

**Line Worker Everyday Sensemaking of Safety Messages in Non-Dynamic  
Manufacturing Contexts**

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**Abstract**

In manufacturing, illnesses, injuries, and death occur during ordinary operation as well as when something out of the ordinary happens. Based on the amount of time and energy expended in trying to inform managers how to address this problem, it seemed possible that these events are the product of a gap in communication between managers and line workers regarding safety. This study examined the safety sensegiving communication activities of managers performed and the safety sensemaking activities of line workers in a small manufacturing organization. Managerial descriptions of sensegiving activities and line workers' sensemaking of activities were compared to identify potential communication gaps. While no apparent communication gap emerged from these data, a safety communication culture emerged. In that culture, managers and line workers desired more safety communication events. Both groups desired more safety communication events, but for a different reason. Managers perceived a safety communication gap where none existed. They also believed that more safety sensegiving or safety communication events would fill that gap. Line workers felt a sense of safety from line managers' safety sensegiving activities. They desired more of such activities to achieve a greater sense of being safe.

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## Chapter 1: Rationale and Literature Review

Every year millions of employees' lives are interrupted or ended by injury. There were approximately 142 million workers in the United States in 2014. Of those, nearly 3 million were reported to have been injured or become ill in workplace related incidents (Statistics, 2015a). However, another 4,609 died from workplace related injuries (Statistics, 2015b). This is a problem railroad managers began to address as early as 1854 (Erie, 1854). Regardless of the efforts expended to eliminate this problem, it persists.

As a manufacturing employee I was often listed among statistics like these and my experience with workplace injuries has informed my interest safety communication in manufacturing organizations. At the outset of my graduate studies, I began to read literature relating to the history of safety movement in the United States. I developed the idea for this study when I narrowed the topic of my research to safety and communication in manufacturing contexts. In that topic, there was an imbalance between the amount of literature which addressed communication of safety from managerial perspectives and the amount of literature which addressed line worker perspectives of safety communication.

Researchers of workplace safety and communication, regardless of the industry, have exhibited a myopic focus on managers in order to inform audiences of managerial influence on line workers; managers are the target audience. The attempt has repeatedly been made in research to inform managers of their roles in affecting employee safety performance (Andjelkonich, Mathew, Yu, Richardson, & Levine, 1992;

Basso, et al., 2004; Burns, Mearns, & McGeorge, 2006; Zohar, 2002). A preponderance of this research has been centered upon managerial performance outcomes (Brown, Lippin, & Eckman, 2000; Mills, 2002; Nordlöf, Wiitavaara, Winblad, Wijk, & Westerling, 2015; Patriotta, 2003; Real, 2008, Zohar, 2000). Some of the most prolific topics are: 1) safety measures (Cadieux, Roy, & Desmarais, 2006; Carder & Ragan, 2003; Noordegraaf, 2008; Ray & Tewari, 2012), 2) identifying and reporting safety issues (Halmich, 2006; Johnsen, Blakstad, Tinnmansvik, Rosness, & Andersen, 2009; Lauver & Lester, 2007); Morrison, Fecke, & Martens 2011), 3) models of safety behavior (Willis, Brown, & Prussia, 2012; Seo, 2005), injuries (Khanzode, 2011; Liaudanskienė, Varnas, & Ustinovichius, 2010; Jallon, Imbeau, & de Marcellis-Warin, 2011), and human error in accidents (Saurin, Formoso, & Cambraia, 2005).

Line workers have no voice in communication research. Of the more than 1100 works I read in preparation for this work, I found six which researched the line level worker perspective of safety or communication (Brown, et al., 2000; Mills, 2002; Nordlöf, et al., 2015; Patriotta, 2003; Real, 2008; Zohar, 2000). According to Mills (2002), line workers make up the majority of the operational force of most manufacturing organizations, but studies of their communication are limited. Rasmussen (2011b) agrees; very little communication research has been conducted from a line worker perspective and more needs to be conducted.

With so little understanding about the line worker's perspective of safety and communication, it seemed possible that communication gap regarding safety between managers and line workers existed. Real (2008), has claimed there is direct relationship

between safety and communication but it has not been clearly shown through research thus far. What has been shown is that communication issues are at the heart of manager-line tension over competing safety and production goals (Clarke & Ward, 2006; Coupland, Blyton, & Bacon, 2005; Lekka & Sugden, 2011; Nordlöf, 2012; Zohar, 2000). Cooper (2009), said,

Supervisors and managers have a strong influence on employee perceptions of and attitudes toward safety. Managers teach employees which has greater priority, safety or production by their communication behaviors and not by what they claim is more important verbally ... Safety systems are positively influenced by safety communication to the extent that it is valued by the organization.

Therefore, managers set the safety commitment bar for line workers when they communicate their own commitment to safety (Zohar, 2002). However, managers must do more than talk about safety. Oral communication events are most effective when managers' actions also display commitment to subject of the oral communication (Michael, Guo, Wiedenbeck, & Ray, 2006; Rouleau & Balogun, 2011), in particular, when communicating on the subject of safety (Smith, Plowman, & Duchon, 2010). In conjunction, the manner in which managers perform safety communication activities has been shown to be affected by the manner in which line workers respond to the communication activities (Clarke & Ward, 2006). How each group defines something (Weick, 2001), in this case safety, will affect how they respond to these safety communication activities.

## **Safety Defined**

Knowing how managers and line workers define safety is problematic because safety is not uniformly defined in research. Social researchers have talked about safety in relation to employee behavior (Rasmussen 2011a), training and safety management (Brahmasrene & Sanders Smith, 2009), assessment (Mineo, Suzuki, Niinomi, & Iwatari, 2000), and attitudes (Zohar, 2000). Safety researchers have discussed safety in the context of the workplace, the “where” of safety (Cadieux, et al., 2006; Mearns, Whitaker, & Flynn, 2003; Reniers & Audenaert, 2009; Sharma, Coit, Oztekin, & Luxhøj, 2009; Willis, Brown, & Prussia, 2012; Wright & van der Schaaf, 2004; Wu, Gibb, & Li, 2010). Morrison, Fecke, and Martens (2011) gave the most direct definition of safety calling it a context of preventing incidents of sickness, injury, or death and preventing the threat of loss or damage to property, equipment and the environment. Safety has also been called freedom from unacceptable losses (Blatt, Christianson, Sutcliffe, & Rosenthal, 2006). However, research has shown that managers construct their concept of safety on a behavioral foundation (Carroll & Fahlbruch, 2011; Haberstroh, 1960; Hinze & Godfrey, 2003; Rasmussen, 2011b; Reniers & Audenaert, 2009; van Ginneken & Hale, 2009). Conspicuously lacking is how line-level workers define safety.

It is clear that managers and researchers do not want to see line workers hurt on the job. Obviously, line workers also care about safety issues (Real, 2008) and do not want to be injured or killed at work. In a Herculean effort, many research studies have been conducted and many programs developed to help abate and eliminate the problem. People still get hurt at work. The next section, I will present a theoretical lens

that can be used to show that knowing the line worker's perspective of safety will improve safety management by informing the manager in which managers communicate with line workers.

### **General Systems Theory**

General Systems Theory or GST is an appropriate lens through which to study safety communication in manufacturing organizations. GST is a practical lens for this work because it is an interdisciplinary theory developed as a means for encouraging unity in scientific and social research by refining labels and clarifying definitions for use in any research field (von Bertalanffy, 1968). Shared definitions are important for collective understanding of a subject; isolated and discipline-specific definitions do not support the concept of interdisciplinarity, sharing knowledge across barriers separating research disciplines.

**System and organization.** Defining a *system* using literature from multiple disciplines is, largely the result of work by Ludwig von Bertalanffy (1968). He noted that principles discovered in one field of study were often duplicated in other fields. Furthermore, he also pointed out that researchers in one field were often unaware of the discoveries made by researchers in other fields. Language used for describing the findings varied field by field since researchers used field-specific definitions when publishing, which made information sharing difficult. Therefore, he developed GST to provide an avenue for interdisciplinary sharing (von Bertalanffy, 1968).

Von Bertalanffy (1968) defines systems as, "sets of elements standing in interaction." Medical and Pharmaceutical researchers Chen and Stroup (1993), describe

systems as collections of interdependent components. Walker, Stanton, Salmon, and Jenkins (2008), human ergonomic research specialists, discuss systems as interlinked collections of elements engaged in purposeful goal-directed behavior. Groves, Meisenbach and Scott-Gawiezell (2011), in their work in patient health research, have shown systems as networks of processes and structures. Terms such as, interaction, interdependent, interlinked and networks highlight the interconnectedness of the processes and structures that make up systems. According to the work system model presented by industrial engineer, Pascale Carayon (2009), elements' interacting with each other is the systemic aspect of work. Interaction of elements makes work systemic. Daft (2001) defines a system as, "a set of interacting elements that acquires inputs from the environment, transforms them, and discharges outputs to the external environments." Interaction or interconnectedness of components is the primary indicator for identifying a system.

Interconnections and interdependences of the components within a system are not without purpose. In the functioning of an open system (von Bertalanffy, 1968), elements of a system are interacting in order to accomplish a goal by transforming input and producing output (Daft, 2001; von Bertalanffy, 1968; Walker, et al., 2008). Systems may process solid material to produce something like a car, process information like a computer, or process a concept like safety to produce a behavior.

