



U.S. Department of
Transportation

**Federal Railroad
Administration**

Safety Culture: A Significant Influence on Safety in Transportation

Office of Research
Development
and Technology
Washington, DC 20590

DOT SAFETY COUNCIL



SAFETY CULTURE

The shared values, actions,
and behaviors that
demonstrate a commitment
to safety over competing
goals and demands



NOTICE

This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof. Any opinions, findings and conclusions, or recommendations expressed in this material do not necessarily reflect the views or policies of the United States Government, nor does mention of trade names, commercial products, or organizations imply endorsement by the United States Government. The United States Government assumes no liability for the content or use of the material contained in this document.

NOTICE

The United States Government does not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the objective of this report.

REPORT DOCUMENTATION PAGE			<i>Form Approved</i> OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE August 2017		3. REPORT TYPE AND DATES COVERED Final Report – July 2015
4. TITLE AND SUBTITLE Safety Culture: A Significant Influence on Safety in Transportation				5. FUNDING NUMBERS
6. AUTHOR(S) and FRA COTR Stephanie Morrow and Michael Coplen, COR				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Department of Transportation John A. Volpe National Transportation Systems Center 55 Broadway Cambridge, MA 02142-1093				8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Department of Transportation Federal Railroad Administration Office of Research, Development, and Technology 1200 New Jersey Avenue SE Washington, DC 20590				10. SPONSORING/MONITORING AGENCY REPORT NUMBER DOT/FRA/OR-17/09
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT This document is available to the public through the FRA Web site at http://www.fra.dot.gov .				12b. DISTRIBUTION CODE
13. ABSTRACT (Maximum 200 words) An organization's safety culture can influence safety outcomes. Research and experience show that when safety culture is strong, accidents are less frequent and less severe. As a result, building and maintaining strong safety cultures should be a top priority across the transportation industry. This research paper identifies the most important elements of a strong safety culture, and highlights opportunities for developing the Department of Transportation (DOT) strategy for improving safety culture in transportation.				
14. SUBJECT TERMS Safety culture, safety climate, safety, catastrophic accidents, accidents, organizational culture				15. NUMBER OF PAGES 63
				16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT	

METRIC/ENGLISH CONVERSION FACTORS

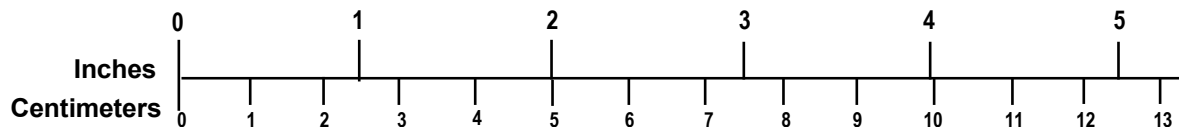
ENGLISH TO METRIC

LENGTH (APPROXIMATE)	
1 inch (in)	= 2.5 centimeters (cm)
1 foot (ft)	= 30 centimeters (cm)
1 yard (yd)	= 0.9 meter (m)
1 mile (mi)	= 1.6 kilometers (km)
AREA (APPROXIMATE)	
1 square inch (sq in, in ²)	= 6.5 square centimeters (cm ²)
1 square foot (sq ft, ft ²)	= 0.09 square meter (m ²)
1 square yard (sq yd, yd ²)	= 0.8 square meter (m ²)
1 square mile (sq mi, mi ²)	= 2.6 square kilometers (km ²)
1 acre = 0.4 hectare (he)	= 4,000 square meters (m ²)
MASS - WEIGHT (APPROXIMATE)	
1 ounce (oz)	= 28 grams (gm)
1 pound (lb)	= 0.45 kilogram (kg)
1 short ton = 2,000 pounds (lb)	= 0.9 tonne (t)
VOLUME (APPROXIMATE)	
1 teaspoon (tsp)	= 5 milliliters (ml)
1 tablespoon (tbsp)	= 15 milliliters (ml)
1 fluid ounce (fl oz)	= 30 milliliters (ml)
1 cup (c)	= 0.24 liter (l)
1 pint (pt)	= 0.47 liter (l)
1 quart (qt)	= 0.96 liter (l)
1 gallon (gal)	= 3.8 liters (l)
1 cubic foot (cu ft, ft ³)	= 0.03 cubic meter (m ³)
1 cubic yard (cu yd, yd ³)	= 0.76 cubic meter (m ³)
TEMPERATURE (EXACT)	
$[(x-32)(5/9)]\text{ }^{\circ}\text{F} = y\text{ }^{\circ}\text{C}$	

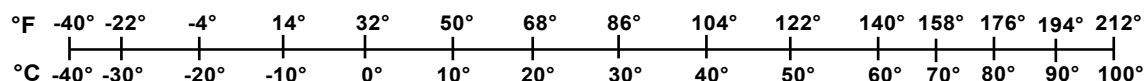
METRIC TO ENGLISH

LENGTH (APPROXIMATE)	
1 millimeter (mm)	= 0.04 inch (in)
1 centimeter (cm)	= 0.4 inch (in)
1 meter (m)	= 3.3 feet (ft)
1 meter (m)	= 1.1 yards (yd)
1 kilometer (km)	= 0.6 mile (mi)
AREA (APPROXIMATE)	
1 square centimeter (cm ²)	= 0.16 square inch (sq in, in ²)
1 square meter (m ²)	= 1.2 square yards (sq yd, yd ²)
1 square kilometer (km ²)	= 0.4 square mile (sq mi, mi ²)
10,000 square meters (m ²)	= 1 hectare (ha) = 2.5 acres
MASS - WEIGHT (APPROXIMATE)	
1 gram (gm)	= 0.036 ounce (oz)
1 kilogram (kg)	= 2.2 pounds (lb)
1 tonne (t)	= 1,000 kilograms (kg)
	= 1.1 short tons
VOLUME (APPROXIMATE)	
1 milliliter (ml)	= 0.03 fluid ounce (fl oz)
1 liter (l)	= 2.1 pints (pt)
1 liter (l)	= 1.06 quarts (qt)
1 liter (l)	= 0.26 gallon (gal)
1 cubic meter (m ³)	= 36 cubic feet (cu ft, ft ³)
1 cubic meter (m ³)	= 1.3 cubic yards (cu yd, yd ³)
TEMPERATURE (EXACT)	
$[(9/5)y + 32]\text{ }^{\circ}\text{C} = x\text{ }^{\circ}\text{F}$	

QUICK INCH - CENTIMETER LENGTH CONVERSION



QUICK FAHRENHEIT - CELSIUS TEMPERATURE CONVERSION



For more exact and or other conversion factors, see NIST Miscellaneous Publication 286, Units of Weights and Measures. Price \$2.50 SD Catalog No. C13 10286

Updated 6/17/98

Contents

Executive Summary	1
1. Background: What Are the Elements of Safety Culture?	2
1.1 Safety Culture Defined	2
1.2 Critical Elements of Safety Culture	3
2. DOT Safety Culture Strategy: Opportunities to Improve?	6
2.1 Background	6
2.2 Statement of Purpose	6
2.3 Core Evaluation Questions and Phased Work Plan	7
3. Conclusion	9
Appendix A. Definitions of Safety Culture	10
Appendix B. DOT Internal Safety Policy	12
Appendix C. Bibliography on Safety Culture	13

Illustrations

Figure 1. Three-part model of safety culture (adapted from Cooper, 2000)	2
--	---

Acknowledgements

Thanks to the Department of Transportation (DOT) Safety Council for the opportunity to develop this paper to support advancing safety culture research. This paper was originally published in May 2011 as an internal Technical Report for the Safety Culture Action Team of the Safety Council. Since then, it has been broadly disseminated among internal and external stakeholders who have begun to use these important findings in various ways. To facilitate broader use and application of the findings, the Federal Railroad Administration (FRA) decided to publish this document as a formal technical report, now searchable and readily available on the FRA website and eLibrary.

