, it was believed that management ensure safety of workplace focusing on employees wrong doing rather than encouraging them by reinforcing positive work behavior (Geller, S.E. 2001).However, recently research approved that a progressive and effective approach being used to promote workplace safety is Behavior Based Safety. Behavior Based Safety programs use positive reinforcement to change employee behavior in order to prevent work related injuries and illnesses. By

implementing a Behavior Based Safety program, organizations can directly involve employees in injury prevention and provide them with the incentive to assume more responsibility for their safety.

As it is a mentioned by (McSween, 2003) organization which gives chance to employees' freedom of exercising their natural concern for safety gathers many rewards: fewer incidents and injuries, reduced costs, and a more positive and productive workplace where managers can focus on improvement rather than policing employees. According to this concept, when the issue of safety is solely depend on the will of employees it is more effective.

This creates a culture where managers and employees work safely for the right reasons rather than one where employees, simply follow procedures to avoid punishment (McSween, 2003).

Workers are more empowered in behavior-based approaches which help them to involve actively in safety practices. Behaviors should be defined and objectively described so that it is clear to everyone involved exactly what is required. The requirements for its successful implementation management commitment and leadership support from supervisors, and an open and trusting culture are important.

2.4. **Factors Affecting Safe Behavior**

2.4.1. Perceived Organizational Support

One of the causes of unsafe behavior of employees in the world of work is perceived organizational support (Eisenberger,1986).As mentioned before, Perceived organizational support is explained as workers' perception to what extent the organization values their contributions and cares about their well-being (Eisenberger, Huntingdon, Hutchinson & Sowa (1986).This perception of support given to workers is developed through giving organization human characters (Shore & Shore, 1995; Wayne , 1997). That is, the employees "personalize" the organization by accumulation of their experiences over time of the rewards and punishments that they receive from other more powerful organizational members. Since employees' direct leaders are often in charge of administrating and allocating discretionary rewards, support, and resources, it is likely that the relationship between the leader and the employee plays an important role in influencing employee perceived Organizational Support (Setton, 1996; Wayne , 1997).

In support of this perspective and formation of perceived organizational support Shore (1995) classified human resource practices in an organization as (1) discretionary practices that convey care of organization to its employees but which are not supported by company policy.

(2) Human resource practices that symbolize organizational recognition of the employee's contribution. According to Shore's suggestion, human resource practices that represent different ways in which the organization shows concern for the employees and values their contributions may be particularly critical for the development of high perceived organizational support. This implies that a favorable human resource practice in an organization contributes to the development of higher perceived organizational support. This transaction between employee and employer in work place can be explained by Equity Theory.

Equity Theory proposes that a person's motivation is based on what he or she considers being fair when compared to others (Redmond, 2010).The concept of equity theory can be applied in work place context (Gogia, 2010).Gogia explained that, Equity Theory focuses on an employee's work-compensation exchange relationship and the motivation of employee can be affected through an individual's perception of fair treatment in social exchanges. When compared to other people, individuals want to be compensated fairly for their contributions (the outcomes they experience match their inputs). A person's beliefs in regards to what is fair and what is not fair can affect their motivation, attitudes, and behaviors. According to this theory employee evaluate the fairness of the treatment he/she receives from the organization in relation to the treatment offered to the co-workers with the same contribution to the organization.

Eisenberger, Huntingdon, Hutchinson & Sowa (1986), also mentioned that workers with supportive perceptions reciprocate perceived organizational support with loyalty, efficiency and increased productivity. This implies that when workers observe treatment of the organization is fair they develop a sense of belongingness to the organization and involved faithfully in activities. They internalize the values and norms of the organization and behave safely. Workers and organizations are involved in a reciprocal relationship. That is the contribution of workers for the achievement of the organization's goal is depends on the perceived treatment given to the workers.

Perceived organizational support creates feelings of obligations to repay the benefits and support received from the organization, based on the norm of reciprocity (Eisenberger, 1986).This indicates, workers involved in works of the organization without waiting the order from the leaders if they perceive the treatment of the organization is appealing them.

According to social exchange theory of Blau (1964), the acts or decisions of management and supervisors communicates to employee perceptions of organizational support and, in turn influence

employee behavior. Likewise according to social exchange theory, voluntary behavior is motivated by the norm of reciprocity (Gouldner, 1960).

Hofmann and Morgeson, (1999),stated that, when supervisors and managers convey concern for employee safety by considering comment for improving safety, workers develop a sense a positive orientation toward safety in their organization, which in turn enhances the workers participation safety-related activities (Griffin and Neal,2000). Contrary to this if the concern of supervisors and management on safety of employees' is not strong , exchanges of safety between employees and management and supervisors do not exist or are inconsistent, employees may be less willing to share ideas or proactive about safety. From this point of view it is possible to understand that, the voice of employees about safety is an important asset to ensure safety of an organization. Likewise Gouldner (1960),also mentioned that, voluntary behavior is initiated by the norm of reciprocity, that is, social goodwill is gained (or lost) by individuals to the extent that behavior is perceived to meet (or fails to meet) informal exchange obligations. When behavior is perceived as meeting social obligations, the exchange process is generative and the cycle continues. Moreover , when supervisors and managers convey concern for employee safety by valuing suggestions for improving safety, workers develop beliefs that their organization has a positive orientation toward safety, which in turn increases the probability that workers will participate in safety related exchanges (Hofmann and Morgeson, 1999) and participation in other safety-related activities (Griffin and Neal,2000). Conversely, when safety related exchanges do not occur or are inconsistent, employees may be less willing to share ideas or be proactive about safety. From this perspective, employee safety voice is an important currency in safety related social exchange.

Hofmann and Morgeson (1999) also suggested that the nature of exchanges between employees and management can help to explain incidents and safety-related behaviors.

On perception of organizational support (Martin and Cullen, 2006),On the other hand stated that, if the organization is focusing on material development of organization at the cost of employees' well being , they are less likely to be concerned about safety. That is employees become more careless about the impact of their actions on others.

Perception of employees about their organizational support is developed over time (Eisenberger, Armeli, Rexwinkel, Lynch, and Rhoades, 2001).This implies that employees' perceptions of good treatment or mistreatment are developed gradually through time. (Eisenberger, Armeli, Rexwinkel, Lynch, and Rhoades, 2001)also explained that, these perceptions of treatment developed from the general beliefs regarding how much the organization values their contributions and cares about their well-being. Owing to this, organizations in which those individuals in positions of authority depict a strong degree of caring for employees resulted to desired work-related attitudes and behaviors.

Neal and Griffin, (1997), Organizational education and training are most directly responsible for knowledge, skill development of workers. That is when the organization capacitates its workers safety behaviors will improve.

Though perception of organizational support creates a sense of reciprocate in workers' mind, there is an assumption that managers and supervisors do not consider it as determining factor to safe behavior. This situation could hinder the factory to assure occupational safety.

2.4.2 Safety Climate

Safety climate is another factor that affects safe behavior of employees Zohar (1980).As safety climate defined earlier it is a shared perception of workers about the importance and the priority of the safety together with the safety policies, practices and applications in the workplace(Vinodkumar & Bhasi, 2009)

Schneider (1990) also stated safety climates as perceptions of the events, practices and procedures and the kinds of behaviors that get rewarded, supported and expected in a setting. From this it is possible to infer that safety climate within any plant will provide guidance as to the appropriate safety enhancing behavior. That is safety climate informs behavioral choices. Climate perceptions provide guidance to employees with respect to the types of role behaviors that will be rewarded and supported in the organization (Zohar & Luria, 2004).

Cheyne, (2002*),* safety climate arises from consensual perceptions of employees concerning the priority of safety in a company or work group (i.e. managerial or supervisory commitments, experience of employees. Consensus among employees indicating strong managerial emphasis on safety implies a positive climate. A defining characteristic of climate is that it informs role behavior i.e. which behavior is likely to be supported and rewarded.

As to (Argyris and Schon, 1996) on the other hand express climate perceptions of employees as the focuses on the priority of key facets such as safety, speed, or quality, this may differ from formal declarations concerning the same issues. This implies that, if supervisors repeatedly make safety procedures contingent on production pressures, workers will infer low safety priority even if management's overt policy is that safety has top priority. They added that, if bonuses and promotions are given to employees who are not known for their safety, other employees will infer low safety priority despite formal declarations. It is explained that safety climate is the cause for unsafe behavior

of employees which, in turn eighty five percent of occupational accidents occur as a consequence of unsafe behavior of the employees (Shappell & Wiegmann, 2000).

Similarity, Safe or unsafe behaviors of the employees are influenced by certain organizational and cultural factors (Mullen, 2004).This implies that there are a series of antecedents which influence safe behaviors of workers in an organization. One of the causes of unsafe behavior of workers is safety culture of an organization (Neal and Griffin, 2006), safety culture represents the individuals‟ shared beliefs, values, attitude and behaviors about safety in the workplace (Seo, 2005).Seo also mentioned that, safety climate is a temporal measure of culture, focusing on perceptions, values and attitudes at a particular time. According to this concept, safety climate is an indicator of the underlying safety culture of a work group, organization at particular time. A large number of studies have demonstrated that perceptions of safety climate are positively correlated with safety behaviors (Neal & Griffin, 2006) thus; there is a link between safety climate and safety outcomes, such as compliance with safe working practices and accidents.

Generally (Hofmann &Stetzer, 1996), put the causal relationship between safety climate and safety behavior as: (1) climate perceptions affect behavior-outcome expectancies ;(2) expectancies affect prevalence of safety behavior; and (3) behavioral safety affects company safety records

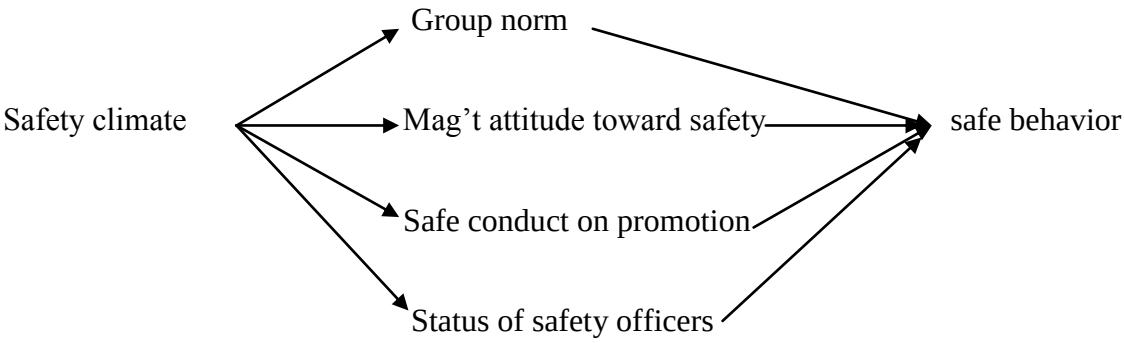
As mentioned before, climate perceptions are related to enacted policies that indicate the true priorities of key task facets, it follows that climate perceptions will influence outcome expectancies.