*Organizations* are identified by the same features as systems. Satisfactory understanding of organizations may be gained when they are seen as systems (Daft, 2001). Definitions of organizations closely match the above definitions systems. Clark

(1999) simply identifies organizations as particular patterns of interactions.

Organizations exist when people interact in order to perform a task, for the purpose of reaching a collective goal (Daft, 2001; Schein, 1990). Weick (2001) said, "People invent organizations" (p.196), as they group and work together to make sense of what is happening around them. Many components and processes comprising organizations are identifiable as systems within systems; they are subsystems. Daft and Weick (1984) agree that organizations are some of the most complex systems conceivable, with the smallest subsystems being group and individual interactions.

For example, many manufacturing organizations operate with three *shifts*. It is important to understand the term shift because some managerial participants quoted in this work used the term as they described their sensegiving activities. A shift is collection of employees making up the entire population for a particular time range in the course of a day. The context of usage indicates what a shift describes, the time of day in which work is being performed or the group of people performing the work. The morning shift is called first shift, the evening shift is called second shift, and the late-night shift is called third shift.

As a second example, three levels of *managers* can be seen in larger organizations: executive or upper managers, middle managers and line managers. Executive managers oversee the functioning of the entire organization. Middle managers are plant managers and oversee the operations of a particular facility in a particular location of an organization. Line managers have the most interaction with line workers and oversee particular areas of operation within a particular plant managed by the

organization (Carroll & Fahlbruch, 2011; Gioia & Chittipeddi, 1991; Rouleau, 2005; Smith, et al., 2010; Zohar, 2000). In this study, manager will refer to the mid- and lower-level managers described here.

One subsystem among the responsibility of managers in manufacturing organizations is the *safety management system*. Safety management has all the necessary characteristics needed to describe a system: interacting elements and inputs (Daft 2001); it also has processes and feedback (von Bertalanffy, 1968). Managers and line workers are interacting elements in this system. Inputs are the safety policies and procedures imposed by governmental agency and organizational executive directors.

Transformations are the ways that lower level managers and line workers make sense of those policies and procedures. Feedback is the behaviors resulting from the transformation.

**Culture and communication.** As the safety system functions it develops patterns of culture and communication. Culture in an organization may become localized from one part of an organization to another but still function under an overarching organizational culture (Carrillo, 2012; Clarke, 1999; Luria & Zohar, 2004; Nævestad, 2009; Ravasi & Schultz, 2006; Schein, 1990; Zohar, 2000). Safety culture, a localized part of organizational culture, is the norms, beliefs, attitudes, roles behaviors and practices, social and technical - relating specifically to safety within an organization (Belle, Carreri, Miele, & Murgia, 2012-2013; Vredenburgh, 2002). It is also the collection of basic assumptions that a given group has adopted as is has learned to manage its problems (Shall 1983), including workplace safety. Assumptions found in one

manufacturing organization may not be found in another. Hatt (2009) has shown that cultures are self-organizing and self-reproducing systems where component interaction both enact and reproduce the culture. A manufacturing organization develops a safety culture unique from other organizations.

Even within an organization, different groups may enact the same culture from different perspectives. Two perspectives of culture are often discussed (Nævestad, 2009; Reason, 1997; Schein, 1990). On one hand, managers in manufacturing organizations tend to view culture as something the organization *has* based on its employees' behaviors (Nævestad, 2009; Reason, 1997). This is a functional perspective of culture (Lekka & Sugden, 2011; Luria & Zohar, 2004; Nævestad, 2009; Reason, 1997; Schein, 1990; Zohar & Luria, 2005). On the other hand, line workers tend to view culture as something the organization *is* based on the shared attitudes and the shared meaning of the cultural topic, such as workplace safety (Carrillo, 2012; Hall, 1997; Nævestad, 2009; Ravasi & Schultz, 2006; Reason, 1997; van Gorp, 2007). Culture researchers tend to prefer the interpretive perspective of culture (Nævestad, 2009; Reason, 1997; Schall, 1983; Gioia & Chittipeddi, 1991). Both perspectives of culture, functional and interpretive, can be enacted within the safety culture of manufacturing organizations. Subscribers of one perspective have often been at odds with the subscribers to the other. However, attempts are being made to define culture by combining the two (Belle, et al., 2012-2013; Groves, et al., 2011).

Regardless of theoretical arguments, safety culture develops within manufacturing organizations through member interaction. Safety communication is the

mode of perpetuating safety culture (Nævestad, 2009; Schein 1990). Similar to safety culture, safety communication is the patterns of social interactions, and acts of meaning and message exchange, within an organization relating specifically to safety (Cornelissen, Durand, Fiss, Lammers, & Vaara, 2015). Safety culture and safety communication are found in every area of a manufacturing organization. To understand how safety culture is enacted and how safety communication is accomplished by organization members, it is important to understand how the members make sense of safety.

### **Sensemaking**

Sensemaking is a convenient lens for viewing of enactments of safety culture and performances of safety communication in a manufacturing organization. Sensemaking is considered an ongoing process (Degn, 2015) by which individuals translate what is happening around them from perceptions into actions for the purpose of eliminating uncertainty (Weick, 2001). However, the process of sensemaking can also be identified in the most routine conditions where uncertainty is low (Weick, 1974). In manufacturing, this is exhibited in the fact that, most all workplace injuries, illnesses, and deaths take place in what would be considered normal operation (Statistics, 2015a, 2015b). Normal operations are events which occur during daily operating routines and may include anticipated but unexpected events such as machine break-down.

Weick has made many contributions on the subject of sensemaking while studying the process in several *dynamic* contexts (Weick, 2002a; Weick, 2002b; Weick, 1993; Weick, 1990; Weick & Sutcliffe, 2008). A dynamic context is when abnormal

events occur (Weick, Sutcliffe, & Obstfeld, 1999) that interrupt normal operations (Huang, Chou, & Chang, 2009; Maitlis & Sonenshein, 2010; Meel, 2006). Non-dynamic events are the everyday events which occur during, and do not interrupt, normal operation. There is little uncertainty in these events because cultural norms have been established which govern member attitudes and behaviors (Weick, 1987), even when there is a high level of risk, such as work on the deck of an aircraft carrier (Weick & Roberts, 1993).

Everyday events can also be studied to provide a basis for understanding sensemaking in contexts of low uncertainty. The development of a theory is well founded when based on the study of everyday activities (Weick, 1974) since it is unclear where the uncertainty in normal contexts resides. Wherever uncertainty lies, understanding of sensemaking performance is may be accomplished by reviewing the decisions made by a person or persons through a series of events to a specific conclusion (Degn, 2015).

Weick's (2001) three steps of the sensemaking process - *enactment, selection, and retention* - help us understand the process people go through when they are faced with decisions. Enactment is the reaction to "what is happening" in the particular context based on prior experiences in that contexts. If the experience is new, reactions may occur based on similar experiences or new reactions may be developed (Alder, 1997; Weick, 1993). Selection is choosing how to react to "what is happening" from a pool of remembered responses to what has happened before. The reaction is selected will be perceived to be the one which will tend to the most desirable result (Weick, 2001).

Again, in the event of a new experience, a previously untried reaction may be selected. Retention is the collected memory of experiences which is maintained, added to, and stored for future use.

**Enactment.** Understanding how people react to everyday stimuli is relevant because sensemaking in organizations does not occur in isolation. The “what is happening” are the expressions of others’ mental modes and scripts, as they are represented by symbols and language of the organization (Degn, 2015). These expressions are translated from perceptions into social performances or expressions on a daily and continuing basis (Rouleau, 2005). A foundational organizational activity is to consolidate information, insight, and ideas into something meaningful for the individual within the organization (Smith, et al., 2010). Line workers derive meaning from the cultural norms enacted around them and in the repeated tasks they perform. This continues until the rare dynamic event occurs or the worker makes a decision to change.

**Selection.** However, during the course of normal operation, people may abruptly decide not to follow a typical, prescribed course of action. From a safety perspective on manufacturing, prescribed processes are in place to ensure safety. Line workers who act outside those prescriptions are considered to be in a position of greater risk (OSHA, 1970). For example, a machine may jam suddenly, causing production to stop. When this kind of event occurs, a governmental policy requires a person to *lockout* - turn off the machine, discharge residual energy, and place a lock on the power switch to prevent accidental start-up - a machine before servicing the machine (Labor, 2011).

Regardless of this policy, 37,850 people were still injured and 104 people were killed, when caught in machines in 2014 (Statistics, 2015a, 2015b). Some research (Nordlöf, Wiitavaara, Winblad, Wijk, & Westerling, 2015) has described this kind of risk-taking but do not explain how employees got to the point where taking such risks become acceptable to them.

**Retention.** A single line worker acting outside safety procedures does not go without notice. The outcome of the decision to act outside prescribed rules is stored away in the organizational memory (Smith, et al., 2010; Weick, et al., 1999). Other workers who observed this behavior may imitate it because it was successful for someone else, or they may avoid it because someone else was not successful. Therefore, an act outside the parameters of “safe” behavior may be adopted as a normal action.