This paper would not have been possible without the support of staff from across the various DOT modal agencies, including Byron Black (OST), Helen Brohl (CMTS), Joe Carra (NHTSA), Chris Connolly (SLS), Michael Coplen (FRA), Joan Devine (FAA), Regina Farr (MARAD), Ewa Flom (FHWA), Miriam Kloeppel (FRA), Paula Martinez (FAA), Philip Mayer (FHWA), Levern McElveen (FTA), Pradeep Nayyar (MARAD), Jeanne O'Leary (OST), Todd Ripley (MARAD), Michael Sanders (FRA), and Terry Shelton (NHTSA).

Considerable thanks to Rick Kowalewski of PHMSA, Stephen Popkin of the Volpe Center, and Jo Strang of FRA for their invaluable support in championing this topic inside the DOT Safety Council. Finally, thanks to Eran Segev of the Volpe Center, whose finishing touches and follow-through took this paper from draft to a final product.

This work was performed under an interagency agreement between the Federal Railroad Administration's R&D Human Factors Division and the John A. Volpe National Transportation Systems Center's Surface Transportation Human Factors Division.

Executive Summary

An organization's safety culture can impact safety outcomes. Research and experience show that when safety culture is strong, accidents are less frequent and less severe. As a result, building and maintaining strong safety cultures should be a priority across the transportation industry. This research paper: 1) identifies the most important elements of a strong safety culture; and 2) highlights opportunities for developing the U.S. Department of Transportation (DOT) strategy for improving safety culture in transportation. This paper also documents a variety of definitions and current state of knowledge about safety culture—including DOT Safety Council definitions, DOT Internal Safety Policy, and a bibliography from an extensive safety culture literature review, found in the appendices of the report.

While critical elements of safety culture ensure safe operations, they also reflect basic good business practices. Strong and consistent leadership, open communication, trust, and fair decision-making are some of the factors that foster strong safety cultures and strong organizational cultures in general. However, the key indicator of a robust safety culture is that ***safety is the priority***. Leaders' attitudes, organizational policies and decision-making, and employees' behaviors should consistently demonstrate that safety is prioritized above other considerations.

The most critical elements of a strong safety culture are as follows:

1. Leadership is clearly committed to safety
2. Open and effective communication exists across the organization
3. Employees feel personally responsible for safety
4. The organization practices continuous learning
5. The work environment is safety conscious
6. Reporting systems are clearly defined and not used to punish employees
7. Decisions demonstrate that safety is prioritized over competing demands
8. Employees and the organization work to foster mutual trust
9. The organization responds to safety concerns fairly and consistently
10. Safety efforts are supported by training and resources

One of the most important components of safety culture is leadership. As an industry thought leader, DOT can significantly influence safety culture of the transportation industry. For example, by starting internally, DOT leaders can ensure that employees fully commit themselves to making safety their highest priority and be dedicated to safety in all aspects of their work. Fostering a strong safety culture within DOT is a first step in asking the same of those that it oversees, collaborates with, and regulates in the transportation industry. This usually begins with a policy statement on safety and safety culture (see Appendix B).

1. Background: What Are the Elements of Safety Culture?

Since the Chernobyl nuclear accident in 1986, safety culture has emerged as a significant factor in many catastrophic accidents. Weak safety cultures were highlighted more recently in BP's 2005 refinery explosion in Texas City, TX, and the 2009 Metro Red Line collision in Washington, DC. Over time, it has become clear that an organization's culture has a strong impact on safety outcomes because it shapes safety attitudes, values, and behaviors.

Safety culture can be a nebulous concept. It may be defined differently, depending on whether it is used in the context of a Federal or State agency, a transportation company, or the general public. Each type of organization is responsible for safety in different ways. Many Federal agencies are beginning to recognize that they have their own unique safety culture, and that understanding their own internal safety culture can be useful for improving safety programs.

Although there may be slight variations in the meaning of safety culture across different industries and in different kinds of organizations, there is value in establishing a shared understanding that can be applied across many contexts. This research paper presents a general definition of safety culture. It also presents a core set of safety culture indicators, which are based on a synthesis of documented research across safety-critical industries within and outside of the transportation sector. By developing a common understanding of the elements that comprise a strong safety culture, the U.S. Department of Transportation (DOT) can have a better basis for improving its safety programs, policies, and strategies in the future.

1.1 Safety Culture Defined

Although many definitions of safety culture exist across different industries, the concept is generally described as a set of shared values, actions, and behaviors that demonstrate a commitment to safety by the individual and collective responsibility of everyone at all levels of an organization. Safety culture is determined by how people feel, what people do, and the organization's safety policies and procedures (Cooper, 2000). The extent to which attitudes, behaviors, and policies align to prioritize safety over competing goals indicates the strength of an organization's safety culture. The DOT Safety Council has developed the following definition of safety culture intended to support development of a broader departmental policy on safety culture:

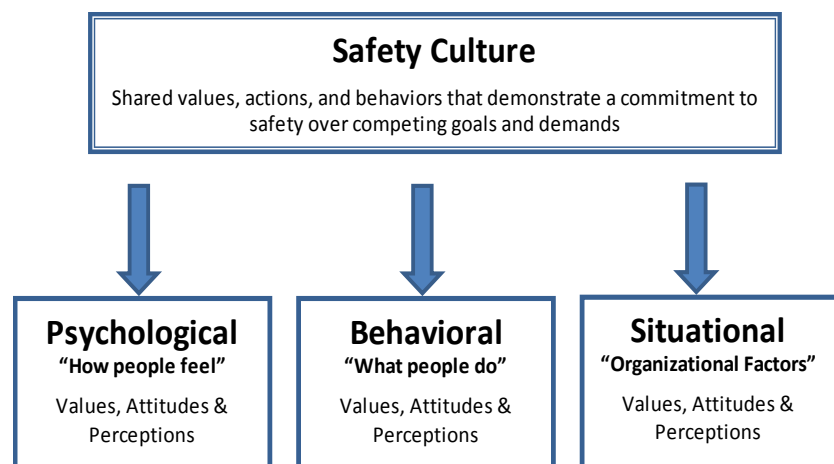


Figure 1. Three-part model of safety culture (adapted from Cooper, 2000)

The shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands.