In fact, employees pay attention to implemented policies rather than to their overt counterparts because they inform behavior-outcome expectancies. The second stage, relating to the effect of expectancies on behavior, is based on social learning and expected valence-utility constructs (Bandura, 1986; Lawler, 1971;Vroom, 1964).

Climate perceptions → expectancies → safe behavior → safety records

This implies that, the higher the perceived likelihood of obtaining a result by certain actions and the more valued the result, the greater the motivation to act in a specific manner. The final stage is as it was mentioned before about 85% of accidents in industries are caused by unsafe behaviors (Reason, 1990, 1997).There are Safety climate dimensions those determine the overall safety climate of an organization, these are; group norm, management attitude toward safety, perception of employees safety behavior on promotion and perceived status of safety officer are major components of safety climate which affect safe behavior of employees(Seo, Torabi, Blair, and Ellis, 2004).

Unsafe behavior → 85% accidents



2.4.2.1. Group Norm

Group norm is one of the components of safety climate, which shows the overall acknowledged way of doing a particular task (Baron, 2008; Fogarty and Shaw, 2009).

Helmreich and Merritt, (2001) also explained group norm as perceived pressures from social groups in the workplace. This implies that people often do things as members of groups that they would not do as individuals. This assumption shows that, the presence of coworkers has an influence on an individual‘s attitude and intention toward any kind of behavior and how he/she acts. This perspectives also supported by, Fogarty and Shaw (2009) the beliefs and behaviors of group members are most likely to influence the attitudes of individuals and behavior. The influence of group norm on individual attitude and behavior is supported by different researches. One of the most famous examples of this notion is the response provided by a Nazi war criminal at the Nuremberg trials following World War II. When asked why he participated in war-related atrocities, his response was that he was simply “following orders,” .This indicates that members simply following the orders of a group without any justification and act accordingly.

On the other hand ,according to the study by Solomon Asch (1955, 1957) conducted on the level of conformity to the group a study in which a subject, along with several other individuals, was asked to perform a relative simple judgment task that involved deciding which of three lines matched a fourth reference line. Unknown to the subject, all the other individuals in the study were actually confederates and were instructed to make the wrong judgment, along with the rest of the group the subject made the same incorrect judgment. The most widely cited reason for this is simply that these individuals knew their answer was wrong, but did not want to look foolish by disagreeing with the others. This implies that the group has a tendency to shape the behavior of members despite the attitude and behavior of individual members.

Another example cited by social psychologists is, a member of a gang may engage in behavior that is against the law. This individual may know the behavior is wrong, but still go along in order to win the approval of fellow gang members. Thus, people often conform and go along with a group because they feel the group knows better than they do. Much of the social psychological research on groups has focused on the impact of groups on the behavior and attitudes of individual group members. Research on social loafing has also shown that individuals may withhold effort when performing as part of a group; research on conformity has shown that people often engage in behavior simply to go along with the rest of the group; and, finally, group members may become part of faulty decision-making processes when they are part of a group.

There are cultural variation on the level of group influence on individual members, Hazel Markus and Shinobu Kitayama (1991). According to Hazel, Markus and Shinobu Kitayama, collectivist people conformed more to their group than did those from individualistic people. They also mentioned that, conforming to group norms is viewed favorably in Eastern or interdependent cultures – it is a form of social glue. They also added that, although conformity is lower in individualist Western societies, it is still remarkably high; even when conformity has negative overtones; people find it difficult to resist conforming to group norms. Since Ethiopia is also one of these collective societies the influence of group norm on individual is assumed very strong. Since a group has much impact on shaping the attitude and behavior of individual members, when there is effective communication within the group healthy safety climate is more likely to be ensured in the organization, (McSween, T.E, 2003)

On top of this McSween also explained that, organizations with better safety climate and performances tend to have employees who regularly communicate with each other in an open, respectful manner. Safe operations require that employees have all the information they need to work within the safety program. To examine the extent of flow information in the organization, management and supervisors

should evaluate how information is well communicated to the employees and how well they are able to apply.

The influence of group norm is decrease when leaders encourage free and open debate among group members and, in some cases, allow group members to discuss decision making alternatives without the leaders' being present Janis,(1982). On the other hand as the level of interdependence, interaction, perception of being a group, increase the degree of influence of a group on individual also increase Janis, (1982)

According to McSween, T.E. (2003) , involving employees in injury prevention by encouraging them to assume more responsibility for workplace safety is more preferred way of reducing safety problems of a work place. From this it is possible to infer that safety of an organization which is based on participation of workers is more effective.

2.4.2.2 Management Attitude toward Safety

Management attitudes toward safety refers to management's commitment, devotion, and support to safety as perceived by individuals (Zohar, 1980).

An individual's perception of managers' attitudes toward safety has been proposed as the most important predictor of organizations' safety climate (Fogarty and Shaw, 2009).

Mullen (2005) also found that employees were more likely to invest time and effort into raising a safety issue when they thought managers were open to suggestions and act on it quickly. However, management openness to safety suggestions alone is only a moderate signal of organizational support for safety; managers and supervisors must also demonstrate their support for safety by acting on problems that are brought to their attention (Harlos, 2001).

Helmreich and Merritt (2001) also noted that management plays a central role in modifying and manipulating subgroups 'norms by specifying expected behaviors. Moreover, it is management's job to make group members establish positive norms (Helmreich and Merritt, 2001).

When senior managers pay attention to safety violations and making safety a performance criterion which could result to discrimination against violators and personnel decisions are made i.e., violators are likely to be transferred to less risky jobs or induced to leave. Over time, appropriate safety procedures could be established, and the incidence of unsafe behavior is reduced (Schneider, 1987).This implies that the concern and action of managers on safety of an organization can bring a significant change.

According to John (2004) the heart of any organizational safety program is accident prevention, and the safety program should be designed to keep safety and accident prevention on employees' mind. As to John E.Bernat, to do this the support of the management should be genuine rather than be causal, if the management takes an unenthusiastic approach to safety employees are quick to pick up on this. On top of this operating management should take safety as integral part of their job. Another important point stated by John E.Bernat to make safety program of an organization more effective there should be a positive attitude and maintained over time .This is to mean if there is positive attitude which is genuine and maintained over time, employees perceive safety program is worthwhile and produces results.

John E.Bernat (2004) mentioned some of the important job of management to promote safety. These are ; making the work interesting, this could be done by adding responsibility, change the job which increase employees' satisfaction, establishing safety committee which facilitate employees involvement in the operation of safety program, give prizes to the work group or employee having the best safety record for a given time period, publicize safety statistics and how accidents avoided,

encourage employees and supervisors to have high expectation for safety. From this perspective it is possible to infer that, all these efforts of management to ensure safety program is more practical if there is a positive attitude of management toward safety.

2.4.2.3 Perceived Status of Safety Officers

Ridgeway (1982) define status, as a collective estimation of a person's worthiness in the context of the group. Ridgeway also added that, an individual status in a group determines his/her influence. This implies that, when a person with higher status suggests a course of action, other group members are more likely to follow.Thye, (2000) also pointed out that, because of their high expectations of the competence of the high-status person to contribute to group goals, the members of a group are more likely to accept and implement the suggestion given.

Ridgeway and Berger (1986) also explained that, when a status hierarchy is legitimated, directives are more likely to gain compliance. In an organization there are various objects of legitimacy, such as an individual's act, individuals in positions, the position itself, a group's status structure, and the system of positions within an organization (Walker and Zelditch, 1993).

Walker and Zelditch also stated that legitimacy of a leader involves the receiving of positive evaluations and resources from organizational members at higher levels. On top of receiving resources from organization, the authorization of the leaders by their respective supervisors is crucial to be more effective in their position, Walker and Zelditch. According to their perspective when authorized, a leader's work is positively evaluated and supported by an external higher authority, and his/ her subordinates are given resources. When deauthorized, a leader's work is negatively evaluated and not supported; thus the leader and subordinates do not receive resources.

Delegitimation occurs when leaders are no longer expected to excel compared to the subordinates, in which case expectations are incongruent with an initially legitimated status order (Berger, J., Fiske, M.

H., Ridgeway and Norman (1998). As to these scholars delegitimation occurs, for example, when the leader is deauthorized; that is, he/ she receives explicit negative evaluations of his/ her performance on a task, and is denied support and resources to get the job done. In this case, subordinates and the leader also may question the status order of the group.

Despite how complete a safety program may be formalized in the policy of the organization, if the program is not properly carried out by employees, its effectiveness will be diminished (Berlo, 1960).Berlo also mentioned that, one of the factor that determines the degree to which employees will comply with a program is whether or not employees accept the safety message from supervisors. When a message is transmitted, recipient perceptions of the sender can impact the effectiveness of the message (Berlo, 1960).

This implies that when employees perceive the status and decision making power of the supervisor is low the application of his/her message is less likely enacted.

2.4.2.4. Perceived Effects of Safe Conduct on Promotion

The fourth component of safety climate is perceived effects of safe conduct on promotion. Workers expect something in response to their input in the organization. One of these expected out comes is promotion. As to (Bandura, 1986; Lawler, 1971;Vroom, 1964), when the higher the perceived likelihood of obtaining a result by certain actions and the more valued the result, the greater the motivation to act in a specific manner. This implies, most of intentional human behavior is regulated by forethought. This means that individuals anticipate the likely outcomes of their behavior.Bandura, also explained that, outcome expectations play an important role in human behavior. People are more likely to engage in specific behavior when they believe that the behavior leads to a positive, valued consequence. On the contrary, people try to avoid prospective actions if they believe that the particular action results in outcomes that are not favorable.

According to equity theory, perceived inequity comes from social comparisons, Bandura, (1986).This implies that an input and output balance of individual workers, judged with respect to the input and output of co-workers .In this aspect when an effort of a worker's safe behavior is not resulted to a proportional opportunity of promotion, it would affect the effort of ensuring safety. It is not just one person's input to outcome ratio, it is when we form a ratio of our inputs to outcomes and compare it with others' input/outcome ratios (Redmond, 2010). This implies that people strive hard to achieve and maintain a state of equity or fairness in order to maintain internal, psychological balance.