### **Sensegiving**

Managers’ sensemaking of safety for themselves as well as for line workers in a process called *sensegiving*. Once considered the strategic or intentional side of sensemaking (Degn, 2015), sensegiving was first discussed as a separate concept by Gioia and Chittipeddi (1991). A person within an organization, interacting with other persons to achieve a particular sensemaking result, is performing what researchers call sensegiving (Gioia & Chittipeddi, 1991; Hill & Levenhagen, 1995; Rouleau, 2005).

Research has shown that managers in manufacturing organizations, those members of an organization who are responsible for assigning, evaluating and correcting the safety performance of others, typically perform sensegiving activities (Gioia & Chittipeddi, 1991; Maitlis & Lawrence, 2007; Smith, et al., 2010). However, sensegiving and

sensemaking activities may be performed by any member of an organization (Ashmos & Nathan, 2002; Blatt, et al., 2006; Gioia & Chittipeddi, 1991). Sensegivers attempt to mold the way others “make sense” (Smith, et al., 2010). Persuading another to adopt an idea, enact a behavior, or follow a rule is the primary function of sensegiving.

Sensegiving was initially considered to be made up solely of oral language but is now understood to include symbols, media, and behaviors (Frempong, Ahenkora, & Asamoah, 2013; Gioia & Chittipeddi, 1991; Smith, et al., 2010). Managers’ nonverbal behaviors are therefore as much tools for sensegiving as their verbal (Smith, et al., 2010).

**Managers.** Recall the common structure of management in many manufacturing organizations. Managers at the middle and line levels have to perform sensegiving on two levels and sensemaking on three levels (Gioia & Chittipeddi, 1991; Rouleau, 2005). They give meaning to the policy enacted by organizational directors in a manner that line workers understand. However, organizational directors, who enacted policy, may not understand managers’ explanations of policy to the line workers (Carroll & Fahlbruch, 2011). Inversely, middle managers then translate employee performances back to executive management in a meaningful manner which describes how the executives’ objectives were met. Carroll (1998) gives an example of this:

“The source of concern about lack of control and letting people out of their boxes was a vice president located at corporate headquarters, a lengthy drive from their nuclear power plant. The station manager who said 'What we do around here doesn't always make sense' is located in the middle, at the intersection of the plant and the corporation: he understands what the plant does

in order to succeed... yet he perceives that his executive bosses might not accept those activities as legitimate, because they do not fit within their 'executive logics'" (p. 700).

Here a manager between the bottom line and the top is required to help the executive manager make sense of what the line workers are doing in a way that can be acceptable to the executive. Persson (2013) shows that organizational directors and line workers have separate understandings when it comes to safety performance. Upper level directors may overlook the way a task is accomplished as long as the results meet the objectives (Persson, 2013). According to Zohar (2000), directors are most interested in the development and enactment of policy and procedure, and the accomplishment of goals. This can be challenging for the middle manager and line manager (Carroll, 1998) who must both please the executive and motivate the line worker.

Managers have two types of sensegiving goals: substantive and symbolic (Pfeffer, 1981). Substantive goals are the quantifiable goals that executive management requires. In safety terms, these are the injury and accident reduction and prevention goals. These goals are quantifiable with actual numbers. Accidents or injuries can be counted in terms of occurrences and cost. Middle and lower managers are constrained to reach these types of goals as a result of pressure from executive management because, in the end, organizational "performance is measured by achievement of substantive outcomes" (Smith, et al., 2010). Smith et al. also claim that substantive goals are more easily met when symbolic goals are met. Symbolic goals are those which deal with attitude, sentiments, and perceptions. Therefore, applying Pfeffer's (1981)

concepts to safety, manager sensegiving activities are geared toward achieving line worker buy-in so that line workers will act more safely and have greater success at preventing injuries to themselves and others. However, more research is needed to better understand this concept.

### **Call for research**

Researchers need to know what line workers say about safety. This is not a new call. When Fredric Taylor introduced his scientific management system to congress in 1902, he called for employers to understand their workers' perspectives (Taylor, 1947). He believed this understanding was essential to achieving the best performance possible on the part of the employee and the part of the company. Cadieux, et al., (2006) look forward to a time when workers' observations will be considered regarding safety. According to Mills (2002), the best way to understand an organization is to understand its communication. Clarke (2006) insists that future success in safety will occur when individuals' perceptions about safety are understood. These perceptions cannot be understood by observing behavior alone, line workers need a voice.

### **Research questions**

Understanding the efficacy of safety communication in an organization is made easier for researchers when they understand: 1) managers' safety sensegiving activities and 2) employees' sensemaking activities with regard to safety communication within their organization. Managers have a perception of the safety messages they communicate with their line workers. This leads my first research question.

**RQ1: How do managers describe their sensegiving performances regarding safety?**

In the working of the safety management system, managers are sending the messages and line workers are receiving them. Having a description of the message from the sender gives an incomplete understanding; the message must also be described by receiver. Feedback in a system gives a clearer understanding of the system functions (von Bertalanffy, 1968). Therefore, it is necessary to know:

**RQ2: How do line workers make sense of the safety communication they receive from their managers?**

Once managers' and line workers' description of the safety communication are understood, it would be beneficial to see if line workers talk about safety communication in similar terms as the managers (Mills, 2002; Patriotta, 2003). Thus, the third research question is:

**RQ3: How do managers' descriptions of their sensegiving activities regarding safety communication compare to line workers' descriptions of managers' sensegiving activities regarding safety communication?**

## **Chapter 2: Methodology**

In this chapter I will present the methodology used for this research study beginning with my personal interest in this topic.

### **Investigator Transparency and Explanation of Personal Interest**

I have accumulated twelve years of experience as a line employee in both manufacturing and processing organizations. Having worked in manufacturing organizations for a number of years, I have been numbered among the above statistics. At times I had missed as much as three months of a year's work due to workplace injuries. Getting hurt at work was normal. My fellow employees and I did not consider "if" we would get hurt but we did consider "when." One complaint that I often heard from my fellow employees was that management did not care about our safety, only the company profit. However, I also heard managers complain about line workers ignoring safety in order to boost their production rates. I am now years removed from factory work but I often find myself thinking and talking about it.

Since beginning my graduate research, the dichotomy of complaints between managers and line workers has driven me to pursue a better understanding of the communication activities between managers and line workers. Therefore, it makes sense to me, that in the course of this study I should try to discover what happens between managers and line workers from a communication perspective and, in turn, add to the body of communication research regarding safety communication.

This experience is relevant to the present research because the organization from which data has been collected is a manufacturing organization and it produces frozen entrées, side dishes and vegetables. I am well able to understand the cultural and the lingual expressions of participants in a manufacturing setting.

### **Participants**

Employees and managers within a food manufacturing/processing organization in the upper Midwest were interviewed for this research study. This organization was recommended to me by a UWSP faculty member. The facility where the work is performed is close to UWSP. Therefore, it was feasible to meet with participants for interviews at the facility during their normal scheduled work hours. An alumnus of UWSP was the researcher's primary contact within the organization. This contact secured permission from the company's executive management to do the study. The facility has been in production for approximately five years and employs 121 full-time permanent employees.

A total of 23 interviews were conducted with 20 line workers and three managers. No particular order was chosen for the 23 interviews conducted with three managers and 20 line workers. A list with the order of interviews may be found in Appendix C. Workers were selected from every department considered to be part of the production process that moves product from raw materials to shipped product. A typical production day at the study facility was divided into two daily production shifts and one maintenance shift. Participants were selected from the first and second shifts because maintenance workers are not considered production line workers.

Participants chosen were full-time employees of the organization because they represented the employee population with more intimate knowledge of the safety culture and safety communication within the facility. A varying number of temporary seasonal workers work at the facility in a limited capacity, based on production need. Temporary workers were not selected to participate because they were contractually employed by another organization. Finally, only workers who had a strong grasp of the English language were asked to participate. Several ethnic groups were represented by the study population: African American, Hispanic/Latino and Asian (primarily Hmong). Some of the employees would have required the presence of a translator and were excluded from participation to prevent breach of privacy protocol and possible mistranslation of the interview questions.

Since OSHA 29 USC 654 5 (b) (OSHA, 1970) requires employers to provide for the safety of their workers, it was presumed that every employee had experience with some form of safety communication (Brown, et al., 2000; Morrison, 2013). Selection of participants was by a convenience sample. Essentially, participants were those who volunteered when the opportunity was presented to them.

### **Procedure**

I received IRB approval and collected all the data during the summer of 2014. Contact with line workers was initiated by the line manager because of restricted access to the production floor. Potential line worker participants were contacted during production hours. Managers requested that workers not be disturbed during break times; and workers were paid their regular wage while interviewing.

A line manager instructed workers to come speak to the researcher in a meeting room on site without revealing knowledge of the nature and purpose for the conversation. The researcher asked line workers upon their entering the meeting room if they knew why they were there. All line workers responded in the negative. Workers were then informed as to the nature of the study and that participation was entirely voluntary. They were then invited to participate in the study.

Interviews with line managers were conducted in the same manner as interviews with line workers with two exceptions. First, line managers were contacted directly by the researcher to request an interview. Second, they had prior general knowledge of the nature of the study before the actual interviews began.