This was developed after extensive review of definitions used in a wide range of industries and organizations over the past two decades (see Appendix A) and discussion among Safety Council members.

1.2 Critical Elements of Safety Culture

The following elements of safety culture were derived from a review of publications representing a cross section of industries, including aviation, nuclear power, health care, maritime, rail, pipeline, construction, oil and gas, and mining. As expected, their models of safety culture varied greatly, both within and between industries. However, there were also commonalities across models, particularly in more recent publications where investigators adapted the safety culture model developed by James Reason in *Managing the Risks of Organizational Accidents* (1997), and the safety culture factors identified in a 1993 report from the United Kingdom's Health and Safety Commission on the safety of nuclear power operations. For a comprehensive bibliography on safety culture publications, including the sources and approach used in the literature search, see Appendix C.

The safety culture elements from each industry publication were compiled into a master list. The authors reviewed the master list and sorted all the elements into categories by theme. Each category was labeled and assigned a value of "importance" based on the number of elements that fell into that category. For instance, elements such as *safety leadership*, *management commitment*, *high-level safety commitment*, and *management involvement* were sorted into the leadership category, and elements such as *learning culture*, *organizational learning*, *questioning attitude*, and *continuous improvement* were categorized together. A total of ten thematic categories emerged from this process, with each category represented by at least two different industry models of safety culture. These categories, presented below, represent the most critical elements of safety culture.

Element 1. Leadership is Clearly Committed to Safety

Since nearly all safety culture models explicitly included some mention of leadership commitment to safety, the importance of leadership in fostering a strong safety culture was clear. Leaders across all layers of an organization must model safety-first attitudes and behaviors. Employees learn what the accepted practices are in an organization by following the examples set by their leaders.

Element 2. Open and Effective Communication Exists Across the Organization

Employees must feel comfortable communicating to their supervisors about safety issues and communicating with their peers when they see unsafe behaviors. If the organization is not communicating the importance of safety and encouraging their employees to speak up about safety, then safety risks are more likely to develop and less likely to be addressed before an accident occurs.

Element 3. *Employees Feel Personally Responsible for Safety*

Employees who feel personally responsible for safety take more ownership in safety procedures and are also more likely to speak up when they see other employees behaving in an unsafe manner. Personal responsibility empowers employees and helps the entire organization identify and correct risks proactively.

Element 4. *The Organization Practices Continuous Learning*

A strong safety culture requires a learning-oriented environment that continuously searches for opportunities to improve safety and implements them. Organizations must be able to learn from accidents when they do happen and be willing to make changes that can prevent incidents in the future.

Element 5. *The Work Environment is Safety Conscious*

Maintaining a strong safety culture also requires constant vigilance and an elevated awareness of the importance of safety. Employees should be encouraged to raise safety concerns and allowed to raise concerns through reporting systems and procedures.

Element 6. *Reporting Systems are Clearly Defined and Not Used to Punish Employees*

Organizations must ensure that reporting systems and lines of accountability are in place, so safety issues can be promptly identified, fully evaluated, promptly addressed, and corrected commensurate with their significance.

Element 7. *Decisions Demonstrate that Safety is Prioritized Over Competing Demands*

Organizations with a strong safety culture differ from others because their decision-making processes emphasize that safety is prioritized over competing demands. Organizations with a strong safety culture will consistently choose safety over performance when faced with the choice of cutting corners to increase performance.

Element 8. *Employees and the Organization Work to Foster Mutual Trust*

One of the cornerstones of any positive organizational culture is trust. Trust among managers, labor representatives, government regulators and inspectors can go a long way to support safety by facilitating open and honest communication and minimizing fears of reprisal. Employees who have developed a relationship of trust with their supervisors may feel more willing to raise safety concerns in novel situations when they are unsure of how the organization might respond.

Element 9. *The Organization Responds to Safety Concerns Fairly and Consistently*

Above and beyond having effective reporting procedures and processes in place, the organization must respond to safety concerns in a manner that employees perceive as fair, just, and consistent. Employees should feel free to raise safety concerns without fear of retaliation.

Element 10. Safety Efforts are Supported by Training and Resources

Those who manage and operate the system must have up-to-date knowledge about the human, technical, organizational, and environmental factors that determine the safety of the system as a whole, and they must have the tools and equipment to perform their jobs as safely as possible. In addition, the organization must ensure that the personnel, procedures, and other resources needed to ensure safety are available. Understaffing safety-critical positions or not having formal, written procedures for ensuring safety can be just as detrimental as a lack of physical equipment.

2. DOT Safety Culture Strategy: Opportunities to Improve?

2.1 Background

In 2008, a DOT Safety Review was conducted for three surface transportation modes (FRA, PHMSA, and FMCSA) to identify weaknesses and vulnerabilities in three broad areas: risk management strategies and approaches, agency safety culture, and internal control systems. As a result of this initiative, safety culture became one of the founding principles of the DOT Safety Council when it was established in October 2009. The DOT Safety Council institutes cross-modal safety discussion and action. Chaired by the Transportation Deputy Secretary, this council, which is composed of the heads of each DOT modal administration, their senior safety officers, and senior officials from the Office of the Secretary (OST), strives to be widely recognized as the world's leader for safety in transportation. All ten operating administrations unanimously agreed that safety culture should be the Safety Council's top priority for action.

DOT's senior safety leaders selected representatives from each operating administration to serve on the Safety Culture Action Team, based on their expertise and experience with safety programs. Subsequently, the Action Team developed a strategy to improve safety culture, not only within DOT, but also in those entities and organizations with which it works directly and the general public. The sections below summarize that strategy, which is comprised of a problem statement, a set of evaluation questions, and a phased work plan.

Problem Statement:

Since the nuclear accident at Chernobyl in 1986, safety culture has emerged as an important factor in many catastrophic accidents. A weak safety culture was highlighted more recently in BP's Texas City refinery explosion in 2005, and the Washington, DC Metro Red Line collision in 2009. Over time, it has become clear that an organization's culture has a strong impact on safety outcomes because it shapes safety attitudes, values, and behaviors. However, *there is no common definition of safety culture, nor a common set of attributes that would describe the safety culture in any organization.*

When this problem statement was written, the action team observed that DOT would benefit from a better understanding of how safety culture affects safety outcomes in the organizations it regulates, among state and local government partners and grantees, and across the general public. Specifically, the action team considered the following to be essential: 1) knowing how DOT's *actions* influence safety culture in these domains (both positively and negatively), and 2) how the *organizational culture* within DOT shapes these actions/approaches or otherwise influences these groups. By developing a common understanding of the elements that comprise a strong safety culture, DOT would have a better basis for improving its safety programs, policies, and strategies, and the outcomes and impacts these have.

2.2 Statement of Purpose

This initiative's primary purpose is to develop strategies for improving DOT's safety programs and interventions, including development of an internal organizational culture that will support strategies for how DOT can influence safety culture in organizations with which it works directly and the general public.

The DOT Safety Council identified safety culture as a top priority across the Department. As previously discussed, the Council defined safety culture as *the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands*.