Generally, ensuring safety climate is the concern in the world of work, because millions of men and women work in hazardous work condition, many die and loss of economy also significant as International Labor Organization (ILO 2011). This implies that the world of work is not rewarding for most of the workers, and productivity is also affected by unsafe and unhealthy work environment. This requires prevention and management of hazards of work world to protect and promote safety of the workers.

Takele and Mengesha(2006), making working conditions safe is in the interest of workers, employers and governments, as well as the public at large.

Although it seems simple and obvious, this idea has not yet gained meaningful universal recognition. Every stakeholders of work world wants the existence of occupational safety, but understanding the exact nature of the problem is still not clear.

As to these scholars importance of ensuring the safety work environment and workers is the wish of all stakeholders, however the perception of the problem is not to the level of the actual problem.

Berlo, (1960) though there are some peculiar risks of safety and health in sugar manufacturing facilities most of them are similar to the other work world. According to this journal, risks of accidents in sugar Factory are trips and falls caused by slippery floors, the incorrect use of equipment, contact

with sharp edges on process equipment, lack of proper ergonomics and exposure to chemical substances are sources of occupational safety and health problems.

As to ILO, even though many efforts have been taken, to reduce risks and hazards to workers at work places and loses it brought to the organization the result is still not to the level it is needed. Moreover, it is indicated by the document of ILO that, the rates of accidents at work places is increasing in developing countries more than industrialized countries. Ethiopia is also one of these developing countries, where industries are expanding, and the status of ensuring occupational safety and health of the workers may not be different from other developing countries.

2.5. How to Change Behavior

There are various change theories of behavior, which reveal that change of behavior is possible. Kurt Lewin (1951), introduced the three-step change model. According to this theory of change, behavior is seen as a dynamic balance of forces working in opposing directions. Driving forces facilitate change because they push employees in the desired direction.

Restraining forces hinder change because they push employees in the opposite direction.

According to Lewin, changing behavior is begins with unfreezing the existing situation or status quo. As to Lewin the strains of individual resistance and group conformity can be controlled by unfreezing, this can be achieved by increasing the forces that push behavior away from the existing situation. Second, by decreasing restraining forces that negatively affects the movement from the existing equilibrium. To make unfreezing practical activities like: motivating participants by preparing them for change, build trust and recognition for the need to change, and actively participate in recognizing problems and brainstorming solutions within a group are important in the three-step change model of Lewin's. According to this theory of change of behavior the second step is movement. In this step, it is necessary to move the target system to a new level of equilibrium. Three actions that can assist in the

movement step include: persuading employees to agree that the status quo is not beneficial to them and encouraging them to view the problem from a fresh perspective, work together on a quest for new, relevant information, and connect the views of the group to well-respected, powerful leaders that also support the change. The final step of this three-step change model is refreezing. This third step is applicable after the change has been implemented in order for it to be sustained.

It is high likely that the change will be short lived and the employees will revert to their old equilibrium (behaviors) if this step is not taken. It is the actual integration of the new values into the community values and traditions..

The other theory of changing behavior is known as Lippitt's Phases of Change Theory. According to this second theory of changing behavior the role and responsibility of change agents is given more attention.

Lippitt, Watson, and Westley (1958) identified seven steps which are necessary to change behavior.

1. Diagnose the problem.

2. Assess the motivation and capacity for change.

3. Assess the resources and motivation of the change agent.

4. Choose progressive change objects.

5. The role of the change agents should be selected and clearly understood by all parties so that expectations are clear.

6. Maintain the change. Communication, feedback, and group coordination are essential elements in this step of the change process.

7. Gradually terminate from the helping relationship.

Lippitt, Watson, and Westley point out those changes are more likely to be stable if they spread to neighboring systems or to subparts of the system immediately.

Social Cognitive Theory is another type of theory of changing behavior, Robbins, Stephen (2003). According to social cognitive theory change of behavior is influenced by environmental factors, personal factors, and attributes of the behavior itself .This theory sated that, learning is achieved through ; experiences, dialogue, and observation. According to this theory preferred behavior is achieved when a given behavior is perceived as source of incetives.That means, behavior is a result of consequences. Individuals react to how they perceive consequences of their behavior. Consequently for social learning to exist, the individual's positive expectations of the behavior should outweigh their negative expectations. As to social learning theory Self-efficacy is one of the determining factors which mediate the achievement of intended behavior.

Self efficacy is the perception of a person's being able to perform the behavior. Robbins and Stephen (2003) explained that the self efficacy of an individual can be increased through providing clear instructions, provide the opportunity for skill development, training, and model the desired behavior.

Reinforcement processes are used when an individual changes behavior due to rewards and positive incentives. The changed behaviors that are targeted will be given greater attention, better rewards, and performed more often, Robbins (2003).

The other theory of changing behavior is a Theory of Planned Behavior by Martin Fishbein and IcekAjzen (1974). This theory states that, individual's performance of a given behavior is primarily determined by the following components;

Subjective norm– an outcome of what the individual thinks others believe. Significant others provide a guide about 'the proper thing to do.

Attitude towards the behavior– based on the individual's beliefs about the specific behavior and how these beliefs are evaluated. This is an attitude towards an act. Behavioral intention – an internal declaration to act.

Perceived behavioral control- is the extent to which the person believes it is easy or difficult to perform an act.

Usually, an action will be performed if (a) the person's attitude is favorable; and (b) the social norm is supportive. A crucial link in this chain is intention, and Fishbein underlined the need to have a measure of a person's intention to act if the act is to be predicted and perceived behavioral control which is the perception of a person's being able to perform the behavior. As mentioned by different theories of changing behavior there is no right or wrong theory to change behavior it should depends on the unique characteristics of an organization under consideration.

Generally reducing work place accidents is the concern of many stake holders. But ensuring safety of work world is possible only when these stake holders take their respective responsibilities. One of the stake holders are employees, so involving employees in injury prevention by encouraging them to assume more responsibility for workplace safety is more preferred way of reducing safety problems of a work place. That is safety of an organization which is based on participation of workers is more effective through safe behavior.

CHAPTER THREE

RESEARCH METHOD

3.1. RESEARCH DESIGN

This study was intended to assess the impact of perceived organizational support and safety climate on safe behavior of employees. For this purpose, descriptive survey. Survey research method was applied to collect data through questionnaire to quantify the contribution of perceived organizational support, and components of safety climate which comprises of perceived management attitudes toward safety, group norm on safety, perceived status of safety officers and effects of safe conduct on promotion.

3.2. Population

3.2.1. Target Population

The study was conducted in Wonji-Shoa sugar factory which is one of the pioneer factory in Ethiopia which is found at Oromia Regional State near Adama Town at 110 Kilo Meters from Addis Ababa. Commencing production in 1954 it is the oldest and the pioneer in the history of Ethiopia's sugar industry. And Shoa Sugar Factory constructed in 1962 is the second oldest and both, being obsolete, have stopped production since July, 2012 and July, 2013 respectively. The two factories constructed by the Holland Company known as H.V.A had a capacity of producing 750,000 quintals of sugar a year. The sugarcane plantation land of these two factories was 7,000 hectares out of which 1,000 had been planted by out growers.

Wonji-Shoa Sugar factory has Agriculture, Administration, Production and Engineering departments. From these departments production and engineering departments were the focus of the researcher

because these two departments were where the activities of the employees and movements of machines were more prevalent and it is in these departments, production, repairing and maitainance of machines is done. Thus, safe behaviors of employees in these departments is more contributing to the over all safety of the plant ,more than other departments.

The total number of population of the employees in these two departments was 1100.From this population, 922(83.8%) were Males and 178(16.2%)) were Females. The distribution of the population in Production (Total=913, Males=781 and Females=132) and Engineering (Total=187, Males=132 and Females=55).

Of the 1100 employees, the sample included in this study was 280 employees. This sample size was determined on the basis of the table developed by (Krejcie & Morgan, 1970)

3.3. Sampling and Sampling Procedures

3.3.1. Sampling

Simple random sampling method was utilized to obtain representative sample from these two departments. Simple random sampling method was appropriate to reduce sampling error and gender bias. In this regard, random number table was used to conduct systematic random Sampling. To do this, a complete list of the population of the two departments was prepared in advance.

3.3.2. Sampling procedure

First the complete list of employees in these two departments was obtained. Then total sample size of the study was determined. Next, the number of individuals (sample) to be drawn from the population was determined according to the proportion of population of these two departments.

Then the number of individuals taken from the departments was determined based on the proportion of the whole population. Finally, the number of respondents which was included in the sample was drawn from the two departments using simple random sampling techniques with the help of random number tables.

Population and sample size of respondents by departments are presented below in table 1.

Table 1: Population and Sample Size by Departments and gender

Departments	**Population Total**			**Sample size**		**Sample size Total**
	M	**F**		**M**	**F**	
Production	781	132	913	109	22	131
Engineering	139	48	187	60	9	69
Total	922	178	1100	169	31	200

Table-1 shows the total population and sample size by departments and gender. The total number of population of the employees in these two departments was 1100 (Male 922(83.8%) and Female 178(16.2%)). The distribution of the population in Production (Total=913, Male=781 and Female=132) and Engineering (Total=187, Male=139 and Female=48).From this population: sample size was Production (Total-131, Male-109, Female-22) and from Engineering, (Total-69, Male-60 and Female-9) included.

3.4. Instrument Development for Data Collection

Since questionnaire allows individuals enough time, privacy in which to complete their responses and to gather information from a large group, the instrument which was used to gather data in this study was questionnaire developed by (Zohar, 1980 &Seo, 2004). (Rensis five Likert scales (1932)

The questionnaire was designed to examine whether the perceived organizational support and components of safety climate which comprises; perceived management attitudes toward safety, group norm, perceived status of safety officers and perceived effect of safe conduct on promotion affect safe behavior of employees. Perceived organizational support contains six items measuring to what extent the organization values the contribution and cares about the well-being of workers. There were eleven items for group norm, measuring the extent to which group members comply with the perceived acknowledged way of doing a task, on the other hand perceived management attitude contains eight items measuring the committeemen, devotion of management to ensure safety, perceived status of safety officers also contains five items measuring the level of decision making power of safety officers as perceived by employees, perceived effects of safe conduct on promotion also has six items measuring the extent to which the workers perceive their safe conduct resulted to something valuable safe behavior contains eight items measuring to what extent the workers' actions comply with safety procedures.

3.5. Data Gathering Procedures

The questionnaire was administered to the selected groups by taking appointments from the Factory's Manager during the time convenient for the employees. Questionnaire was administered by the researcher and three factory employees and the filled questionnaire papers were collected immediately. To avoid misunderstanding, verbal orientation was given to the selected respondents.