After initial introductions, each participant was given a copy of the informed consent form and it was read to them. It was then reiterated to them that they could withdraw their participation at any time without repercussion. Participants were offered an opportunity to ask questions and quit the interview. One worker declined to participate. Those who choose to continue were asked to sign the informed consent form. After the consent form was signed, the researcher began recording and asked the first scheduled interview question.

### **Interview Instrument**

A qualitative methodology was used to capture the richness and depth of understanding needed to answer the research questions presented earlier. Semi-structured interviews have been successfully used by researchers in manufacturing contexts regarding production (Andersson, Peter, & Lantz, 2015; Taylor, Taylor, &

McSweeney, 2013), safety (Reddy, Welch, Thorne, & Ameratunga, 2012), and relationship between managers and line workers (Al Saifi, Dillon, & McQueen, 2016). Therefore, this type of interview schedule was also used in this study. Line worker participants were asked questions from the interview schedule in Appendix A while managers were asked questions from the interview schedule in Appendix B. Questions addressed to line managers differed from the questions asked line workers in two essential points: managers were asked to discuss their own sensegiving activities, while line workers were asked to describe their managers' safety sensegiving activities. For example, managers were asked what they expected from line workers safety-wise and how did they let line workers know this. Workers, however, were asked what managers expected of them safety-wise and how did managers let them know this.

The interview schedule had five categories of questions (Appendices A & B): 1) demographic questions (Appendix A: 1 & 2), 2) defining questions (Appendix A: 3 & 11; appendix B: 3), 3) identifying questions (Appendix A: 4 & 5; Appendix B: 5, 6, & 7), 4) speculative questions (Appendix A: 6 & 11; Appendix B: 8), and 5) modifying questions (Appendix A: 9; Appendix B: 10). Demographic questions asked participants about their jobs. The purpose for these questions was to build a rapport with participants. Defining questions asked participants about safety and how it was communicated within the facility among managers and line workers. The purpose of these questions was to provide an operational definition of safety specific to the participants. Identifying questions gave participants opportunity to identify safe and unsafe performances by other employees. These questions were asked in order to establish the

way in which participants describe safe and unsafe behaviors, thus displaying their use of their definition of safety. Speculative questions were used to encourage participants to articulate their perception of others' safety and safety communication performances. Modifying questions were used to identify changes participants envisioned for improving the safety communication between line workers and managers in the facility. All questions were used to identify the potential safety communication gaps between managers and line workers that were introduced earlier.

During the interview process, the interview schedules were used as a guide to initiate dialogue and encourage participants to control the conversation. Probing questions were asked to develop a richness of data by allowing participants to control the conversation. Not all questions on the schedules were asked of every participant. Probing questions asked during the interviews were not listed in the appendixes.

### **Analysis**

Interviews lasted a total of 3 hours, 30 minutes, and 36 seconds. The average interview time was 9 minutes and 9 seconds. I transcribed the interviews myself, stopping after every few words. Any time I did not understand a word spoken or missed a word, I replayed that place on the recording until I was able to understand what was said. I did not take field notes during the interview but when I transcribed the interviews, I entered information in parentheses of things that stood out to me during the interview. There were 81 single-spaced pages of data developed from the interview transcriptions.

After transcribing the interviews, I divided the texts into two groups: manager participants and line worker participants. First, line workers' transcripts were used to identify how they made sense of safety communication. Second, managers' transcripts were used to identify how managers described their safety communication performances directed toward line workers.

Initially, three readings were used to analyze each set of texts. I read the transcripts the first time through to get general knowledge of the content of the interview. I read the texts a second time to develop a list of common terms and phrases used by participants. A third reading was used to identify specific significant statements. I had difficulty using this method to identify specific themes and made a change in method.

I did not have theoretical knowledge for the method I used at that point. However, I grouped participants' responses to related questions together in order to identify themes. The data was divided by question response, compiled into another Microsoft Word document, and analyzed by question as well as group. For example, all the responses from all the line workers to the first general question were listed together, and then the responses to the second question, and so on. Responses to probing questions were listed with the primary general questions from which they proceeded. I read the data two times in this form, identifying words and phrases used by more than one participant. When the themes were compiled for each question, a search for key words was performed using Microsoft Office Word software. For example, the word *meeting* was used 49 times by 20 of the 23 participants, including two managers.

Analyzing these responses in conjunction with one another gave clearer understanding of what themes regarding safety and communication were emergent.

After identifying these themes and key terms, I used direct quotes to write a description of how managers described their safety sensegiving activities; how line workers experienced and made sense of managers' safety communication sensegiving performances and how managers' descriptions of their activities compared to line workers' descriptions of managers' activities. Creswell (2007 p.159) calls this a "textual description." The next section of this document will describe the findings and discuss the theoretical and practical implications, make recommendations to the organization for improving its safety communication, and make recommendations for future research.

### Chapter 3: Findings

This study revealed a manufacturing safety culture where safety communication between managers and line workers is effective. No question arose about the existence of a safety culture, but answering the research questions allowed this researcher to develop an articulation of this safety culture.

#### **Making Sense of Managerial Safety Sensegiving**

The first question asked, “How do managers describe their sensegiving performances regarding safety?” Two themes emerged during the process of answering this question. First, managers were committed to helping line workers make sense of safety communication. Secondly, managers addressed safety issues primarily in terms of workers’ behavior.

**Managerial commitment to safety sensegiving.** Managerial commitment to safety sensegiving emerged in three ways from these data: 1) level of manager-employee interaction (e.g., in large and small groups, and on an individual basis); 2) managerial expressions of safety as a high priority; and 3) safety communication goals.

**managerial commitment to safety sensegiving: level of interaction.** Managers and line workers described multiple levels of manager-line worker interaction regarding safety issues. At the first level of interaction, managers met with large groups of line workers in safety training meetings. At the second level, they met with line worker in smaller groups about a particular safety topic.

M4 described the first two levels:

We have monthly meetings, safety meetings, in terms of training. We cover everything from lock-out, tag-out procedure to evacuation procedure. So our employees are brought in in two different shifts for these meetings. They last about 15 min. to half hour apiece; usually covered in a PowerPoint presentation by our director of operations. These meetings cover probably twelve to 15 different topics throughout the year. And then we have different toolbox talks that last probably 10 to 15 minutes when people are standing around the time clock. Somebody can come out and have a toolbox talk, just a quick reminder safe practices out on the floor.

The third level of interaction was managers interacting with line workers one-on-one about a particular safety related incident.

M4 also talked about interactions with individual line workers:

There's some incidents of our own employees in terms of somebody will have a hoodie on and have the strings hanging out of the neck of the hood without tucking them in. And it's just a "I forgot, I completely forgot. And then trying to, and I don't mean to push scare tactics but you know, making them aware of what could happen if this got caught in a piece of machinery. You could get strangled. Nobody wants to see that, nobody wants that to happen to you. So, our own employees are pretty good about being safe. Again, there are some instances where we have to step

in, in terms of “you’re working around this machinery; you need to be wearing ear protection.

*level of interaction: interactions with groups.* At the first two levels: large and small group interaction, each manager in this study could potentially influence every line worker in the facility. Large group interactions were called “safety meetings” (M4 and M6) and “group training” (M1). Safety meetings were communication interactions where “employees are brought in, in two shifts” (M4). In such meetings managers communicated information about “everything from lock-out, tag-out procedure to evacuation procedure,” and to “Good Manufacturing Practices (GMPs).” Monthly safety meetings were scheduled to give all production employees understanding of “twelve to fifteen [safety-related] topics throughout the year” (M4). Managers designed large group meetings to make sense of a general safety topic for as many line workers as possible during a single interaction.

Managers also demonstrated their commitment to safety communication at the smaller, less formal, second level. For example, one manager (M4) discussed small group meetings called “toolbox talks.” These interactions were arranged by a single manager and targeted a smaller audience who were assigned to that manager’s specific work area. The topics of these talks were generally work area and job specific and functioned as a “reminder of safe practices out on the floor” (M4). Large and small group manager-line worker safety interactions occurred as planned events with predetermined times and topics.

*level of interaction: frequent one-on-one interactions.* The third level of manager-line worker safety-related interaction occurred on an individual level. One-on-one interactions were random events of opportunity as reactions to a line worker's behavior. Managers interacted with individuals "on a daily basis" to "remind people if they get close to that edge where safety can be a concern" (M6). When talking about confronting people who had broken safety rules, M1 said, "If I see it [a safety violation], I communicate it directly [to the line worker]." Managers looked for instances where they may need to intervene with an individual to prevent an injury or remind of a safety issue.

**managerial commitment to safety sensegiving: safety as a priority.** Another display of managers' commitment to safety sensegiving activities was their expressed prioritization of safety. Two of the three managers in this study expressed that "safety is a big issue (M4)," and that "safety is the number one concern when everybody comes here every day..." (M6).

M6 also emphasized that safety is a growing priority in the organization saying: "I've been in this industry a long time. I guess I just know what the expectation has always been. But the expectation rises every day it seems like. More and more we focus on safety and making sure that we're not putting anybody in danger. "

M1 stated that safety is something "we are trying to get more involved with..." even though this manager also stated that workers were "real good at accepting" safety communication from managers. Managers at this facility placed a high priority on

safety communication interactions and were proactive in giving sense to line workers about safety issues and setting sensegiving goals.