2.3 Core Evaluation Questions and Phased Work Plan

The core evaluation questions below (and some of the exploratory questions that might help answer them) were developed by the action team using input from cross-modal safety professionals within DOT. They were developed to guide the safety culture initiative's strategic direction.

1. What is the current understanding of safety culture and its influences on safety outcomes?
2. How can DOT's safety culture be defined and measured?
3. How can we develop and implement our programs aimed at improving safety culture in DOT?
4. How do DOT's actions and organizational culture affect the safety culture of industry, the organizations that DOT oversees, state and local government partners, and the general public?

2.3.1 Phase 1 Work Plan: Action Planning

Phase I tasks were devised to answer the core evaluation questions presented in Section 3.3. . The following tasks were identified by the Safety Culture Action Team, and this research paper constitutes the product of Task 2 (see list below).

Task 1. Develop DOT Safety Culture Conceptual Frameworks

To better understand transportation-related safety cultures, we must first develop conceptual frameworks for how DOT influences safety outcomes through its actions, safety programs, and safety culture. This task will begin with the identification of different missions and functions within each of DOT's agencies in order to understand differences and similarities among agencies (e.g., regulatory versus non-regulatory agencies, interactions with state and local governments versus companies or the general public).

Task 2. Synthesize Safety Culture Research Literature

The Safety Culture Action Team will create a concise synthesis of research on safety culture, definitions of safety culture and related terms, the elements of a positive safety culture, and describe how safety culture relates to safety outcomes by leveraging information from other reviews conducted within and outside of DOT.

Task 3. Identify Safety Culture Metrics

One of the goals of the current initiative is to develop and/or adapt measures of safety culture for use by DOT. This task will directly contribute to the internal implementation plan. It will provide the Action Team with a list of potential measures that have been used as indicators of safety culture and with recommendations regarding the relevance of each measure for possible use within federal agencies. The overall purpose of this effort is to develop a

validated toolbox of measures that can be used to assess the safety culture internal to DOT and guide program improvements.

Task 4. Review and Conduct Case Studies of Safety Culture Best Practices

In concert with the review of safety culture research, a review of best practices and challenges in transforming safety culture will be performed. Where possible, case studies will be conducted that support each of the conceptual frameworks from Task 1 to document best practice information not readily available from other sources.

Task 5. Develop DOT's Internal Safety Culture Strategic Roadmap and Implementation Plan

The Internal Roadmap and Implementation Plan will complement and support modal agencies' and DOT's strategic plans. This Plan will also provide direction on the development and implementation of a safety culture survey within DOT.

Task 6. Develop External Safety Culture Strategic Roadmap and Implementation Plan

Concurrently, the Safety Culture Action Team will lead the development of an external strategic roadmap and implementation and evaluation plan. The plan will identify short-term, mid-term, and long-term changes that could be made to DOT programs and policies to encourage the development of positive safety cultures in regulated industries, among State and local government partners and grantees, and potentially across the general public.

2.3.2 Phase 2 Work Plan: Implementation and Evaluation

Phase 2 involves two concurrent but relatively independent projects. Both are derived from the corresponding internal and external implementation plans developed during Phase 1. As of this writing Phase 2 activities have not begun.

Project 1. Internal Implementation and Evaluation

In this task, the Team will execute and evaluate the strategies described in the Internal Roadmap and Implementation Plan. One of the primary activities that may be conducted in this phase is the development of a safety culture survey for use as a diagnostic tool within DOT.

Project 2. External Implementation and Evaluation

In this task, the Team will execute and evaluate the strategies described in the External Roadmap and Implementation Plan. The focus will be on short-term, mid-term, and long-term changes that can be made to DOT's safety programs and policies to encourage positive safety cultures in transportation-related industries, state and local governments, and organizations, as well as the public.

3. Conclusion

Safety culture is about prioritizing safety at all levels of an organization through attitudes and actions. Employees should feel that safety is a personal responsibility and be able to communicate concerns to the organization through clearly defined reporting systems and processes without fear of retaliation or reprisal. The most often cited element needed to foster a safety culture is strong leadership. Therefore, leaders need to demonstrate their commitment to safety for their organizations.

Most of the literature on safety culture focuses on organizations that have direct influence on safety outcomes. Process safety (vs. personal or occupational safety) is often examined in those organizations because there is a potential for catastrophic consequences. However, safety culture is not limited to such front-line organizations. Safety culture can be important for any organized group where safety is a concern. The primary mission of the DOT Safety Council is to ensure a safe transportation system for the American people today and in the future. DOT can act as an industry leader by taking steps to improve its own safety culture internally and to influence safety culture externally through the actions it takes. Every DOT employee should be dedicated to safety in all aspects of his or her work, and DOT leadership should ensure that employees can fully commit themselves to making transportation safety their highest priority.

Appendix A. Definitions of Safety Culture

Safety culture is defined in a variety of ways within academic research literature and across different industries and federal agencies in the United States and internationally. The following definitions have been identified as having potential usefulness for other agencies and organizations when crafting their own definition of safety culture.

U.S. Department of Transportation (2011), definition:

The shared values, actions, and norms that demonstrate a commitment to safety over competing goals and demands.

Nuclear Regulatory Commission (2011) Policy statement for U.S. nuclear industry:

The core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment.

Transport Canada (2010) Achieving an Effective Safety Culture

The safety culture of an organization is the result of individual and group values, attitudes, perceptions, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organization's health and safety management system.

Organizations with a positive safety culture are characterized by communications from various stakeholders founded on mutual trust, by shared perceptions of the importance of safety and by confidence in the efficacy of preventive measures.

International Maritime Organization (2008), Policy statement for maritime industry:

An organization with a "safety culture" is one that gives appropriate priority to safety and realizes that safety has to be managed like other areas of the business.

Richter and Koch (2004), Theoretical definition:

Shared and learned meanings, experiences and interpretations of work and safety - expressed partially symbolically—which guide people's actions towards risk, accidents, and prevention.

Mohamed (2003), Construction industry:

A subfacet of organizational culture, which affects workers' attitudes and behavior in relation to an organization's ongoing safety performance.

Weigmann (2002), Theoretical definition based on synthesis of literature:

Safety culture is the enduring value and priority placed on worker and public safety by everyone in every group at every level of an organization. It refers to the extent to which individuals and groups will commit to personal responsibility for safety, act to preserve, enhance, and communicate safety concerns, strive to actively learn, adapt, and modify (both individual and organizational) behavior based on lessons learned from mistakes, and be rewarded in a manner consistent with these values.

Pidgeon (2001), Theoretical in context of driver behavior:

The set of assumptions, and their associated practices, which permit beliefs about danger and safety to be constructed.

Cooper (2000), Theoretical definition:

Safety culture is that observable degree of effort by which all organizational members direct their attention and actions toward improving safety on a daily basis.

Guldenmund (2000), Theoretical definition:

Those aspects of the organizational culture which will impact on attitudes and behavior related to increasing or decreasing risk.

Hale (2000), Theoretical definition:

The attitudes, beliefs, and perceptions shared by natural groups as defining norms and values, which determine how they act and react in relation to risks and risk control systems.