3.6. Pilot Study

In order to check the reliability of the questionnaire, production department was selected for the pilot test by using lottery system. According to the result of pilot study, the Cronbach's alpha coefficient was calculated for each of sub-scales and found ,.716 for perceived organization support ,.681 for safe behavior of employees, .722 for perceived management attitude toward safety, .690 for Perceived effect of safe conduct on promotion, .694 for perceived status of safety officers,.717 for group norm on safety which are generally accepted the satisfactory level. Sample questionnaire was administered to at least three professionals in advance to assess the level of clarity and simplicity to avoid confusion which may be created during the main research data gathering; to avoid difficulties of language the questionnaire was translated to Amharic.

3.7. Methods of Data Analysis

The method of the analysis of the data based on descriptive statistics, correlation and simple linear regression. A descriptive analysis of the study was created by using frequency, percentage, for the safe behavior and perceived organizational support and components of safety climate separately to identify the distributional properties of the survey data.

T-test was used to compare that subjects groups based on their demographic variables, Correlation was conducted to observe the association between safe behavior and perceived organizational support, perceived attitude of management toward safety, group norm on safety, perceived effect of safe conduct on promotion and perceived status of safety officers. Finally regression was used to determine the extent of variation in safe behavior due to perceived organizational support, perceived attitude of management toward safety, group norm on safety, perceived effect of safe conduct on promotion and perceived status of safety officers.

3.8. Ethical Consideration

Getting selected employees to take part in this research is crucial issue because employees may fear to disclose their feelings due to many reasons. To assure this, the researcher told the employees how confidentiality is valued in this study.

Therefore; employees' survey result was kept confidentially explaining to them that the participants had the right to refuse participating in the survey from the beginning and at any time or the middle of the process can quit taking part in the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1. RESULTS

This chapter deals with results and discussion of the data collected using questionnaire. As mentioned in chapter one the main objective of this study was to assess the impact of perceived organizational support and safety climate on safe behavior of wonji-shoa sugar factory employees. The obtained data was analyzed using SPSS version-20 using descriptive statistics. Inferential statistics; regressions were also used. Correlation was conducted to observe association among variables and regression was used to see the strength of the influence of perceived organizational support, perceived management attitude toward safety, group norm on safety, perceived status of safety officers, and perceived effect of safe conduct on promotion on safe behavior

4.1.1. Respondents' Demographic Characteristics

Demographic characteristics (sex, age, marital status, department, experience, salary, level of education) of respondents are presented below in Table 2.

Table-2: Demographic Characteristics of Respondents

Respondents Demographic Characteristics		**Total Frequency**	**%**
Sex	Male	169	84.5
	Female	31	15.5
	Total	**200**	**100**
Age	18-25 years	11	5.5
	26-35 years	74	37.0
	36-45 years	61	30.5
	Above 45 years	54	27.0
	total	200	100
Marital Status	Single	82	41.0
	Married	118	59.0
	Total	200	100
Department	Factory production	131	65.5
	Engineering	69	34.5
	Total	200	100
Factory Working Experience	<2 years	9	4.5
	2-5 years	36	18.0
	6-10 years	19	9.5
	11-15 years	36	18.0
	>15 years	100	50.0
	Total	200	100
Salary	<2,000	23	11.5
	2,100-4,000	114	57.0
	4,100-6,000	28	14.0
	6,100-8,000	28	14.0
	>8,000	7	3.5
	Total	200	100
Level of Education	High school and preparatory	77	38.5
	Diploma	76	38.0
	First degree	44	22.0
	Others	3	1.5
	Total	200	100

Of the 280 subjects reached, 223 respondents return the questionnaire which is 79.64% and 23 of the responses were invalid and only 200 employees participated in the survey was included, which represented 71.4 % response rate, which is acceptable.

Table-2 revealed frequency and percentage distribution of respondents' demographic characteristics.

As illustrated in Table-2, 169 respondents who had participated in the study were males, accounting for 65.5% of the total number of respondents and 31 respondents were female, accounting for 34.5%. The number of male and female employees who had participated in this study were not proportional, there were many male employees than female employees, this was due to unproportional number of male and female employees in wonji-shoa sugar factory. This visible difference between the number of male and female employees might be attributed to various factors. One of these factors could be labor based activities in the factory. Of the 200 respondents included in this study, 11 respondents were 18-25 years old representing (5%), 74 respondents were 26-35 years old, accounting for (37%),61 respondents were between 36-45 years old, holds (30.5%) and 54 respondents were above 45 years old ,accounting for(27%).

As one can observe from Table 2 , most of the respondents included in this study were married, of 200 respondents 118 respondents were married, and accounting for 59% and 82 were single and accounting for 41% of the respondents. The survey was delivered to the employees of two departments, production and engineering. Of the 200 respondents included in this study, 131 respondents were in production, accounting for 65.5% of all respondents and 69 respondents were in engineering department accounting for 34.5%. Of the respondents, 9 respondents (4.5%) had less than 2 years work experience, 36 respondents had work experience from 2-5 years (18%), 19 respondents had work experience from 6-10 years (9.5%), 36 respondents included in this study had a work

experience from 11-15 years (18%) and 100 respondents had more than 15 years in the factory ,accounting for (50%).

With regard to their salary 23 respondents ,(about 11.5%) participated in this study, were paid less than 2000 ETB per month, 114 respondents, representing 57% of the respondents were paid 2,000-4,000 ETB per month,28 respondents , (representing2 8%) were paid 4,100-6,000 per month, the same number of respondents were paid 6,100-8,000 birr and 7 respondents ,accounting for 3.5 % paid more than 8,000 birr .

The frequency and percentage distributions based on educational level were 77 respondents, (accounting for 38.5%)were high school and preparatory graduates,76 respondents accounting for 38% were diploma graduates, 44 respondents ,(accounting for 22 %)were bachelor‘s graduates and 3,(representing 1.5 %) were others. Most of the respondents were less qualified because the highest number of respondents included in this study was high school and preparatory graduates accounting for 38.5 %). These less qualified employees could affect the effectiveness of the plant negatively.

4.1.2 Level of Organizational Support. Provision to the Employees

Analysis of participants' response to items of perceived organizational support is presented below.

Table-3 Distributions of Participants' Reply to Item of Perceived Organizational Support.

Item	**Strongly agree & agree**		**Unsure**		**Disagree& Strongly Disagree**	
	F	%	**F**	%	**F**	%
The organization values my safe behavior at work as contribution to its well-being.	6	3	40	20	154	77
The organization appreciates any extra effort of safe behavior at work from me.	2	1	39	19.5	159	79
The organization accept any complaint of safety issue from me	6	3	64	32	130	65
The organization really cares about my well-being that encourages me to behave safely on the wok.	5	2.5	50	25	145	72.5
When I did error free job, the organization notice me.	8	4	67	33.5	125	62.5
The organization cares about my general satisfaction at work, which helps me to behave safely	8	4	52	26	140	70
Total	35	3	312	26	853	71

Table-3 indicates that more than two third (77 %) of the respondents' responses show that the organization did not value the safe behavior of employees as the contribution to its well-being. (79%) of the respondents' responses indicate that, there was no appreciation in the organization for employees for their any extra effort of safe behavior. Likewise 65% of the respondents' responses

indicate that, the organization did not give due attention to any complaint of safety issues raised from the employees. Many of the respondents' responses (about 72.5%) depicted that the treatment of employees in the organization did not encourage them to behave safely on the work. Generally as it is revealed by the obtained data, 71% of the respondents' responses show that workers of wonji/shoa sugar factory perceive the organization did not fully values their contributions and cares about their well-being

4.1.3. Level of Safety Climate at Wonji-Shoa Sugar Factory

In this study safety climate has four components; perceived management attitude toward safety, group norm on safety, perceived status of safety officers and perceived effect of safe conduct on promotion.

Participants reply to each sub-components of safety climate are presented in the following tables (Table 4-Table 7).

The composite variable for perceived management attitude towards safety contains 9 questions measuring the relationship between perception of employees' management attitudes toward safety and safe behavior of employees and each questions frequency distribution with their respective percentages was illustrated on table 4.

Table-4.Participants' Reply to Management Attitudes toward Safety Sub-Scale

Items	**Strongly agree & agree**		**Unsure**		**Disagree& Strongly Disagree**	
	F	%	F	%	F	%
I usually inform my supervisor about safety hazards because they appreciate it and try to correct it	11	5.5	76	38	113	56.5
Our general manager is well informed about safety issues in this plant.	5	2.5	33	16.5	162	81
Plant management in this factory is willing to invest money and effort to improve the safety level in here	2	1	55	27.5	143	71.5
Our management is well informed about safety problems and it quickly acts	1	0.5	44	22	155	77.5
Managers in this factory really care and try to reduce risk	7	3.5	67	33.5	126	63
Our managers view safety regulation violations very seriously even when they have resulted in no apparent damage	18	9	49	24.5	133	66.5
I think safety issues are assigned high priority in management meetings.	4	2	54	27	142	71
When a manager realizes that a hazardous situation has been found, he immediately attempts to put it under control.	31	15.5	43	21.5	126	63
Plant management in this factory is always willing to adopt new ideas for improving the safety level.	10	5	64	32	126	63
Total	99	5	409	27	987	68

As it is revealed in Table 4 56.5% of the respondents' responses show that the employees did not usually inform their supervisors about the hazards of safety because they thought that there was no appreciation and correction given by supervisors.

And (81%) of the respondents' responses indicate that, the management of the plant was not well informed about the issue of the safety. The responses to the question about the interest of management to invest money to improve safety level (71.5%) respondents' responses show that there was no willing and (77.5%) responses indicate that the management did not act quickly to correct safety problems in time. Likewise (66.5%) of the respondents' responses indicate that, the managers of the organization did not view minor safety regulation violations seriously. The responses for the questions on priority of safety show that (71%) of the respondents thought that safety issue was not given priority. The respondents' responses which was accounting for (63%) also revealed that the management of the factory was not willing to adopt new ideas to improve the level of safety of the factory. Totally, 68% of the respondents' responses indicate that in wonji-shoa sugar factory management's commitment, devotion, and support to safety as perceived by employees of the plant was weak. So from the result one can conclude that the likely of employees' to behave safely was less ; because employees invest time and effort on safety when they thought managers were open to suggestions and act on it quickly.

Analysis of participants reply to items of perceived effect of safe conduct on promotion is presented below in table 5.