**managerial commitment to safety sensegiving: setting safety communication goals.** Setting safety communication goals emerged as the final proactive display of managers' commitment to manager-line worker sensegiving interactions. When managers were asked about what they would like to see changed in terms of safety communication, all three discussed improvements they wanted to implement or see implemented within the organization's practices.

M1 wanted to communicate safety to line workers and said:

I think more on a group setting. I think more on a monthly training in which we are trying to get more involved with. Uh, that might help a little bit. I really feel we're good on the floor as far as communicating. If we see something, we'll talk with people. If people bring something to us, we'll fix it. You do a maintenance request on it and... If it's got it, we'll fix it right there, you know; stop the line and fix it... So that part's pretty good. But I think probably the group gathering we could do more.

The manager's goal was to improve safety communication by holding more safety meetings. This same manager was emphasizing what he had stated earlier in the interview: "Right now, we don't do enough of the group training."

M4 did not signify that more meetings were necessary, but instead expressed a desire to improve the quality of the current safety meetings.

She said:

Like I said before, I'm a firm believer in people will learn when they are interested in learning. They'll learn when it directly affects them. I'm, as H.R., always looking for other ways to engage our employees and to motivate our employees to want to participate more and want to be here, to make this a better place to work, therefore make it a more profitable place to work. That being said, I think our trainings can be more interesting. I as a student just hated PowerPoints. I thought they were just... PowerPoint after PowerPoint just looking the same, they start sounding the same.

As I'm sure you're aware, I taught Comm. 101 and it's just like whoa, power points. There's gotta be a better way. There's gotta be a more interesting way to do things. And even jazzing up your PowerPoint with, I don't know, in some cases even grotesque pictures of people getting their hands cut off or, I don't know. There's gotta be a way to grab peoples' interest because, like I said, if you're interested in something it'll stick. And we need to make it stick so people continue to be safe and improve on their safety out on the floor.

The implication was that line workers were not retaining the safety information they were receiving and therefore the manager seemed compelled to improve the safety training meetings for the purpose of "mak[ing] it stick so people can be safe and

improve on their safety out on the floor.” M6, whose goal ran along a similar vein, expected “everybody to be safety-minded when they come into our facility.”

Developing safety as a “mind set” in every employee was the objective for this manager’s safety related sensegiving activity.

M4 stated what they needed to do, as managers, to improve safety performance in this way:

I think its mindset. I think it’s the environment. I think the more you focus on safety, the more safe you are. I think as a team we buy into that overall. But, there are always a few people that don’t put as much emphasis on it. Those are the ones that end up in my office filling out accident reports because they get hurt.

Thus far it has been shown that managers gave sense to line workers through safety meetings, toolbox talks and individual safety communication events. They also held safety related communication as a high priority. Lastly, while each manager had slightly different goals for their safety communication activities (i.e. more meetings, more interesting meetings, and developing greater line worker buy-in, etc.) they consistently expressed commitment to improve safety communication in the organization. The next emergent theme revealed that managers addressed safety issues in terms of line workers’ behavior.

**Managers address safety as behavior.** In most instances, managers addressed safety based on their perception of worker’s behavior.

M4 was clearly articulated how line workers could accomplish safety:

Safety-wise, at the very bare minimum, I expect them to comply with our minimum safety rules in terms of wearing ear protection at all times, wearing eye protection if their particular job duty on any given day demands it. I definitely, again we have a list of GMPs, good manufacturing procedures; in terms of no clothes with holes in it so you can't get snagged on anything; no jewelry so you can't get snagged on any moving parts of the machinery. That's at the very basic level. All of our employees sign off on GMP training twice a year. So again, that's basic. A little bit elevated from that, I expect, kinda as I stated before, that if you see a puddle on the floor where somebody could trip or slip either you tell somebody about it or clean it up yourself. If you see anything like that, to either alert management or take care of it yourself; if at all possible.

All of these expectations are successfully completed by verbal or non-verbal action.

Safety, as defined by managers was, "accomplishing a task in a manner where you don't injure yourself or someone else" (M1), "protection of others" (M4), and "can prevent most of the [safety] problems that arise" (M6). Safety expectations from managers were clearly behavior based. Line workers were expected "to follow all the rules set by the company" (M1), alert management, or take personal action themselves if something unsafe was seen. On one hand, line workers considered as unsafe were doing something unsafe such as, "going underneath a conveyor" (M1), not "wearing protective equipment" (M4), and "not setting the equipment up properly" (M6). On the other hand, line workers described as being safe were, "asking for safety equipment"

(M1), “watching each other’s backs” (M4), and “moving things, like a pallet, to make yourself safe” (M6).

As managers describe their safety sensegiving performances, they displayed a high level of commitment to safety communication activities, such as safety talks, toolbox talks and face-to-face talks. They also vocalized goals of having more safety communication events, making those events more interesting, and purposing to cultivate more line worker “buy in” safety concepts. Finally managers addressed safety issues from the perspective of line workers’ behavior. The next topics of discussion are the findings used to answer the second research question.

### **Line workers’ making sense of ‘safety’**

The second research question asked, “How do line workers make sense of the safety communication they receive from their managers?” Line workers’ discussions of safety communication reflected how they made sense of managers’ sensegiving activities. During analysis of line worker responses to the interview questions, three themes emerged. First, line workers expressed a dualistic perspective of how safety is defined: 1) their own definition of safety and 2) their perception of managers’ definition of safety. Next, safety was both a personal and a communal issue for line workers. Finally, line workers expressed positive attitudes toward safety communication from managers and desired for more safety communication from managers.

**Line workers’ making sense of ‘safety’: two definitions of safety.** Line workers were first asked to define safety for themselves and asked how their managers defined safety. Line workers described their own view of safety as “making sure people are like

aware” of safety and danger, “making sure that, no one gets hurt” (I17), “making sure people are kept from harm” (I21); or “making sure nobody gets injured on the job” (I5). *Making sure* (I5, I8, I11, I16, I17, I20 and I21) the most commonly used phrase among line workers regarding safety was a concept of forethought, of thinking and observing beforehand. They clearly articulated this concept by saying, “Safety is making sure you can come in to work and perform your duties and not get harmed in that process” (I8); and “Safety is making sure every precaution is taken to keep people from harm” (I21).

I2 said:

Safety is too, for me... be, ah, see, see the surroundings; see, see your surroundings cause there's always forklifts coming around. Seeing things and uh, hearing things...As in sometimes you can hear a forklift, they honk and stuff. You always gotta turn around and see your surrounding[s]. Make sure everything's safe... Yeah, be aware of a... and you know there's padded stuff laying on the floor also so you gotta, you know, constantly look.

Therefore, line workers treated safety conceptually: safety is something a person can “be” through vigilance and observation or recognizing danger, before acting.

Some of the actions taken by line workers reduced risk. For example, line workers make sure to “wear ear plugs and your hair net... and telling your supervisor or your line coordinator, ‘This isn’t safe’ (I11). Other actions increased risk but were performed by workers because they felt safe performing them. One line worker discussed managing a jammed taping machine.

I18 explained:

I'll give you an example of me for instance. When I push boxes through a tape machine to (garbled word) the boxes to get taped; sometimes the tape doesn't properly tape the box so I have to reach my hand in there and fix it and then I have to re-shove the box through. And so, I'm supposed to shut it off, turn it off so my hand doesn't get caught in there with the roller, roller things or my smock does not get pulled in to where it's gonna hurt me. I'm very careful but I know there's a chance that something might happen.

When asked why she did this, the worker said it was,

Because, I'm in a hurry. When I'm really, really busy and I get backed up with boxes I need to get pushed through there, that's the only time I really do it... It doesn't take too long to stop it and start it. It's just quicker for me in my mind if I just reach in there really fast.

When asked if she had ever been caught by the machine, she said, "a couple times," but had pulled her hand free before getting hurt.

Another worker claimed that a common practice was for people to "Sometimes, when the hopper empties the boxes on the pallet; sometimes you have to shake it a little bit to make the rest of the potatoes fall. Sometimes people climb up there to shake the box down [until it was empty]," because they felt they could do it safely. Both these activities violated safety protocol and increased the risk of injury to workers. However, workers applied forethought to their actions to make sure they could do them safely regardless of whether their actions complied with or were contradictory to safety

policies. When line workers were asked why people acted in ways that were unsafe, they named several reasons for people to violate safety rules.

People broke safety rules because they:

- ✓ Were showing off (I1)
- ✓ Were in a hurry or rush (I2, 8, 9, 14, 18, & 22)
- ✓ Lacked common sense (I7, 16, & 20)
- ✓ Were not all there because they are tired (I16)
- ✓ Were young or immature (I7 & 11)
- ✓ Were head headed [stubborn] (I1)
- ✓ Were uninformed (I7 & 13)
- ✓ Were complacent, bored, or not thinking (I8, 20, & 21)
- ✓ Were distracted, lack of concentration (I10)
- ✓ Were stressed (I16)
- ✓ Were goofing off (I16)
- ✓ Were nervous (I22)
- ✓ Were trying to keep [the line] going (I23)

The significance of this list is that all these things that relate to or affect the mindset of the individual. Only participant I18 offered a personal reason for violating safety protocol, being “in a hurry.”