Minerals Council of Australia (1999), AU mineral industry:

Safety culture refers to the formal safety issues in the company, dealing with perceptions of management, supervision, management systems, and perceptions of the organization.

Eiff (1999), US aviation industry:

A safety culture exists within an organization where each individual employee, regardless of their position, assumes an active role in error prevention and that role is supported by the organization.

Cox & Flin (1998), Theoretical definition:

The product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety management.

Also used by Lee (1998), Wilpert (2000)

Mearns, Flin, Gordon, & Fleming (1998), UK offshore oil and gas industry:

The attitudes, values, norms, and beliefs which a particular group of people share with respect to risk and safety.

Helmreich & Merritt (1998), U.S. aviation industry:

A group of individuals guided in their behavior by their joint belief in the importance of safety, and their shared understanding that every member willingly upholds the group's safety norms and will support other members to the common end.

Appendix B. DOT Internal Safety Policy

The DOT Safety Council assembled a Safety Culture Working Group and assisted in the development of the DOT Safety Policy, reproduced on the following page. This policy includes specific encouragement for DOT to model the behaviors it is encouraging its regulated community to follow by adopting safety culture practices.



POLICY STATEMENT ON EMPLOYEE SAFETY 2015

In carrying out our transportation mission, safety is our highest priority. The operation of the Nation's transportation systems depends on a highly skilled and qualified workforce, which is our most valuable asset. Building on a United States Department of Transportation legacy of safety, we must continue to exemplify and promote an employee safety culture in which the values, actions, and behaviors of our employees reflect this priority.

Safety begins within our own Department, and the ability to carry out our statutory responsibilities is directly tied to the health and well-being of our workforce. The safety of our employees is paramount, so we will provide every employee with a safe working environment, and make sure they know how to respond to emergencies and avoid unnecessary risks. We also expect supervisors and managers to provide employees with an environment that freely promotes the open sharing and communication of workplace hazards.

Proactive teamwork is necessary in implementing this policy. It is the responsibility of all employees to conduct themselves in a way that does not pose unnecessary risks, or put themselves or others in danger. By fully embracing this policy, we will build and maintain a high-caliber workforce in which every employee has a safe working environment.

A handwritten signature in black ink, reading "Anthony R. Foxx", is positioned above the printed name.

Anthony R. Foxx

Appendix C. Bibliography on Safety Culture

A systematic search of research literature using the Transport Research International Documentation (TRID) database (available at <http://trid.trb.org/>), and the Scopus database (available at <http://www.scopus.com> by subscription) produced an extensive bibliography of safety culture and safety climate references.

TRID is an integrated database that combines the records from TRB's Transportation Research Information Services (TRIS) database and the OECD's Joint Transport Research Centre's International Transport Research Documentation (ITRD) database. TRID provides access to over 1 million records of transportation research worldwide.

Scopus is the largest abstract and citation database of research literature and quality Web sources covering over 21,000 academic journal titles from more than 5,000 publishers. Given the breadth of resources available in Scopus, the search was limited to journal collections in the Physical Sciences, Health Sciences, and Social Sciences and Humanities.

To develop the list below, the search terms “safety culture” and “safety climate” were used to identify relevant resources in the TRID and Scopus databases via a search on titles, abstracts, and key words from papers published between 1980 and February 2011.

Over 2,000 hits were generated using the search terms identified above. Each citation was carefully reviewed to determine if it was related to safety culture. All incomplete and inapplicable citations were removed from the results (e.g., citations with no author or date and irrelevant citations such as those referencing “cultures” in the food sciences and microbiology). The reference list below includes all those citations deemed appropriate and relevant for inclusion in a safety culture bibliography. The included citations are primarily from published papers in national and international academic research journals and published conference proceedings. Unpublished conference presentations, technical reports, and other unpublished web-based resources were not necessarily represented in the databases used in the literature search and were therefore excluded from this bibliography.

Adie, W., Cairns, J., Macdiarmid, J., Ross, J., Watt, S., Taylor, C. L., & Osman, L. M. (2005). Safety culture and accident risk control: Perceptions of professional divers and offshore workers. *Safety Science*, 43(2), 131-145. doi: 10.1016/j.ssci.2005.01.003.

Alaimo, B. (2005). Developing a total safety culture. *Chemical Health and Safety*, 12(2), 44-45. doi: 10.1016/j.chs.2005.01.011.

Alhemood, A. M., Genaidy, A. M., Shell, R., Gunn, M., & Shoaf, C. (2004). Towards a model of safety climate measurement. *International Journal of Occupational Safety and Ergonomics: JOSE*, 10(4), 303-318.

Ali, H., Abdullah, N. A. C., & Subramaniam, C. (2009). Management practice in safety culture and its influence on workplace injury: An industrial study in Malaysia. *Disaster Prevention and Management*, 18(5), 470-477. doi: 10.1108/09653560911003660.

Allen, J. A., Baran, B. E., & Scott, C. W. (2010). After-action reviews: A venue for the promotion of safety climate. *Accident Analysis and Prevention*, 42(2), 750-757. doi: 10.1016/j.aap.2009.11.004.

- Alper, S. J., & Karsh, B. T. (2009). A systematic review of safety violations in industry. *Accident Analysis and Prevention*, 41(4), 739-754. doi: 10.1016/j.aap.2009.03.013.
- Andel, T. (2005). Help maintenance establish a culture of safety. *Paperboard Packaging*, 90(11).
- Anderson, J. (1998). Can we have a 'safety culture' in the tunnelling business? *Tunnelling and Underground Space Technology*, 13(3), 213-215.
<http://158.132.155.107/posh97/private/culture/tunnelling-Anderson.pdf>.
- Antonsen, S. (2009a). The relationship between culture and safety on offshore supply vessels. *Safety Science*, 47(8), 1118-1128. doi: 10.1016/j.ssci.2008.12.006.
- Antonsen, S. (2009b). Safety culture and the issue of power. *Safety Science*, 47(2), 183-191. doi: 10.1016/j.ssci.2008.02.004.
- Antonsen, S. (2009c). Safety culture assessment: A mission impossible? *Journal of Contingencies and Crisis Management*, 17(4), 242-254. doi: 10.1111/j.1468-5973.2009.00585.x.
- Arah, O. A., & Klazinga, N. S. (2004). How safe is the safety paradigm? *Quality and Safety in Health Care*, 13(3), 226-232. doi: 10.1136/qshc.2003.007070.
- Arboleda, A., Morrow, P. C., Crum, M. R., & Shelley Li, M. C. (2003). Management practices as antecedents of safety culture within the trucking industry: Similarities and differences by hierarchical level. *Journal of Safety Research*, 34(2), 189-197.
- Arendsz, G., & Hudson, P. (2010). Safety culture in the construction industry. The reality beyond working safely. *Injury Prevention*, 16(Suppl 1), A269-A270.
- Ashcroft, D. M., Morecroft, C., Parker, D., & Noyce, P. R. (2005). Safety culture assessment in community pharmacy: Development, face validity, and feasibility of the Manchester Patient Safety Assessment Framework. *Quality and Safety in Health Care*, 14(6), 417-421. doi: 10.1136/qshc.2005.014332.
- Ashcroft, D. M., & Parker, D. (2009). Development of the pharmacy safety climate questionnaire: A principal components analysis. *Quality and Safety in Health Care*, 18(1), 28-31. doi: 10.1136/qshc.2006.022129.
- Atak, A., & Kingma, S. (2011). Safety culture in an aircraft maintenance organisation: A view from the inside. *Safety Science*, 49(2), 268-278. doi: 10.1016/j.ssci.2010.08.007.
- Audet, A. M. J., Raju, R., Jacobe, C. M., Schick, J. F., & Aviles, A. D. (2008). Transparency as a pillar of a quality and safety culture: The experience of the New York City Health and Hospitals Corporation. *Joint Commission Journal on Quality and Patient Safety*, 34(12), 707-712.
- Baba, V. V., Tourigny, L., Wang, X., & Liu, W. (2009). Proactive personality and work performance in China: The moderating effects of emotional exhaustion and perceived safety climate. *Canadian Journal of Administrative Sciences*, 26(1), 23-37. doi: 10.1002/cjas.90.
- Baek, J. B., Bae, S., Ham, B. H., & Singh, K. P. (2008). Safety climate practice in Korean manufacturing industry. *Journal of Hazardous Materials*, 159(1), 49-52. doi: 10.1016/j.jhazmat.2007.07.125.
- Bahar, G., & Morris, N. (2007). Is a strong safety culture taking root in our highway agencies? *Improving Traffic Safety Culture in the United States* (pp. 367-378). Washington, DC: AAA Foundation for Traffic Safety.