Table 5. Participants' Reply to Perceived Effect of Safe Conduct on Promotion Sub-Scale

Items	Strongly Agree & Agree		Unsure		Disagree & Strongly Disagree	
	F	%	F	%	F	%
The workers who behave safely have a higher chance for promotion than those who don't.	51	25.5	41	20.5	108	54
When a worker violates safety regulations it has an adverse effect on his supervisor's evaluation of him even when no harm was caused.	53	26.5	42	21	105	52.5
One of the main factors affecting workers' evaluation for promotion is whether they were involved in an accident	63	31.5	58	29	79	39.5
Department managers usually remember those who were involved in an accident and take it into consideration.	52	26	62	31	86	43
Being involved in an accident has an adverse effect on the worker's reputation	131	65.5	39	19.5	30	15
Total	350	35	24[2]	24	408	41

As illustrated in the table, (54%) of the respondents' response indicates that behaving safely did not contribute to the promotion of employees.

52.5% of the respondents' responses indicate that violating safety regulation had no adverse effect on evaluation of the worker by supervisors. On the other hand, (31.5%)of the respondents' responses indicate that being involved in an accident did not affect the evaluation for promotion of the

employees. 43% of the respondents' responses indicate that department managers did not remember those involved in accident and take it in to consideration to take any action about the employee.

Almost two-third (65.5%) of the respondents shows that being involved in an accident had an adverse effect on the worker's reputation.

Analysis of participants replay to items of perceived status of safety officers is presented below in table-6.

Table 6. Participants' Reply to Perceived Status of Safety Officers Sub-Scale

Items	**Strongly agree & Agree**		**Unsure**		**Disagree & Strongly Agree**	
	F	%	F	%	F	%
The safety officer has much influence on what is happening in our factory.	45	22.5	26	13	129	64.5
When the safety officer has a negative opinion of someone, it affects his supervisor's evaluation.	67	33.5	48	24	85	42.5
When a worker confronts a dangerous situation in his work environment, he reports it to the safety officer	95	47.5	53	26.5	57	28.5
When the safety officer issues a safety regulation, we consider and behave accordingly.	104	52	44	22	52	26
When a member of the safety committee approaches a worker and warns him, it really affects his behavior.	51	25.5	46	23	103	51.5
The safety committee in our plant has a very positive effect on what is happening here.	74	37	50	25	76	38
Total	436	39	267	22	502	39

As illustrated in the table, (64.5%) of the respondents indicate that the safety officers had no any influence on what was happening in the plant concerning safety.About (42.5%) of the respondents' response show that the negative opinion given by the safety officers on employees did not affect the

evaluation of the workers by their supervisors. Almost half (47.5%) of the respondents' responses also indicate that workers inform safety officers when they confront any dangerous situation in an environment. Likewise more than half (52%) of the respondents' responses indicate that when the safety officers comment on safety issues the employees behave safely accordingly. Contrary to this (51%) of the respondents' responses show that the warning of safety committee on safety issues did not affect the behavior of employees. Moreover, 38% responses indicate that safety committee had no positive effect on what was happening in the plant concerning safety. From this obtained data one can conclude that the employees of wonji-shoa sugar factory perceive that the safety officers of the factory were not powerful to execute their responsibilities

Analysis of participants replay to items of group norm on safety is presented below in Table-7

Table 7. Participants' Reply to Group Norm on Safety Sub-Scale.

Items	Strongly Agree & Agree		Unsure		Disagree & Strongly Disagree	
	F	%	F	%	F	%
Employees in this org. take joint responsibility to ensure that the workplace is always kept tidy	132	66	38	19	30	15
Employees regard risks as avoidable	151	75.5	30	15	19	9.5
Employees consider minor accidents as a normal part of our daily work	44	22	39	19.5	117	58.5
Employees accept dangerous behavior as long as there are no accidents	28	14	32	16	140	70
Employees break safety rules in order to complete work on time	14	7	50	25	136	68
Employees have great trust in each others' ability to ensure safety	68	34	60	30	72	36
Employees take each others' opinions and suggestions concerning safety	66	33	48	24	86	43
Employees consider that a good safety representative plays an important role in preventing accidents	88	44	46	23	66	33
Employees can talk freely and openly about safety	78	39	39	19.5	83	41.5
We who work here seldom talk about safety	20	10	13	6.5	167	83.5
Employees take joint responsibility to ensure that the workplace is always kept tidy	126	63	44	22	30	15
Total	737	31	439	49.5	946	19.5

As shown in Table-7 (66%) the respondents' response indicate that the workers took joint responsibility to ensure the safety of their work place. Almost three-fourth (75.5%) of the responses show that the workers in the plant regard risks as avoidable and (58.5%) of the respondents' responses show that even minor accidents were considered as abnormal part of their daily work. On the other

hand 70% of the responses indicate that any dangerous behavior whether it causes accidents or not was unacceptable.Similarily, 68% of respondents' responses show that workers did not break safety rules to complete their work on time. Concerning their trust on each other's ability to ensure safety of the plant only 34% were confident of each other's ability. Less than fifty percent (44%) of the respondents' responses indicate that workers accept opinions and suggestions of each others' concerning safety. However, only 41.5% of the respondents' responses show that representatives of safety play important role in preventing accidents. Regarding freedom of talking about safety 39% of the respondents' responses show that, they can talk freely and openly about safety. Finally, most of the responses (63%) indicate that the workers seldom talk about safety.

From this data one can infer that the conformity of individual employees of wonji/shoa sugar factory to the group norm was very strong.

4.1.4. Level of Safe Behavior in Wonji-Shoa Sugar Factory

In order to examine the extent to which employees of Wonji/Shoa sugar factory are doing their job in a safer method by complying with safety rules.Their opinion about safe behavior as gathered is presented below.

Table 8. Respondents' Opinion about Safe Behavior.

Items	**Always & Often**		**Some times**		**Rarely & Never**	
	F	%	F	%	F	%
I wear proper PPE when working the operation	33	16.5	91	45.5	76	38
I follow all safety rules	21	10.5	94	47	85	42.5
I correct slip/trip/fall hazards	66	33	93	46.5	41	20.5
I clean my work area when I am finished doing a task	64	32	109	54.5	27	13.5
I communicate with coworkers prior starting a job	66	33	103	51.5	31	15.5
I clean my work area before I start my work	94	47	81	40.5	25	12.5
I secure a work permit before cutting or maintaining	68	34	92	46	40	20
I report near misses that I experience or witness	69	34.5	88	44	43	21.5
Total	481	30	751	47	368	23

As Table-8 showed, 38% of the respondents' responses indicate that the workers were using personal protective equipment sometimes. Likewise, 47 % of the responses show that the workers follow all safety rules only sometimes. And also the responses accounting for 46.5% show that they correct slips/trips and fall hazards sometimes. Only (32%) of the respondents' responses indicate that workers clean their work area always and communicating with co-workers prior starting a job was not accustomed, since only 33% of the respondents' response show they did it always .Almost near to half(47%) of the respondents' responses indicate that they clean their work area always. Securing permit before cutting or maintaining was not prevalent in this plant according to this study, because only 47% of the respondents' response indicate this was done some times. The 21.5% of the respondents' responses show that workers never report near misses that they experience or witness. 23% of the respondents' responses indicate that activities, actions and behaviors of employees' were never complying with safety procedures of the factory.

4.1.5. Demographic characteristics and Safe Behavior

Demographic variables were postulated as influencing the study variables. Sex, age, marital status, department, educational level, years of service, and salary were considered to have effects on the safe behaviors of employees. So t-test and f-test were used to compare safe behaviors of employees depending on demographic variables. There is assumption that t-test was used when the groups were two and f-test was used when the groups are more than two.

Table 9. Comparison of Employees' Safe Behavior Based on Sex.

Sex	N	Mean	SD	t	P-value
Male	169	16.78	2.584	1.427	0.155
Female	31	16.03	3.082		

As revealed in Table- 9, there was no statistically significant difference in safe behavior between male and female respondents as their P- value is 0.155, (at 0.05).

Table 10. Comparison of Safe Behavior Based on Age

Age	N	Mean	Std. Deviation	F	p
18-25 Years	11	17.00	2.408	.104	.958
26-35 Years	74	16.68	2.467		
36-45 Years	61	16.54	2.924		
>45 Years	54	16.70	2.758		
Total	200	16.66	2.672		

Table- 10 shows that there was no statistically significant difference among employees of any age in their safe behavior, as all the P-values were not less than 0.05 .As to this data ,the safe behavior of wonji-shoa's employees was not influenced by their age.

Table 11. Comparison of Employees' Safe Behavior Based on Marital Status.

Marital status	N	Mean	SD	t	P-value
Single	118	16.56	2.797	0.638	0.524
Married	82	16.80	2.492		

The above data also shows that there was no statistically significant difference between single and married employees in their safe behavior, as all the p-values were not less than 0.05.

Table 12. Comparison of Safe Behavior Based on Academic Qualification

Level of Education	N	Mean	Std. Deviation	F	P
10 and 12	77	16.47	2.909	.401	.753
Diploma	76	16.64	2.539		
Degree	44	16.98	2.520		
Others	3	17.33	2.517		
Total	200	16.66	2.672		

Table-12 also shows that, there was no statistically significant difference on safe behavior among employees of different academic qualification as their p-value was not less than 0.05.

Table-13. **Comparison of Safe Behavior Based on Departments**

Department	N	Mean	SD	t	P –value(sig.)
Production	131	16.60	2.598	0.414	0.679
Engineering	69	16.77	2.824		

As shown in Table-13, there was no statistically significant difference on safe behavior between the employees of production and engineering departments.

Table-14. Comparison of Safe Behavior Based on Experience

	N	Mean	Std. Deviation	F	P
<2 Years	9	15.89	3.060	.446	.775
2-5 Years	36	16.97	2.432		
6-10 Years	19	17.05	2.677		
11-15 Years	36	16.61	2.686		
>15 Years	100	16.56	2.743		
Total	200	16.66	2.672		

The above table also shows that there was no statistically significant difference on safe behavior among employees who had different service years as their p-value was not less than 0.05.

4.1.6 .Inter-Correlation, Perceived Organizational Support, Components of Safety Climate and Safe Behavior.