However, I21 offered a clearer explanation:

Boredom... Boredom on the job. Not that they're not working, it's just some of the jobs are that boring. You can only stare at a for so long, as green beans get brought back and you pull them off without wanting to throw one at somebody, you know, a small green bean at somebody and get their attention and joke around about it or something.

Later in the interviews line workers who were asked what their managers said to them about safety. Most of the line workers' responses to this question were single sentence responses. When the responses were analyzed, they indicated that managers

defined safety as something a person does. For examples, safety was when workers “Just go by code and just make sure we follow USDA and OSHA rules” (I3), and “follow all safety guidelines they put in place” (I7). Another person stated that managers told them, “That we should follow state regulations” (I13). Line workers also said that managers addressed safety when they confronted line workers behavior on the production floor. For example I8 said, “Well, if they [managers] see somebody do something unsafe, they have ...my boss... he’s come up to somebody and said, ‘Hey, that’s [what the line worker was doing] not safe.’ He’s very observant.” (I8). This was different from the line workers’ concept of “making sure” because it is limited to behavioral compliance to policies while “making sure,” was not. Therefore, line workers perceived that managers viewed safety as something apart from the identity of the line worker and rather as a function of the line worker’s actions.

**Line workers’ making sense of ‘safety’: safety is personal and communal.** Safety for line workers was both a personal and a communal concept. Line workers claimed to be responsible for safety on two fronts: their own safety and the safety of others. Workers described safety as “...making sure you can come in to work and not get harmed” (I8) and “protecting ourselves” (I13). These definitions showed line workers’ awareness of personal safety. At the same time, line workers said safety is “making sure nobody gets injured on the job” (I5) and “...actually, watching out for the safety of others too” (I10).

I16 was very personal about others’ safety:

“I make sure I watch out for everybody... With the people standing underneath the vat, I’d say we’re...kinda unsafe. I work on the batter machines doing bakes. There’s a

blade in there that spins around. [I] took the cover off one time to figure out why it wasn't sucking stuff over to the other part of the machine and sure enough somebody puts there hand in there. 'Well, I gotta grab that.' 'No! Don't you dare... That's a spinning object what are you doing in there?' 'Oh, oh, I forgot.'

Another line worker expressed an expectation that they were to "help each other out, like 'Look out!' you know" (I18) and ensure that "co-workers were safe also" (I11).

I12 explained how another coworker helped her clothing became caught in conveyor belt:

I caught my shirt in a conveyor belt about six months ago. It was my fault. There was a guard on the machine and I was leaning on the machine like this [demonstrated leaning over a machine] and feeding it like this' and it grabbed, grabbed my shirt.

R) Did you get hurt?

No, I wasn't hurt; it ripped my shirt. It was really embarrassing.

R) I'm sure.

I couldn't get, get to the cut-off switch. In fact, the gal I was working [participant imitated pushing an emergency stop button]...I didn't get hurt, and she says, 'Well, I was waiting for it to take the rest of your clothes off.'

It was very important to line workers to make sure of their own safety and others'.

**Line workers' making sense of 'safety': line workers have a positive attitude.**

Line workers' responses conspicuously lacked criticisms of managers' safety communication performances. Only one line worker, who said "I believe it is good, it could be a little better" (I13), called for improvement in the quality of safety communication. Managers were described as attentive regarding safety to such a degree that should "you bring something up to them that you think is unsafe; they are usually on top of it, to take care of it" (I12). Workers declared that managers were "there to watch safety" (I16) and "they walk around out there, they watch; and they can see if you ain't doing it right. They come tell you" (I22). While these remarks were being made, there was no indication line workers were disgruntled, even when "caught" being unsafe by managers. Instead, participants' expressions conveyed a sense of appreciation for managers' regard for line workers' safety. For example, I8 was quoted earlier (on the last line of page 47) saying, "He's observant." As she made this statement, she smiled warmly.

*line workers have a positive attitude: Workers want more safety meetings.* Line workers were generally satisfied with the safety communication they received from their managers but also expressed a desire for managers to more. For example, when I3 was asked what changes he would like to see in the way safety is communicated to him, he said, "It seems to be working for the most part. Everything could change for the better, so... Maybe monthly meetings to keep everyone on track, like the last one we had. But before that, it's been awhile." Others also wanted "to have more safety meetings" (I9, 17, & 23), or "more meetings about it [safety]" (I14). I7 said, "I think it

would best serve this company if they would have a couple more safety meetings throughout the year.” One line worker wanted more interaction with management in another way. She said, “I would like to see more of a presence on the floor. Because I’ve seen it at times where we’re looking for one of the supervisors and you can’t find them. But they’re out somewhere else around but not in your area. So, you gotta sit here and look around and find a supervisor. I believe we need more supervisors” (I13). In this instance the line worker wanted more direct communication with the supervisor. This may be because, “if we [line workers] do have a question on safety, we go right to the managers, we get an answer” (I20). They were confident in the managers’ ability to communicate information regarding safety.

### **Comparing managers’ and line workers’ descriptions of sensegiving**

The third research question asked: “How do managers’ descriptions of their sensegiving activities regarding safety communication compare to line workers’ descriptions of managers’ sensegiving activities regarding safety communication?” One dominant theme emerged from these data. Managers described safety sensegiving communication in terms of oral communication only, while line workers described managers providing safety sensegiving communication in both oral and written form.

**Comparing managers’ and line workers’ descriptions of sensegiving: oral communication.** Both manager and line worker participants talked about same contexts of oral safety communication events. Managers described their safety sensegiving activities as group interactions and one-on-one events, all of which were performed vocally. Line workers’ descriptions matched managers’ descriptions. For

example, of the twenty line worker participants, seventeen discussed large group interactions as “meetings” or “safety meetings.” One manager discussed small group interactions as toolbox talks and one line worker discussed a type of small group interaction that was similar in description to toolbox talks. Line workers also stated that managers would “come tell you” (I5, I13 and I22) if they saw something amiss safety-wise, which is the one-on-one type interaction that managers described.

**Comparing manager’s and line worker’s descriptions of sensegiving: written texts.** Line workers also described receiving written safety communication from their managers in three formats: pamphlets, signage and handbooks. Two workers discussed “a pamphlet” (I20, I22) they had received which explained some of the “dos and don’ts” (I20) of safety. Two line workers discussed pamphlets and three other workers discussed receiving safety communication from signs posted around the facility. Two line workers indicated that managers expected them to “be following the cautious signs” (I18) and to look at “all the different notices on the machines” (I23). The third line worker stated that words on the emergency exit signs “really have to be darkened or something so we can better” read the signs and so that “everybody knows the floor plan of the plant” (I11). When workers were hired, they were given a “green folder, handbook” (I9) which covers safety issues. Line workers report that managers “put it [safety information] out in a handbook” to let them know what managers expect of them safety-wise.

This hints at how line workers made sense of managerial sensegiving that came in written form (i.e., as something that made them feel content, confident, etc.) For

example, one line worker, when asked how managers let them know what was expected of them safety-wise, sat up straight with squared shoulders, gave a slight jut out of the jaw and said, “We’ve got our handbooks that also have that kind of stuff in there and we’ve got signs everywhere in the plant. Not only on this wall but like on the walls going in.” (I16). This person viewed written and textual artifacts as an ongoing source of safety communication, not as a useless resource. Written communication was also considered an equal alternative or backup to managerial oral communication. According to another line worker, managers would make known their expectations in safety meetings or “we’ll look in the handbook.” Therefore, although both managers and line workers used oral safety communication as the primary means for increasing employee safety, line workers used written communication too.

The next section covers topics of discussion regarding how this study informs communication scholarship, interesting points found in the data and weaknesses of this study. Finally, there will be suggestions for future study.

## Chapter 4 Discussion

This has been a study of safety related communication between managers and line workers in a non-dynamic manufacturing context which answered three research questions:

**RQ1: How do managers describe their sensegiving performances regarding safety?**

**RQ2: How do line workers make sense of the safety communication they receive from their managers?**

**RQ3: How do managers' descriptions of their sensegiving activities regarding safety communication compare to line workers' descriptions of managers' sensegiving activities regarding safety communication?**

Managers described their sensegiving performances as oral communications with groups and individual line workers on the topic of safety behaviors. Line workers used a dualistic definition of safety to guide their safety performances and had a positive attitude toward safety communication. Line workers' descriptions included written texts as forms of safety communication that managers used, while managers' did not. These data provided several theoretical and practical implications resulting from this study.

### Theoretical Implications

**RQ1: Managerial descriptions.** When managers' descriptions of their safety sensegiving activities were analyzed, it was revealed that managers use oral communication as their primary means of influencing line worker safety performances

and those managers conceptualize safety as a function of behavior. Theoretically, both these findings lend support to the indications of past and current research. Managers have consistently preferred to use oral communication events to inform line worker sensemaking (Gioia & Chittipeddi, 1991) and improve line worker safety performances (Clarke, 1999; Clarke & Ward, 2006; Zohar, 2000, 2002).