- Banks, T., Davey, J., & Brownlow, D. (2006). Driver education and safety climate in an emergency services fleet. *Journal of Occupational Health and Safety - Australia and New Zealand*, 22(4), 341-350.
- Baram, M., & Schoebel, M. (2007). Safety culture and behavioral change at the workplace. *Safety Science*, 45(6), 631-636. doi: 10.1016/j.ssci.2007.04.001.
- Barling, J., & Hutchinson, I. (2000). Commitment vs. control-based safety practices, safety reputation, and perceived safety climate. *Canadian Journal of Administrative Sciences*, 17(1), 76-84.
- Barling, J., Loughlin, C., & Kelloway, E. K. (2002). Development and test of a model linking safety-specific transformational leadership and occupational safety. *Journal of Applied Psychology*, 87(3), 488-496. doi: 10.1037//0021-9010.87.3.488.
- Barrett, J. H., Haslam, R. A., Lee, K. G., & Ellis, M. J. (2005). Assessing attitudes and beliefs using the stage of change paradigm - Case study of health and safety appraisal within a manufacturing company. *International Journal of Industrial Ergonomics*, 35(10), 871-887. doi: 10.1016/j.ergon.2004.12.004.
- Basen-Engquist, K., Hudmon, K. S., Tripp, M., & Chamberlain, R. (1998). Worksite health and safety climate: Scale development and effects of a health promotion intervention. *Preventive Medicine*, 27(1), 111-119. doi: 10.1006/pmed.1997.0253.
- Behn, L. D., Thompson, R. C., & Hilton, T. F. (1999). *Follow-up assessment of the Federal Aviation Administration's logistics center safety climate*. Oklahoma City, OK: Federal Aviation Administration, Civil Aeromedical Institute.
- Bentley, T., & Tappin, D. (2008). Qualitative evaluation of a framework for understanding the development of organisational safety culture. *Journal of Occupational Health and Safety - Australia and New Zealand*, 24(3), 213-220.
- Bentley, T., & Tappin, D. (2010). Incorporating organisational safety culture within ergonomics practice. *Ergonomics*, 53(10), 1167-1174. doi: 10.1080/00140139.2010.512981.
- Beus, J. M., Bergman, M. E., & Payne, S. C. (2010). The influence of organizational tenure on safety climate strength: A first look. *Accident Analysis and Prevention*, 42(5), 1431-1437. doi: 10.1016/j.aap.2009.06.002.
- Beus, J. M., Payne, S. C., Bergman, M. E., & Arthur, W. (2010). Safety climate and injuries: An examination of theoretical and empirical relationships. *Journal of Applied Psychology*, 95(4), 713-727. doi: 10.1037/a0019164.
- Beyea, S. C. (2004). Creating a just safety culture. *AORN Journal*, 79(2), 412-414.
- Biggs, H. C. (2009). An exploratory investigation into safety climate and work-related driving. *Work*, 32(1), 81-94. doi: 10.3233/wor-2009-0818.
- Bjerkkan, A. M. (2010). Health, environment, safety culture and climate - Analysing the relationships to occupational accidents. *Journal of Risk Research*, 13(4), 445-477. doi: 10.1080/13669870903346386.
- Björnskau, T., & Longva, F. (2010). Safety culture in bus transport compared to rail and air transport. *Proceedings of the Road Safety on Four Continents Conference*, 15, 1020-

1033. Blegen, M. A., Gearhart, S., O'Brien, R., Sehgal, N. L., & Alldredge, B. K. (2009). AHRQ's hospital survey on patient safety culture: Psychometric analyses. *Journal of Patient Safety*, 5(3), 139-144. doi: 10.1097/PTS.0b013e3181b53f6e.
- Blegen, M. A., Sehgal, N. L., Alldredge, B. K., Gearhart, S., Auerbach, A. A., & Wachter, R. M. (2010). Improving safety culture on adult medical units through multidisciplinary teamwork and communication interventions: The TOPS project. *Quality and Safety in Health Care*, 19(4), 346-350. doi: 10.1136/qshc.2008.031252.
- Bodur, S., & Filiz, E. (2010). Validity and reliability of Turkish version of "hospital survey on patient safety culture" and perception of patient safety in public hospitals in Turkey. *BMC Health Services Research*, 10. doi: 10.1186/1472-6963-10-28.
- Boin, A., & Schulman, P. (2008). Assessing NASA's safety culture: The limits and possibilities of high-reliability theory. *Public Administration Review*, 68(6), 1050-1062. doi: 10.1111/j.1540-6210.2008.00954.x.
- Bond, S. A., Tuckey, M. R., & Dollard, M. F. (2010). Psychosocial safety climate, workplace bullying, and symptoms of posttraumatic stress. *Organization Development Journal*, 28(1), 37-56.
- Booth, R. T., & Lee, T. R. (1995). Role of human factors and safety culture in safety management. Proceedings of the Institution of Mechanical Engineers, Part B: *Journal of Engineering Manufacture*, 209(B5), 393-400.
- Boucalt, R. (2002). Physiotherapy students' reflections on workplace safety culture. *Journal of Occupational Health and Safety - Australia and New Zealand*, 18(2), 137-143.
- Bowie, P. (2010). Leadership and implementing a safety culture. *Practice Nurse*, 40(10), 32-35. doi: 10.1136/qshc.2008.031062.
- Braithwaite, J., Westbrook, M., & Travaglia, J. (2008). Attitudes toward the large-scale implementation of an incident reporting system. *International Journal for Quality in Health Care*, 20(3), 184-191. doi: 10.1093/intqhc/mzn004.
- Brauer, R. L. (2007). Work group leaders create safety culture. *Safety and Health*, 176(5), 74.
- Brodie, P., & Taylor, R. H. (1994). Safety performance in nuclear electric. *Nuclear Engineer*, 35(1), 20-23.
- Brooks, B. (2005). Not drowning, waving! Safety management and occupational culture in an Australian commercial fishing port. *Safety Science*, 43(10), 795-814. doi: 10.1016/j.ssci.2005.02.007.
- Brooks, B. (2008). The natural selection of organizational and safety culture within a small to medium sized enterprise (SME). *Journal of Safety Research*, 39(1), 73-85. doi: 10.1016/j.jsr.2007.09.008.
- Brown, K. A., & Willis, P. G. (1998). Effects of operational hazards and safety culture: A steel industry study. *Proceedings of the 1997 Annual Meeting of the Decision Sciences Institute*, San Diego, CA.