Table-16 Pearson correlation among variables considered in the study

		SBOE	POS	PMATS	EOSCOP	PSOSO
SBOE	r	1				
	p					
POS	r	.306**	1			
	p	.000				
PMATS	r	.366**	.394**	1		
	p	.000	.000			
EOSCOP	r	-.023	.107	.293**	1	
	p	.745	.130	.000		
PSOSO	r	-.016	.070	.437**	.383**	1
	p	.822	.327	.000	.000	
GNOS	r	.163*	.241**	.321**	.296**	.309**
	p	.021	.001	.000	.000	.000

As indicated on the table there was a relationship between safe behavior and perceived organizational support, safety climate components; which comprises, perceived management attitude toward safety, group norm on safety, perceived effect of safe conduct on promotion and perceived status of safety officers, as all the values of r were between 1 and -1. The relations of safe behavior with perceived organizational support, perceived management attitude toward safety and group norm on safety were statistically significant, as all the values of p were less than 0.05.Howevere, the relations of safe behavior with perceived effect of safe conduct on promotion and perceived status of safety officers were not statistically significant as the values of p were not less than 0.05. As depicted in the table the relationships among perceived organizational support with perceived management attitude toward safety, group norm on safety. Perceived management attitude toward safety also had statistically

significant relation with perceived effect of safe conduct on promotion, perceived status of safety officers, and group norm on safety as all the values of p were less than 0.05.

Similarly perceived status of safety officers had a statistically significant relation with group norm on safety. In addition to this there was statistically significant relationship between perceived effect of safe conduct on promotion and perceived status of safety officers and group norm on safety

4.1.7. Safe Behavior as a Function of Demographic Characteristics, other Organization Related Factors Considered in the Study

The extent to which demographic characteristics; perceived organizational support, perceived management attitudes toward safety, group norm on safety, perceived status of safety officers and perceived effect of safe behavior on promotion affect , safe behavior of employees, is presented below in table 17.

Table-17. Regressions of organizational factors considered in the study on Safe Behavior

Model		Un. Coefficients B	r	r^2	P
1	(Constant)	13.249	.483	.234	.000
	Perceived Organizational support	.144			.043
	Perceived Management Attitude Toward Safety	.254			.000
	Effect of Safe Conduct on Promotion	-.115			.063
	Perceived status of safety officers	-.113			.043
	Group Norm on safety	.083			.104

As revealed in table 17, regressions were calculated to assess the influences of perceived organizational support, components of safety climate; which comprises, perceived management attitude toward safety, perceived effect of safe conduct on promotion, perceived status of safety officers, group norm on safety and on safe behavior of employees. The value of r was .483 showing there was a relationship between safe behavior and, perceived organizational support, components of safety climate; which comprises, perceived management attitude toward safety, perceived status of safety officers, group norm on safety and perceived effect of safe conduct on promotion as a whole. And also the value of r^2 was 0.234 which accounts for 23.4% of the variance in employees' safe

behavior in wonji/shoa sugar factory was due to this combined effect of organization factors considered in the study. The whole significance level was also indicating 0.000 which was statistically significant.

The above table also shows that, perceived management attitude toward safety was the strongest variable that influence safe behavior of employees because as it is indicated by the value of un standardized coefficient of beta(B), as perceived management attitude toward safety increase by one unit, safe behavior of employees would be affected by .254.Moreover, perceived organizational support and group norm on safety took the second and third stages of the to influence safe behavior of employees, respectively by .144, and .083.

Table-18.To what extent Perceived Organizational Support Affect Safe Behavior

Perceived	Mean	Standard Deviation	r	r^2	p	t
org.support	12.14	2.714	.306	.094	.000	4.530

Simple linear regression was calculated to assess whether perceived organizational support of employees affect their safe behavior. The data showed that the mean score of this composite was 12.14 with a standard deviation of 2.714. The value of r was 0.306 showing relationship between the two variables. According to this study perceived organizational support of employees influences their safe behavior. Thus, when the perception of employees about the support given to them by organization is positive the behaving safely would increase. The r^2 value was 0.094 which accounts for 9.4% of the variance in employees' safe behavior. The significance level was also indicating 0.000 which was statistically significant.

Table 19. The Influence of Perceived Management Attitudes towards Safety on Safe

Perceived Mgt.Attitudes on Safety	Mean	Standard Deviation	r	r^2	p	t
	19.01	4.135	0.366	0.134	0.000	5.526

Simple linear regression was calculated to assess whether perceived management attitudes toward safety influence safe behavior of employees. The data indicate that the mean score of this composite was 19.01 with a standard deviation of 4.135. The value of r was 0.366 showing almost strong relationship between the two variables. According to this study perceived management attitudes toward safety influence their safe behavior. Thus, when the employees thought that management of the factory had positive attitudes toward safety they behave more safely. The r^2 value (0.134) which indicates that perceived management attitude toward safety affects safe behavior by 13.4%. The significance level was also indicating 0.000 which was statistically significant.

Table 20. To What Extent Perceived Effect of Safe Conduct on Promotion Affect Safe Behavior

Perceived	Mean	Standard Deviation	r	r^2	p	t
effect of safe conduct on promotion	14.75	3.170	0.023	0.001	0.745	0.326

Simple linear regression was calculated to assess whether an employee perceives safe conduct resulted to promotion of an individual affect safe behavior. The data indicate that the mean score of this composite was 14.75 with a standard deviation of 3.170. The value of r was 0.023 showing very weak relationship between the two variables. According to this study, employees did not perceive safe conduct would bring any change in their carrier development or promotion. Thus, safe conduct of employees did not result to the recognition or reward and it had no contribution to safe behavior of employees as to this study. The significance level was also indicating 0.745 which was not statistically significant.

Table- 21. Effect of Perceived Status of Safety Officers on Safe Behavior

Status of safety officers	Mean	Standard Deviation	r	r^2	p	t
	17.52	3.880	0.016	0.000	0.882	0.225

Simple linear regression was calculated to assess whether perceived status of safety officers affect safe behavior of employees. The data showed that the mean score of this composite was 17.52 with a standard deviation of 3.880. The value of r was 0.016 showing very weak relationship between the two variables. According to this study, employees' perception of the status of safety officers did not affect their safe behavior too much. The significance level was also indicating 0.882 which was not statistically significant.

Table.22. the Effect of Group Norm of Safety on Safe Behavior of Employees

Group norm	Mean	Standard Deviation	r	r^2	p	t
	29.94	3.798	0.163	0.027	0.021	2.328

Simple linear regression was calculated to assess influence of group norm of employees on their safe behavior. The data indicate that the mean score of this composite was 29.94 with a standard deviation of 3.798. The value of r was 0.163 showing there was a relationship between the two variables. According to this study group norm on safety influence an individual employee safe behavior. Thus, when the group norm on safety was good the behavior of individual employee safe behavior also good.The r^2 value was 0.027 which accounts for 2.7% of the variance in employees' safe behavior. The significance level was also indicating 0.021 which was statistically significant.

4.2. DISCUSSIONS

4.2.1. Safe behavior

Accidents of workplace have been making the health and safety of people at work difficult, Fanning, Fred E. (2003). Almost eighty five percent of these accidents of work place are caused by human error (Shappell and Wiegmann, 2000). When we look at the case in wonji-shoa sugar factory 23% of the respondents' responses also indicate that the activities, actions and behaviors of employees' were never complying with safety procedures of the factory. Even though all these unsafe behaviors of employees were not resulted to prevalent accidents, they were indicators of the existence of risks. As explained by (Wilpert, 1994),While most on-the-job accidents and injuries appear to result from employees' unsafe acts, incidents typically are not caused by single operator errors, but are end-events in a chain of interacting factors on several systems levels. On the other hand, Neal and Griffin, (1997), Organizational education and training are most directly responsible for knowledge, skill development of workers, when the organization capacitates its workers safety behaviors will improve ,when we observe the situation in wonji-shoa sugar factory the level of education of most of the respondents was high school and preparatory graduates ,constitutes 38.5 %, and these less qualified employees could not swiftly adjust to changing technology which in turn hinder proper application of safety rules.

4.2.2. Level of Perceived Organizational support

(71%) of respondents' responses of this study also indicate that, the organization did not value and had no care about their well-being, and the result from simple linear regression that assess the influence of perceived organizational support on safe behavior of employees also show that 9.4% variance in safe behavior was due to perceived organizational support. In relation to this result

(Eisenberger, 1986), stated that workers and organizations are involved in a reciprocal relationship, perceived treatment given to the workers affects safe behavior of employees.

4.2.3. Perceived Management Attitude toward Safety

Likewise, (68%) of the respondents' responses indicate that in wonji/shoa sugar factory the management's commitment, devotion, and support to safety was poor. And 13.4% variance of safe behavior of employees of the factory was due to perceived management attitudes toward safety, Mullen (2005) explained that, employees invest time and effort on safety when they thought managers were open to suggestions and act on it quickly.

4.2.4. Percieved Effects of Safe Conduct on Promotion

(41%) of respondents' responses also indicate that the employees' safe conduct did not contribute to valuable results like promotion, however behavior is a result of consequences Bandura (1986). Bandura also explained that, outcome expectations play an important role in human behavior. People are more likely to engage in specific behavior when they believe that the behavior leads to a positive, valued consequence. Behavior is achieved when a given behavior is perceived as source of inceptives. So the likely of behaving safely of wonji/shoa's sugar factory employees was also affected by the type of response given by the organization to the behaviors.

4.2.5. Perceived Status of Safety Officers

One of the major factors which contribute to the effectiveness of safety in an organization is the contribution of safety officers. Ridgeway (1982) explained that, an individual status in a group determines his/her influence, when a person with higher status suggests a course of action, other group members are more likely to follow. However, when we look at the status of safety officers of wonji/shoa sugar factory as perceived by employees, 39% of the respondents' responses show that the

status of safety officers was very low. This in turn affects the level of acceptance and implementation of safety messages given by safety officers to employees.

4.2.6. Group Norm on Safety

On the other hand, 62% of the respondents' responses on the relationship between group norm and safe behavior of employees indicate that, the level of interdependence, interaction, perception of executing activities in a group was too strong in the factory. When perception of being in a group increase the degree of influence of a group on individual also increase Janis, (1982).This situation also reflected in wonji/shoa sugar factory as indicated by the responses. The influences of group norm of employees on their safe behavior also indicate that, 2.7% of the variance in employees' safe behavior was because of group norm.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. SUMMARY

There is shortage of new recruitment in the factory. Recruiting new employees brings new ideas and talent to the organization; it opens up opportunities to find experienced and qualified candidates and may also help develop a diverse team of employees.(Edwin B. Flippo**,** 1979) .

On the other hand when the workers had no supportive perceptions of the organization they would not reciprocate to the organization with loyalty, efficiency and increased productivity, because workers and organizations are involved in a reciprocal relationship, perceived treatment given to the workers affects the achievement of the organization's goal (Eisenberger, 1986). The employees of wonji-shoa sugar factory perceive that the safety officers of the factory were not powerful to execute their responsibilities and the conformity of individual employees of wonji/shoa sugar factory to the group norm was very strong. Generally perceived management attitude toward safety was the strongest variables that influence safe behavior of employees and perceived organizational support and group norm on safety took the second and third stages of the influence on safe behavior of employees. Owing to these factors that activities, actions and behaviors of employees' were never complying with safety procedures of the factory.