M1 said,

I do a lot of one-on-one [safety communication] on the floor. We don't...right now we don't do enough of the group training; but I'm on the floor every day; for start-up, to get everything goin'. So if I see it [people behaving unsafely], I communicate it directly. I also make sure the supervisors, the line supervisors as well as the coordinators... I meet with them a lot to make sure that they're expressing it as well. Three ideas stand out in this example. First, by using the personal pronoun "I," he possessed the oral communication activity on the floor; he owned it. It was not a requirement for him to be on the floor. The line supervisors and coordinators, his direct reports, could have taken care of getting the line going for him. Second, he mentioned group training, an additional verbal safety communication event to the one-on-one on the floor, as something that needed to be increased. Third, he shared the responsibility of performing verbal communication activities to other lead personnel on the line to affect line workers safety performance.

Managerial use of verbal communication as a primary means of influencing line worker behavior supported current sensegiving literature. According to research (Frempong, et al., 2013; Gioia & Chittipeddi, 1991) verbal communication is typically

used by managers to influence line worker behavior. More recent studies have shown verbal communication to be less effective when unsupported by non-verbal behaviors (Frempong, et al., 2013; Smith, et al., 2010) but is still preferred by managers.

Talking to line workers about safety may be most common form of sensegiving because it is the easiest to accomplish. Whether holding a safety meeting with groups of people or talking to a line worker one-on-one, the activity required a limited amount of time. An impromptu one-on-one interaction took as little time as a few seconds and scheduled safety meetings were scheduled for no more than a half hour of time. For meetings, time goes into planning, preparing, and conducting the event but time invested is still minimal. Research (Clarke & Ward, 2006; Michael, et al., 2006; Smith, et al., 2010) shows that managers have the most success affecting line worker safety performance when they spend more than an hour each day in non-verbal sensegiving activities. This can be as simple as removing a piece of trash from a walkway or walking around the plant floor, visible to line workers.

However, the effect of these activities is hard to measure. How does the manager know a line worker has viewed the nonverbal sensegiving activity the manager has performed? The feedback for verbal communication events is immediate. Managers can use attendance records, signed training forms, and disciplinary forms to hold line workers accountable when their behaviors do not match what was communicated at the event. The object of managerial activities continued to be line workers' safety-related behaviors.

Managerial conceptualization of safety as a behavior supports a functional perspective of safety culture. Previous studies have shown that managers determine efficacy or success of safety-related communication in terms of employee behavior (Carroll & Fahlbruch, 2011; Haberstroh, 1960; Hinze & Godfrey, 2003; Rasmussen, 2011b; Reniers & Audenaert, 2009; van Ginneken & Hale, 2009). This is a systems concept where line worker safety behavior is the feedback. Managers used that feedback to gauge the efficacy, or success, of their safety communication activities.

Recall M4 saying,

I'm a firm believer in people will learn when they are interested in learning. They'll learn when it [safety] directly affects them. I'm, as H.R., always looking for other ways to engage our employees and to motivate our employees to want to participate more and want to be here, to make this a better place to work, therefore make it a more profitable place to work. That being said, I think our [safety] trainings can be more interesting...

There's gotta be a way to grab peoples' interest because, like I said, if you're interested in something it'll stick. And we need to make it stick so people continue to be safe and improve on their safety out on the floor.

M4 believed, by making a safety communication event "stick" in the mind of the line worker that line worker's safety behavior on the production floor would improve. However, line workers make sense of safety differently.

## **RQ2: Line worker sensemaking**

In the course of their normal, everyday work, line workers were faced with decisions that could increase their risk of potential injury. According to Weick (2001), decisions like this were made using a line worker's past experiences. Three themes emerged as line workers described their sensemaking activities regarding safety communication from their managers: 1) they articulated two definitions of safety, one from an interpretive perspective and the other from a functional perspective; 2) they treated safety as a personal and a communal topic, and 3) line workers maintained positive attitudes toward safety communication from managers and desired more safety communication events. The following discussion will show how Weick's (2001) steps of sensemaking: enactment, selection, and retention maybe applied to the first two of these findings for everyday sensemaking activities. The third will be address with the discussion of the third research question.

**enactment.** Line workers articulated two definitions of safety. On one hand, they defined safety for themselves as something a person was, state of being or mindset. This reflects an interpretive safety culture (Carrillo, 2012; Hall, 1997; Nævestad, 2009; Ravasi & Schultz, 2006; Reason, 1997; van Gorp, 2007). On the other hand, they articulated, and ascribed to managers, a definition of safety that was something a person had based on their behavior. This definition reflects a functional safety culture that is normally associated with managers (Nævestad, 2009; Reason, 1997). Line workers enacted both when making everyday decisions about safety.

Line workers also addressed safety as an individual concept and a communal concept. Individually, line workers made safety decisions based on how safe they felt

when facing risks. Communally, line workers made safety decisions based on how safe they felt others were when facing risks. The definition of safety changed depending upon who was facing the risk, the individual or the other.

When line workers faced normal, everyday decisions that could increase their personal risk of injury, they normally reacted from an interpretive perspective of safety. This provides support to research (Nævestad, 2009; Reason, 1997) of manufacturing safety culture. An example of this was when I18 decided to “just reach in there [the jammed machine] really fast “without locking it out, because she was “very careful.” This was an act she had performed several times, even though her hand had been caught by the machine “a couple time.” This showed that historically she felt safe enough to perform the activity at a higher risk to her safety.

When choices involved the safety of others, line workers enacted the definition of safety they held for managers. Managers used a functional perspective of safety as they attempted to influence line behavior. Line workers also used this perspective of safety to reduce the risk of injury for their coworkers. I18 felted compelled to call ‘look out’ to fellow line workers who were at increased risk of injury. She was willing to risk injuring herself by sticking her hand into a moving machine but was not willing to accept increased risk to others. I16 demonstrated that as well when she refused to let a coworker put her hand in a mixer that was turning. She shouted, “No! Don’t you dare...That’s a spinning object what are you doing in there?” Historically line workers enacted a definition of safety from a functional perspective, just as managers had, when addressing others at risk.

When they enacted a definition of safety that matched the managerial perspective, they displayed behaviorally that they understood the safety communication messages they received from their managers. Verbally they were able to articulate the functional definition when asked. They also described functionalistic safety enactments during their interviews.

Thus far, Weick's (2001) model of sensemaking holds up when examining everyday sensemaking regarding safety in a manufacturing organization. Line workers have used both interpretive and functional definitions when performing safety on the production floor. When addressing their own safety and risk levels, they act from an interpretive perspective. Line workers adopt the functional view of safety when reacting to contexts that involve others' safety, just as they had seen managers do.

**selection.** Line workers faced routine experiences that reflected the repetitive nature of their work. Unexpected events were neither unanticipated nor new but changes occurred in how line workers viewed the events. Changes in mental attitude led line workers to behave in ways outside prescribed safety rules. Facing new attitudes can be analyzed through Weick's (2001) selection step to describe line workers' decision making process.

Line workers named several attitude changes that allowed for choosing to act outside safety boundaries, two of which were: being in a hurry and being bored. I18 became in a hurry when her taping machine jammed and she felt "backed up with boxes." When she suddenly became in a hurry, she violated safety procedures and placed herself at greater risk. I21 felt that line workers who were bored would

eventually behave in a way that broke safety rules. He said, "You can only stare at a for so long, as green beans get brought back and you pull them off without wanting to throw one at somebody, you know, a small green bean at somebody and get their attention and joke around about it or something." Being bored could lead to a person break a rule against throwing product at a co-worker. Sudden attitude shifts related to work tasks led to safety behavior that violated safety rules.

**retention.** Four retentions can be identified when looking at how line workers make sense of the safety communication from their managers. First, violating a safety rule was okay for line workers when it puts their own safety at risk and "felt" safe enough to do so. This violation may or may not have produced the desired results. As exemplified by I8, she attempted to get the jammed boxes cleared at the risk of getting here hand caught in the machine. Risk did not the determinant of behavior but attitude about the risk. As long as the line worker can "make sure" she is safe, then she will feel she is safe and act upon that feeling. This reflect an interpretive cultural view of safety

Second, when line workers address events that affect others' safety, will do so from a functional definition of safety which focuses on behaviors. Line workers observe managers addressing safety behaviors with line workers. Line workers also address behaviors when addressing the safety of others. I16 said she shouted, "Don't you dare do that," when she saw a coworker putting her hand in a moving machine.

Third, sudden shifts in line worker attitude can evoke a reaction to violate safety rules and increase personal risk. During this reaction, line workers are not "making sure" of safety anymore. This shift seems to be an automatic response, a sudden release

of emotional tension. Line workers actions are not completely out of control but for a moment override every other ability to function.

Fourth, results from the last section show that line workers express a positive attitude toward safety communication from their managers and desired more. Line workers felt safer when managers discussed safety with them in groups. They also felt safer when managers personally corrected them for breaking safety rules. Safety related written communication seemed important to line workers, several talked about it. It is possible that line workers will unconsciously perform behaviors that break rules to get managerial attention.

### **RQ3: A comparison**

Line workers and managers articulated the same definition of safety. Managers described the definition of safety they believed they had communicated to line workers and line workers described the definition of safety that they believed managers had communicated to them. When compared, they matched. This indicates that there was no persistent communication gap between managers and line workers. Line workers understood what managers communicated in accordance with managerial communication goals; meaning the communication was effective. When looking at line worker safety performances, managers were seeing the product of the line workers' self-efficacy rather than the product of a safety communication gap.