- Brown, K. A., Willis, P. G., & Prussia, G. E. (2000). Predicting safe employee behavior in the steel industry: Development and test of a sociotechnical model. *Journal of Operations Management*, 18(4), 445-465. doi: 10.1016/s0272-6963(00)00033-4.
- Brown, R. L., & Holmes, H. (1986). The use of a factor-analytic procedure for assessing the validity of an employee safety climate model. *Accident Analysis and Prevention*, 18(6), 455-470.
- Brunette, M., Evia, C., Hoonakker, P., Kleiner, B., Haro, E., & Smith-Jackson, T. (2009). Advancing safety in construction: An organizational, systemic, and cultural approach. *Proceedings of the 53rd Human Factors and Ergonomics Society Annual Meeting*, San Antonio, TX.
- Bryner, M. (2006). First stop: 'Safety culture'. *Chemical Week*, 168(5).
- Bucknell, R. (2009). Management's role in creating a safety culture. *Proceedings of the 54th Annual Corporate Aviation Safety Seminar 2009*, Orlando, FL.
- Bumstead, A., & Boyce, T. E. (2004). Exploring the effects of cultural variables in the implementation of behavior-based safety in two organizations. *Journal of Organizational Behavior Management*, 24(4), 43-63. doi: 10.1300/J075v24n04_03.
- Burke, M. J., Chan-Serafin, S., Salvador, R., Smith, A., & Sarpy, S. A. (2008). The role of national culture and organizational climate in safety training effectiveness. *European Journal of Work and Organizational Psychology*, 17(1), 133-152. doi: 10.1080/13594320701307503.
- Burns, C., Mearns, K., & McGeorge, P. (2006). Explicit and implicit trust within safety culture. *Risk Analysis*, 26(5), 1139-1150. doi: 10.1111/j.1539-6924.2006.00821.x.
- Burt, C. D. B., Gladstone, K. L., & Grieve, K. R. (1998). Development of the considerate and responsible employee (CARE) scale. *Work and Stress*, 12(4), 362-369.
- Burt, C. D. B., Sepie, B., & McFadden, G. (2008). The development of a considerate and responsible safety attitude in work teams. *Safety Science*, 46(1), 79-91. doi: 10.1016/j.ssci.2006.10.005.
- Burtch, S., & Sajadi, A. (2006). Beyond a safety culture: Protecting people, processes and operations. *Hydrocarbon Asia*, 16(5).
- Callahan, M. A., & Ruchlin, H. (2003). The role of nursing leadership in establishing a safety culture. *Nursing Economics*, 21(6), 296-297.
- Cambridge, S. (1996). Measuring the development of road safety culture. *Proceedings of the Australian Road Research Board* (pp. 143-151).
- Cambridge, S., & Francis, T. (2000). Measuring road safety culture in relation to speed. *Proceedings of the Road Safety Research, Policing, and Education Conference* (pp. 364-370), Brisbane, Queensland, Australia.
- Campbell, E. G., Singer, S., Kitch, B. T., Iezzoni, L. I., & Meyer, G. S. (2010). Patient safety climate in hospitals: Act locally on variation across units. *Joint Commission Journal on Quality and Patient Safety*, 36(7), 319-326.
- Campbell Jr, D. A., & Thompson, M. (2007). Patient safety rounds: Description of an inexpensive but important strategy to improve the safety culture. *American Journal of Medical Quality*, 22(1), 26-33. doi: 10.1177/1062860606295619.
- Cantarella, A. F. (1990). Assessing a mill's safety climate. *PIMA*, 72(1), 43-44.

- Carey, J., Howarth, N., Kozenyuk, A., & Rekuts, P. (1996). Development of quality management systems in Russian nuclear power plants. *Nuclear Engineer*, 37(3), 74-77.
- Carney, B. T., West, P., Neily, J., Mills, P. D., & Bagian, J. P. (2010). The Effect of facility complexity on perceptions of safety climate in the operating room: Size matters. *American Journal of Medical Quality*, 25(6), 457-461. doi: 10.1177/1062860610368427.
- Carroll, J. S. (1998). Safety culture as an ongoing process: Culture surveys as opportunities for enquiry and change. *Work and Stress*, 12(3), 272-284.
- Carvalho, P. V. R., Dos Santos, I. L., & Vidal, M. C. R. (2005). Nuclear power plant shift supervisor's decision making during microincidents. *International Journal of Industrial Ergonomics*, 35(7), 619-644. doi: 10.1016/j.ergon.2005.01.010.
- Cavazza, N., & Serpe, A. (2009). Effects of safety climate on safety norm violations: exploring the mediating role of attitudinal ambivalence toward personal protective equipment. *Journal of Safety Research*, 40(4), 277-283. doi: 10.1016/j.jsr.2009.06.002.
- Chatterjee, A. (2002). Safer shipping demands a safety culture. *Indian Shipping*, 54(5/6), 25-30.
- Chen, Z. (1996). On personal safety culture. *Nuclear Power Engineering*, 17(4), 359-364.
- Cheyne, A., Cox, S., Oliver, A., & Tomás, J. M. (1998). Modelling safety climate in the prediction of levels of safety activity. *Work and Stress*, 12(3), 255-271.
- Cheyne, A., Oliver, A., Tomás, J. M., & Cox, S. (2002). The architecture of employee attitudes to safety in the manufacturing sector. *Personnel Review*, 31(5-6), 649-670.
- Cheyne, A., Tomás, J. M., Cox, S., & Oliver, A. (2003). Perceptions of safety climate at different employment levels. *Work and Stress*, 17(1), 21-37.
- Chikudate, N. (2009). If human errors are assumed as crimes in a safety culture: A lifeworld analysis of a rail crash. *Human Relations*, 62(9), 1267-1287. doi: 10.1177/0018726709335543.
- Chinda, T., & Mohamed, S. (2008). Structural equation model of construction safety culture. *Engineering, Construction and Architectural Management*, 15(2), 114-131. doi: 10.1108/09699980810852655.
- Choudhry, R. M., & Fang, D. (2008). Why operatives engage in unsafe work behavior: Investigating factors on construction sites. *Safety Science*, 46(4), 566-584. doi: 10.1016/j.ssci.2007.06.027.
- Choudhry, R. M., Fang, D., & Lingard, H. (2009). Measuring safety climate of a construction company. *Journal of Construction Engineering and Management*, 135(9), 890-899. doi: 10.1061/(asce)co.1943-7862.0000063.
- Choudhry, R. M., Fang, D., & Mohamed, S. (2007a). Developing a model of construction safety culture. *Journal of Management in Engineering*, 23(4), 207-212. doi: 10.1061/(asce)0742-597x(2007)23:4(207).
- Choudhry, R. M., Fang, D., & Mohamed, S. (2007b). The nature of safety culture: A survey of the state-of-the-art. *Safety Science*, 45(10), 993-1012. doi: 10.1016/j.ssci.2006.09.003.
- Choudhry, R. M., Fang, D., & Mohamed, S. (2009). Closure to "developing a model of construction safety culture" by Rafiq M. Choudhry, Dongping Fang, and Sherif Mohamed.