5.2. **CONCLUSION**

Most of individuals' life is dominated by work place and work is not only the means of generating income, but also where security, relationship and identity of an individual worker are developed. Therefore creating a rewarding work environment for the worker makes him/her happy to work and healthier, and also the organization achieve its goals. Despite this fact, millions of workers worldwide are injured and die each year from occupational injuries. More than 85% of these accidents have been caused by unsafe behaviors of individuals. There are antecedents of unsafe behavior of workers; such as, unsafe supervision, organizational influences, and social environment.

Likewise there were indicators of unsafe behaviors of workers in wonji/shoa sugar factory as to this study, though all the accidents were not accessible or obscure. There was lack of doing jobs in a safer method, supporting co-workers to behave as the safety procedures of the organization, using personal protective equipment properly and cooperate with supervisors on safety practices. As to this study one of the causes for this unsafe behavior was workers perceive that the organization did not value their contributions and cares about their well-being, which in turn influenced employees' behavior. Another factor that contributed to unsafe behavior of workers in this study was the perception of the workers: that is, they perceive that the management of the plant was not committed to improve safety level of the work place, which in turn hindered employees' effort to ensure the safety of their work place. According to this study employees also thought that the safety officers of the factory had low status and there was deauthorization of safety officers'. And safety officers' work was negatively evaluated and not supported by employees of the factory. On top of these workers of the factory did not consider safe behavior as favored and rewarding act.

Demographic characteristics had also impact on safe behavior of employees, though it is very small when compared with other organizational factors considered in this study. As it is obtained from the

results of regression predicators considered in the study contribute to the variance of safe behavior of employees of wonji/shoa sugar factory.

5.3. **RECOMMENDATIONS**

- Since most of on-the-job accidents and injuries result from employees' unsafe acts, incidents typically are not caused by single operator errors, but are end-events in a chain of interacting factors on several systems, therefore the management of the factory should consider a chain of events implemented by employees which may or may not resulted in to accidents and should take immediate decision and action to correct.
- One of the mechanisms of preventing accidents is through organizational support given to workers that enables them to behave safely, however according to this study the employees thought that the support given to them was not enough, so the management should give more value and consider the contribution of the employees as valuable for the success of the factory.
- Organizations with better safety climate and performances tend to have employees who regularly communicate with each other in an open, respectful manner. This was not common in wonji-shoa sugar factory, so the management of the factory should encourage effective communication, which contributes to the health and safety climate of an organization.
- Safety officers perceived by employees as having low status which implies they only have responsibility but not authority to ensure safety with the workers, so the management should empower safety officers
- The workers did not perceive safe behavior as rewarding act which could affect safety record of the factory, so there should be recognition to the workers who behave safely.
- There is Management openness to safety suggestions was better in the factory which is a moderate signal of organizational support for safety; but managers and supervisors must also demonstrate their support for safety by acting on problems that are brought to their attention

References

Amati and Scaife (2006). **Investigation of the Links between Psychological Ill Health, Stress and Safety:** The Keil Centre 5 South Lauder Road Edinburgh.

Argyris and Schon (1996). **Organizational Learning II**: Theory, method and practice Reading, MA: Addison-Wesley.

Ashraf, A. M., (2005).**Ergonomics and occupational health in the sugar industry of Pakistan**. Unpublished thesis, University of Agriculture, Faisalabad

Bandura (1986). **Social Foundations of Thought and Action**: Englewood Cliffs, NJ: Prentice-Hall.

Baron (2008). **Measuring Safety Climate at an Aircraft Maintenance Facility**: Can training change attitudes? Capella University.

Benjamin O. Alli **(2008) .Fundamental Principles of Occupational Health and Safety**: 2nd edition International Labour Office , Geneva.

Berger, J., Fisek, M. H., Ridgeway, C. L., & Norman, R. Z. (1998). **The Legitimation and Delegitimation of Power and Prestige Orders**: American Sociological Review, 63.

Remond.(2010). **The Legitimating and Delegitimation of Power**. Handbook of Social Psychology (pp. 554)

Berlo, D.K. (1960). **The Process of Communication*:*** An Introduction to Theory and Practice. Harcourt School.

Birds (1974). **Application of Domino Theory to Justify and Prevent Accident Occurrence in Construction Sites**: Journal of Mechanical and Civil Engineering v-6, Malaysia.

Blau (1964). **Exchange and Power In Social Life.**Newyork: wiley.

Blundell, R., Dearden, L., Meghir, C. and Sianesi, B. (1999). **Human Capital Investment**: The Returns from Education and Training to the Individual.

Cheyne (2003). **Modeling Employee Attitudes to Safety:** A comparison across sectors. European Psychologist; Vol. 4.

Cox (1993). **Psychosocial and Organizational Hazards**: Monitoring and Control. Occasional Series in Occupational Health, No.5. Copenhagen, Denmark: World Health Organization (Europe).

Dekker (2005) **Ten Questions About Human Error:** A New View of Human Factors and System Safety CRC. Manvah, NJ: Lawrence Erlbaum Associates, Inc.

Edwin B. **Flippo(**1979), **Principles of Personnel Management:** McGraw-Hill Inc.US.

Eisenberger, Armali,Rexwinkel, Lynh,Rhoades(2001). **Reciprocation of Perceived Organizational Support:** Journal of Applied Psychology, 86.

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986).**Perceived Organizational Support:** Journal of Applied Psychology, 71.

Fanning, Fred E. (2003). **Basic Safety Administration**: A Handbook for the New Safety Specialist, Chicago: American Society of Safety Engineers.

Fogarty and Shaw (2009). **Development of a Theory-Based Safety Climate Instrument:** Journal of Safety, Health and Environmental Research. American Society of Safety Engineers V-9.

Geller, S.E. (2001). "**Behavior Based Safety in Industry**: Realizing the Large Scale Potential of Psychology to Promote Human Welfare". Applied & Preventive Psychology, Vol.5.

Gogia (2010). **Equity Theory of Motivation.** http://www.businessihub.com/equity-theory-of-motivation.

Gouldner (1960) .**The Norm of Reciprocity**: American Sociological Review. 25

Griffin, M. A., & Neal, A. (2000). **Perceptions of Safety at Work**: A Framework for Linking Safety Climate to Safety Performance, Knowledge, and Motivation. Journal of Occupational Health Psychology, 5.

Harlos (2001). **Conceptualizing Employee Silence and Employee Voice as Multidimensional Constructs.** Journal of Management Studies, 40: Michigan State University.

Helmereich and Merritt (2001). **Culture at Work:** National, Organizational, and Professional Influences.Aldershot, United Kingdom: Ashgate.

Herrnstein,Lowenstein,Prelec,Vaughan (1993). **Utility Maximization and Melioration**: Internalities in Individual Choice. Journal of Behavioral Decision Making, 6.

Hofmann and Stetzer (1996).**The Role of Safety Climate and Communication in Accident Interpretation: Implications for Learning from Negative Events.** The Academy of Management Journal Vol. 41, No. 6

Hofmann, D. A., and Morgeson, F. P. (1999). **Safety-Related Behavior as a Social Exchange**: The Role of Perceived Organizational Support and Leader-Member Exchange. Journal of Applied Psychology, 84.

Hofmann, D. A., Morgeson, F. P., &Gerras, S. J. (2003). **Climate as a Moderator of the Relationship between Leader-Member Exchange and Content Specific Citizenship**: Safety Climate as an Exemplar. Journal of Applied Psychology, 88**.**

Hollnagel(2004). **Barriers and Accident Prevention**: Aldershot, UK Ashgate.

ILO (1998).**Occupational safety and Health:** Journal of Applied Psychology; University of Delaware.

Jahoda (1982). **Employment and Unemployment**: A Social-psychological Analysis. London: Cambridge University Press.

Janis (1982). **Group think:** Boston: Houghton Mifflin

John E Biernat (2004).**Human Resource Management**:Occupational Stress Inventory. McGraw Hill.

Kompier (1996) .**Evaluation of Different Ergonomic Factors in the Cabin of Drivers in Public Transport:** Journal of Transport Research Centre, Czech Republic.

Kurt Lewin (1951). **Change Management Theory**: Harper and Brothers, the Academy Library

Levinson, H. (1965). **Reciprocation**: The Relationship between Man and Organization. Administrative Science Quarterly, 9(4).

Linda Rhoades and Robert Eisenberger(2002). **Perceived Organizational Support:** Journal of Applied Psychology; University of Delaware.

Lippitt, R., Watson, J. and Westley B. (1958). **The Dynamics of Planned Change:** New York: Harcourt, Brace and World.

Markus, Hazel, and Kitayama, S. (1991). **Culture and The Self**: Implications for Cognition, Emotion, and Motivation .Journal of Social Psychology.

Martin Fishbein and Ice Ajezen (1974)"**Understanding Attitudes and Predicting Social Behavior**". *https://books.google.co.in/.../Understanding_attitudes_and_predicting.*

Martin, K. D. and J. B. Cullen.(2006**) Continuities and Extensions of Ethical Climate Theory**: A Meta-Analytic Review, Journal of Business Ethics 69.

Maslow (1970). **Motivation and Personality:** 2nd edition. Harper and Row.

McSween, T.E. (2003). **The Values-Based Safety Process***:* Improving Your Safety Culture with Behavior-Based Safety, 2nd edition, John Wiley & Sons Inc., Somerset, New Jersey, U.S.A

Mossink and De Greef (2002). **Inventory of Socioeconomic Costs of Work Accidents**: European Agency for Safety and Health at Work. http://agency.osha.eu.int

Mottair (2004**). Feasibility Study On Estimation Of Costs Of Workplace Accidents**: Work-Related Ill-Health and Non-Injury Incidents in Ireland; http://www.hsa.ie.

Mullen, J. (2004): "**Investigating Factors that Influence Individual Safety Behavior at Work**", Journal of Safety Research, 35.

Neal, S., Griffin, M. A., & Hart, P. M. (2000). **The Impact of Organizational Climate on Safety Climate and Individual Behavior.** Journal of Safety Science, vol.63.

Plous (1993) **.The Psychology of Judgment and Decision Making**: New York: McGraw-Hill.

Quick, J.C ,Tetric(1997). **Organizational Stress and Preventive Management:** Handbook of Occupational Health. New York: McGraw-Hill.