As was shown in previous sections, both managers and line workers indicated the desire for more safety communication events. Managers perceive a communication gap and want more events to fill it. Line workers feel safer when managers

communicate to them about safety topics and wanted more events to feel safer. These are separate but parallel goals. What is created is a safety culture that self-perpetuates by providing more communication events with the hope of satisfying those desires. In this culture, a system functions where more events take place, managers feel they are making progress filling a gap and line workers feel they are becoming safer because managers are giving them more safety related attention.

First, it appears that line worker behavior is not a useful feedback source regarding safety communication. Communication research such as that done by Rasmussen (2011a) will benefit because this may help develop a new measure of communicational efficacy by eliminating a faulty indicator. This supports Nordlöf and colleagues' (2012) work showing conflicting views of safety, risk taking, and priorities between managers and other stakeholders in manufacturing does not necessarily indicate a system failure.

Second, it appears that "feeling" safe is not equal to freedom from injury. Line workers who have the "making sure" attitude discussed earlier feel safer but still get injured. This may be compared to forest fire fighters who did not drop their tools to escape a wildfire because they felt safer carrying them (Weick, 1996; 1993). This is not a perfect analogy but, line workers hold on to safety communication events because they feel safer. However, they do not alter their behavior because they believe managers will catch them if the risk is too great.

### **Practical Implications**

There are practical implications managers in this organization should take from this study. While managers were committed to oral safety-related communication activities, they should expand their behaviors to those which display commitment to line worker safety by other than oral means. Line workers viewed managers' safety communication activities as indications that managers cared about line workers' safety. It was not the specific behaviors which were important. Managers on the shop floor "catching" line workers doing something wrong and having safety meetings expressed an attitude that managers cared. Without the acts displaying the attitude, line workers would not have felt as safe.

Manager M1 mentioned being "on the [production] floor every day" for the purpose of orally communicating safety. However, this manager did not include his presence on the production floor as a separate, intentional sensegiving activity, although his presence on the shop floor was not continually required. This is unusual since Gioia and Chittipeddi (1991) showed that managers who were clearly committed to sensegiving activities intentionally performed non-verbal behaviors, such as often being visible on the production floor. Other studies have also shown that oral safety communication activities were more effective when they were performed in conjunction with behaviors which display concern for line workers' safety (Rouleau & Balogun, 2011; Zohar, 2002), such as helping to clean up a mess on the production floor. Therefore, managers holding more safety meetings will increase line workers' feelings of safety but a greater enhancement to this feeling will be acts other than oral communication. According to Pfeffer (1981), fulfilling the symbolic goal of making line

workers feel safe will increase the accomplishment of the substantive goal of improved line worker safety performances.

Managers should consider written formats as a part of their safety sensemaking activities. Line workers included textual forms of safety communication such as pamphlets, folders, and signage, in their discussions. Managers did not mention these forms of communication at all. If, without any prompt, line workers discuss written texts as forms of safety communication, these forms become an important means to convey safety messages to line workers. It may be the case that managers did not feel any connection to those sources of communication because they did not author or distribute them personally.

Therefore, managers should tailor their safety sensegiving activities to include visible behaviors, written texts, and oral communications because the employees are using all of these to make sense of the safety messages from managers. Managers should also understand that line workers receive, understand, and buy into manager produced safety messages.

The next section will summarize this work, discuss its strength and limitations, and offer suggestions for future research.

## Chapter 5 - Conclusion

As an overall finding, it is apparent that during the course of normal manufacturing operations in the study facility, there was no persistent gap in the communication between managers and line workers regarding safety issues. However, the manner in which each group defined safety affected how safety was communicated by managers and made sense of by line workers. Managers operationalized safety from a functional cultural perspective where safety is described as a behavior. This perspective produced a need for managers to observe a particular pattern of behavior in line workers. Any break in that pattern of behavior was interpreted as a need for more safety communication activity to correct the behavior. This was identified as a systemic issue where the wrong feedback was being used to gauge the effectiveness of safety communication activity.

Line workers operationalized safety from an interpretive cultural view where safety is described as an attitude. This perspective produced in line workers a need to feel that managers cared about their safety. When managers had interactions with groups and individual line workers to communicate about safety, line workers interpreted that interaction as a symbol of managers' caring. Therefore, line workers perceived a need for more safety interaction with managers in order to feel safe. This was later identified as a false sense of security. The need of these two groups for continued safety interaction both fills that need and perpetuates it.

## **Strengths**

This study has presented a view of manufacturing line worker sensemaking that rarely been presented. Patriotta (2003) began to look at shop floor sensemaking. Certain works (Nordlöf, et al., 2015; Nordlöf, et al., 2012; Nævestad, 2009; Rasmussen, 2011b) have come closer to the issue of understanding line worker perspective but are still weighted toward managerial applications and behavior modification over theoretical understanding. Where others (Nævestad, 2009; Schein, 1983) have described an interpretive perspective of culture, this work shows that line workers enact a interpretive perspective of safety and safety culture. Lastly, this work breaks ground for further research of line workers sensemaking of safety and communication because it has directly asked line workers to express their perspectives. However, it is not without weaknesses.

## **Limitations**

The limitations in this study emerged in areas of the methodology. Participants excluded from the study were those who were temporary employees and non-English speaking employees. When the data were analyzed, several mentions were made of safety issues associated with temporary employees in the areas of safety training and safety knowledge. Temporary employees may have articulated a different definition of safety because they did not have the same initial safety training regular employees had. Non-English speaking participants would have provided a richer data set since their language and cultural differences would have likely influenced their sense of managerial sensegiving activities.

Interviews would have benefitted from being conducted with employees outside their normal work shift. Participants were selected by managers, who covered their positions on the shop floor, which probably added to the pressure participants felt during the interviews. The interviews were short in length for two reasons. First, the line workers seemed to be in a rush to get back to the production floor; they gave very short answers to questions. Second, the interview instrument needed to be more open. Questions needed to provide more opportunity for more detective work. Having a more skilled interviewer, who knew how to give participants more control of the conversation, would have helped.

### **Future research**

Continuing study of this subject should be pursued. This study has just barely answered the call started by Taylor (1947), and taken up by (Cadiex, et al., 2006, Mills, 2002; Clarke, 1999). Other further research on this subject should address two areas: Dissonance line workers experience between making sense of their own safety and the sense they make of co-worker safety: Why do we keep others safer than we keep ourselves – This would go well with the work of Nordlöf and colleagues, (2015), who explore risk taking behavior and Nævestad (2009) who explores culture in high-risk workplaces. Cultural enactment and differences of safety sensemaking among coworkers who speak different primary languages –Dougherty, Kramer, Klatzke, & Rogers (2009) looked at how shared language does not equate with shared meaning, is it possible to have shared meaning with different language as it might be applied to differences of native language?

### **Participant response**

I presented an executive summary to my contact person within the organization via email. In the summary, I described the findings and made recommendations based on those findings. I also offered to present an informational seminar based on the recommendations of the study with time for participant feedback. The contact person sent a return email showing interest in having me present but has not contacted me since. To this point, there has been no response from the organization regarding the summary.

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## Appendix A

### Line Worker Interview Schedule

1. What is your job?
2. Tell me briefly what a typical day is like for you.
3. What is "safety?"
  - 3a. Give me a specific example of what you mean by that.
4. Without naming specific names, how do you see the people you work with being safe?
  - 4a. Tell me of a time when you saw this; please leave out names.
5. Without naming specific people, in what ways do you see your co-workers being unsafe?
  - 5a. Tell me of a time when you saw this; please leave out names.
6. Why do you think people act in ways that are unsafe?
7. What do your managers say about safety?
8. What do they expect from you safety-wise?
9. How do they let you know this?
10. Are there any changes you would like to see in the way workplace safety is communicated to you?
  - 10a. Explain this to me.
11. How do you think your managers define safety?

## Appendix B

### Manager Interview Schedule

1. How would you describe safety?
2. What do you expect from line workers safety-wise?
3. How do you let them know this?
4. How do the line workers handle the safety messages you communicate to them?
  - 4a. How do you know this?
5. Do you ever see line workers being unsafe?
6. Without naming names, in what ways do you see them being unsafe?
  - 6a. Without using names, tell me of a specific example?
7. In what ways do you see line workers being safe?
  - 7a. Without using names, give a specific example.
8. Why do you think people act in ways that are unsafe?
9. Do you see a need for changes in the way safety is communicated to line workers?
  - 9a. Explain what your thoughts are on this?

### **Interview Order**

- 1) M1 - manager
- 2) I2 - line worker
- 3) I3 - line worker
- 4) M4 - manager
- 5) I5 - line worker
- 6) M6 - manager
- 7) I7 - line worker
- 8) I8 - line worker
- 9) I9 - line worker
- 10) I10 - line worker
- 11) I11 - line worker
- 12) I12 - line worker
- 13) I13 - line worker
- 14) I14 - line worker
- 15) I15 - line worker
- 16) I16 - line worker
- 17) I17 - line worker
- 18) I18 - line worker
- 19) I19 - line worker
- 20) I20 - line worker
- 21) I21 - line worker
- 22) I22 - line worker
- 23) I23 - line worker