Reason 1990 J. (1997). **Managing the Risks of Organizational Accidents Alder shot**: Ash gate Publishing Limited.

Reason 1990 J. (1997).**A systems Approach to Organizational Error**. Proceedings of the 12th Triennial Congress of the International Ergonomics Association, vol. 1.

Ridgeway, C. L. (1982). **Status in Groups: The Importance of Motivation**. American Sociological Review, 47.

Robbins, Stephen (2003). **Organizational Behavior**. 10th ed. Upper Saddle River, NJ: Prentice.

Rosen (1986),**Research Companion to organizational Health Psychology.**MA Thesis.

Sadullah, O. and Kanten, S., (2009). **A Research on the Effect of Organizational Safety Climate upon the Safe Behaviors**: Ege Academic Review, 9(3).

Sauter and Hurrell (1999). **Contemporary Occupational Health Psychology**: Organizational Risk Factors for Job Stress. Washington, DC: American Psychological Association.

Schneider, B.(1990). **The Climate for Service**: An Application of the Climate Construct Organizational Climate and Culture, San Francisco, CA), pp. 383

Seo (2005). **An Explicative Model of Unsafe Work Behavior:** ASSE Professional Development Conference and Exposition, New Orleans, Louisiana, American Society of Safety Engineers.

Seo ,Torabi ,Blair, Ellis (2004). **A Cross-Validation of Safety Climate Scale Using Confirmatory Factor Analytic Approach.** Journal of Safety Research, 35.

Sexton, J. B., et al. (2006). **The Safety Attitudes Questionnaire:** Psychometric Properties, Benchmarking Data, and Emerging Research. BMC Health Services Research.

Shore, L. M., & Shore, T. H. (1995). **Perceived Organizational Support and Organizational Justice**: Organizational Politics, Justice, And Support: Managing Social Climate at Work (Pp. 149).

Shteynberg, G., Sexton, J. B., & Thomas, E. J. (2005). **Test Retest Reliability of the Safety Climate Scale.** Journal Organizational Psychology

Smith (1978) .**Characteristics of Successful Safety Programs**: Journal of Safety Research, Vol. 10.

Solomon Asch (1995). **Opinions and Social Pressure**: W.H.Free Man Company,Sanfirancisco.

TakeleTadesse,MengeshaAdmassu(2006) **Occupational Health And Safety In Ethiopia**: Ethiopia Ministry of Education.

Thorndike (1913) .**Educational Psychology:** NY: Teachers College.

Thye, S. R. (2000). **A Status Value Theory of Power in Exchange Relations**: American Sociological Review, 65.

Vinodkumar and Bhasi (2009). **A Study on the Impact of Management System Certification on Safety Management:** Safety Science, 49 (3)

Walker and Zelditch (1993). **Power, Legitimacy, and the Stability of Authority**: Studies in the Theory Growth, Stanford University Press, Stanford.

Wayne, S. J., Shore, L. M., &Liden, R. C. (1997). **Perceived Organizational Support and Leader-Member Exchange**: A Social Exchange Perspective. Academy of Management Journal, 40.

Wiegmann, D. & Shappell, S. (2003). **A Human Error Approach to Aviation Accident Analysis:** The Human Factors Analysis and Classification System. Burlington,VT: Ashgate.

Wilpert (1994). **Measuring Safety Climate**: Identifying the Common Features. University of Aberdeen, Scotland.

Zelditch, M., Jr., &Walker, H. A. (1984).**Legitimacy And the Stability of Authority**: Advances in Group Processes, 1.

Zohar (2002). Modifying **Supervisory Practices to Improve Sub-Unit Safety**: A Leadership-Based Intervention Model. Journal of Applied Psychology, 87.

Zohar (2002). **-Safety Climate Dimensions as Predictors for Risk Behavior:** Newcastle Business School/United Kingdom

Zohar (2003). **-Safety Climate in Industrial Organizations**: Theoretical and Applied Implications. Journal of Applied Psychology, 6

Zohar and Luria (2004).**A Multilevel Model of Safety Climate**: Cross-Level Relationships between Organization and Group-Level Climates. Journal of Applied Psychology, 90

Zohar and Luria (2004).**Climate as a Social-Cognitive Construction of Supervisory Safety Practices**: Journal of Applied Psychology 89(2).

Appendix 1

Questionnaire

Adama Science and Technology University

School of Graduate Studies

Research Questionnaire

Dear Madam/Sir,

RE: **REQUEST FOR DATA**

I am a post graduate student pursuing a Master of Arts in Industrial & Organizational Psychology at Adama Science and Technology University. I am required to submit as part of my thesis, a project on" **Impact of Percieved Organizational Support and Safety Climate on Safe Behavior of Employees: The Case of Wonji/Shoa Sugar Factory Employees**". To achieve this, you have been selected to participate in the study. I kindly request you to fill in the attached questionnaire to generate data required for this study. This information will be used purely for academic purposes and will be handled in confidential and will not be used for publicity. Your name will not be mentioned in the report.

Your assistance and cooperation will be highly appreciated.

Thank you in advance.

A. PLEASE PUT AN "X" IN THE BOX THAT RELATES TO YOU
BACKGROUND INFORMATION

1. Gender: Male ☐ Female ☐

2. What is your highest academic qualification?

Grade 10/12 ☐ Diploma ☐ Degree ☐ Any other (specify)---------☐

3. Age Range 18-25 Years ☐ 26-35 Years ☐ 36-45 Years ☐

46-55 Years ☐ above 55 Years ☐

4. Marital Status Single ☐ married ☐

5. Your job department Production ☐ Engineering ☐

6. How long have you been in the factory?

Less than two years ☐ 2-5 yrs ☐ 6-10 yrs ☐ 11-15 yrs ☐ over 15 yrs ☐

7. Salary; less than 1500 ☐ 1600-2600 ☐ 2700-3500 ☐ 3600-4500 ☐

Above 4600 ☐

B Think of your present work. What is it like most of the time? How well do the statements below describe your work? Please indicate your level of agreement using the scale provided for each case in the right hand side of the table by **encircling** the numbers provided corresponding to each rating scale.

Statements Describing Your Present Work (Variables and Items)					
***I.*Perceived Organizational Support**	**Strongly agree**	**Agree**	**unsure**	**Disagree**	**Strongly disagree**
1.The organization values my safe behavior at work as contribution to its well-being.	5	4	3	2	1
2.The organization appreciate any extra effort of safe behavior at work from me.	5	4	3	2	1
3.The organization accept any complaint of safety issue from me	5	4	3	2	1
4.The organization really cares about my well-being that encourages me to behave safely on the wok.	5	4	3	2	1
5.when I did error free job, the organization notice me.	5	4	3	2	1
6.The organization cares about my general satisfaction at work, which helps me to behave safely	5	4	3	2	1

III. ***Perceived management attitudes toward safety***

	Strongly agree	**Agree**	**unsure**	**Disagree**	**Strongly disagree**
7. I usually inform my supervisor about safety hazards because they appreciate it and try to correct it	5	4	3	2	1
8.Our general manager is well informed about safety issues in this plant.	5	4	3	2	1
9.Plant management in this factory is willing to invest money and effort to improve the safety level in here	5	4	3	2	1
10.Our management is well informed about safety problems and it quickly acts to correct them.	5	4	3	2	1
11.Managers in this factory really care and try to reduce risk	5	4	3	2	1
12.Our managers view safety regulation violations very seriously even when they have resulted in no apparent damage	5	4	3	2	1
13.I think safety issues are assigned high priority in management meetings.	5	4	3	2	1

14.When a manager realizes that a hazardous situation has been found, he immediately attempts to put it under control.	5	4	3	2	1
15.Plant management in this factory is always willing to adopt new ideas for improving the safety level.	5	4	3	2	1

IV. Perceived effects of safe conduct on promotion					
	Strongly agree	**Agree**	**unsure**	**Disagree**	**Strongly disagree**
16.The workers who behave safely have a higher chance for promotion than those who don't.	5	4	3	2	1
17.When a worker violates safety regulations it has an adverse effect on his supervisor's evaluation of him even when no harm was caused.	5	4	3	2	1
18.One of the main factors affecting workers' evaluation for promotion is whether they were involved in an accident	5	4	3	2	1
19. Department managers usually remember those who were involved in an accident and take it into consideration.	5	4	3	2	1
20.Being involved in an accident has an adverse effect on the worker's reputation	5	4	3	2	1

V. *Perceived status of safety officers*.

	Strongly agree	**Agree**	**unsure**	**Disagree**	**Strongly disagree**
21.The safety officer has much influence on what is happening in our factory.	5	4	3	2	1
22. When the safety officer has a negative opinion of someone, it affects his supervisor's evaluation.	5	4	3	2	1
23.When a worker confronts a dangerous situation in his work environment, he reports it to the safety officer	5	4	3	2	1
24.When the safety officer issues a safety regulation, we take it into consideration and behave accordingly.	5	4	3	2	1
25. When a member of the safety committee approaches a worker and warns him, it really affects his behavior.	5	4	3	2	1

VI. Group norm on safety					
	Strongly agree	**Agree**	**unsure**	**Disagree**	**Strongly disagree**
27.We who work here take joint responsibility to ensure that the workplace is always kept tidy	5	4	3	2	1
28.We who work here regard risks as avoidable	5	4	3	2	1
29.We who work here consider minor accidents as a normal part of our daily work	5	4	3	2	1
30.We who work here accept dangerous behavior as long as there are no accidents	5	4	3	2	1
31.We who work here break safety rules in order to complete work on time	5	4	3	2	1
32.We who work here have great trust in each others' ability to ensure safety	5	4	3	2	1
33.We who work here take each others' opinions and suggestions concerning safety seriously	5	4	3	2	1
34.We who work here consider that a good safety representative plays an important role in preventing accidents	5	4	3	2	1
35. We who work here can't talk freely and openly about safety	5	4	3	2	1
36.We who work here seldom talk about safety	5	4	3	2	1

II.Safe behavior of employees-	Always	Often	Sometimes	Rarely	Never
37. I wear proper PPE when working the operation	5	4	3	2	1
38.. I follow all safety rules	5	4	3	2	1
39. I correct slip/trip/fall hazards	5	4	3	2	1
40. I clean my work area when I am finished doing a task	5	4	3	2	1
41. I communicate with coworkers prior starting a job	5	4	3	2	1
42. I clean my work area before I start my work	5	4	3	2	1
43. I secure a work permit before cutting or maintaining	5	4	3	2	1
44. I report near misses that I experience or witness	5	4	3	2	1