Journal of Management in Engineering, 25(1), 45-47. doi: 10.1061/(asce)0742-597x(2009)25:1(45).

Christian, M. S., Bradley, J. C., Wallace, J. C., & Burke, M. J. (2009). Workplace safety: A meta-analysis of the roles of person and situation factors. *Journal of Applied Psychology*, 94(5), 1103-1127. doi: 10.1037/a0016172.

Ciavarella, A. P. (2007). Assessing safety climate and organizational risk. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, Baltimore, MD. doi: 10.1177/154193120705102007.

Cigularov, K. P., Chen, P. Y., & Rosecrance, J. (2010). The effects of error management climate and safety communication on safety: A multi-level study. *Accident Analysis and Prevention*, 42(5), 1498-1506. doi: 10.1016/j.aap.2010.01.003.

Cigularov, K. P., Chen, P. Y., & Stallones, L. (2009). Error communication in young farm workers: Its relationship to safety climate and safety locus of control. *Work and Stress*, 23(4), 297-312. doi: 10.1080/02678370903416679.

Clancy, C. M. (2009). New patient safety culture survey helps medical offices assess awareness. *American Journal of Medical Quality*, 24(5), 441-443. doi: 10.1177/1062860609343055.

Clarke, C. (2004). Developing a health and safety culture in the practice. *In Practice*, 26(5), 276-278.

Clarke, S. (1998a). Organizational factors affecting the incident reporting of train drivers. *Work and Stress*, 12(1), 6-16.

Clarke, S. (1998b). Safety culture on the UK railway network. *Work and Stress*, 12(3), 285-292.

Clarke, S. (1999). Perceptions of organizational safety: Implications for the development of safety culture. *Journal of Organizational Behavior*, 20(2), 185-198.

Clarke, S. (2003). The contemporary workforce implications for organisational safety culture. *Personnel Review*, 32(1-2), 40-57.

Clarke, S. (2006a). Contrasting perceptual, attitudinal and dispositional approaches to accident involvement in the workplace. *Safety Science*, 44(6), 537-550. doi: 10.1016/j.ssci.2005.12.001.

Clarke, S. (2006b). The relationship between safety climate and safety performance: A meta-analytic review. *Journal of Occupational Health Psychology*, 11(4), 315-327. doi: 10.1037/1076-8998.11.4.315.

Clarke, S. (2006c). Safety climate in an automobile manufacturing plant: The effects of work environment, job communication and safety attitudes on accidents and unsafe behaviour. *Personnel Review*, 35(4), 413-430. doi: 10.1108/00483480610670580.

Clarke, S. (2010). An integrative model of safety climate: Linking psychological climate and work attitudes to individual safety outcomes using meta-analysis. *Journal of Occupational and Organizational Psychology*, 83(3), 553-578. doi: 10.1348/096317909x452122.

Clarke, S., & Flitcroft, C. (2008). Effects of transformational leadership on perceived safety climate: A longitudinal study. *Journal of Occupational Health and Safety - Australia and New Zealand*, 24(3), 237-247.

- Clarke, S., & Ward, K. (2006). The role of leader influence tactics and safety climate in engaging employees' safety participation. *Risk Analysis*, 26(5), 1175-1185. doi: 10.1111/j.1539-6924.2006.00824.x.
- Clarke, S. G. (2000). Safety culture: Under-specified and overrated? *International Journal of Management Reviews*, 2(1), 65-90.
- Colla, J. B., Bracken, A. C., Kinney, L. M., & Weeks, W. B. (2005). Measuring patient safety climate: A review of surveys. *Quality and Safety in Health Care*, 14(5), 364-366. doi: 10.1136/qshc.2005.014217.
- Collinson, D. L. (1999). 'Surviving the rigs': Safety and surveillance on North Sea oil installations. *Organization Studies*, 20(4), 579-600.
- Colopinto, K. (2010). A comparison of the cultural values of Sweden to a patient safety culture. *AORN Journal*, 92(2), 224-227. doi: 10.1016/j.aorn.2010.04.013.
- Conchie, S. M., Donald, I. J., & Taylor, P. J. (2006). Trust: Missing piece(s) in the safety puzzle. *Risk Analysis*, 26(5), 1097-1104. doi: 10.1111/j.1539-6924.2006.00818.x.
- Cooper, M. D. (2000). Towards a model of safety culture. *Safety Science*, 36(2), 111-136. doi: 10.1016/s0925-7535(00)00035-7.
- Cooper, M. D., & Phillips, R. A. (2004). Exploratory analysis of the safety climate and safety behavior relationship. *Journal of Safety Research*, 35(5), 497-512. doi: 10.1016/j.jsr.2004.08.004.
- Coplen, M. (2003). *The impact of safety rules revisions on safety culture, incident rates, and liability claims in the U.S. railroad industry: A summary of lessons-learned*. Washington, DC: Federal Railroad Administration.
- Coplen, M., Ranney, J., & Zuschlag, M. (2009). *Improved safety culture and labor-management relations attributed to changing at-risk behavior process at Union Pacific*. Washington, DC: Federal Railroad Administration.
- Coplen, M. K. (1999). *Compliance with railroad operating roles and corporate culture influences: Results of a focus group and structured interviews* (No. DOT-VNTSC-FRA-97-07). Washington, DC: Federal Railroad Administration.
- Cox, S., & Flin, R. (1998). Safety culture: philosopher's stone or man of straw? *Work and Stress*, 12(3), 189-201.
- Cox, S., Jones, B., & Collinson, D. (2006). Trust relations in high-reliability organizations. *Risk Analysis*, 26(5), 1123-1138. doi: 10.1111/j.1539-6924.2006.00820.x.
- Cox, S., Tomás, J. M., Cheyne, A., & Oliver, A. (1998). Safety culture: the prediction of commitment to safety in the manufacturing industry. *British Journal of Management*, 9(SPEC. ISS.).
- Cox, S. J., & Cheyne, A. J. T. (2000). Assessing safety culture in offshore environments. *Safety Science*, 34(1-3), 111-129. doi: 10.1016/s0925-7535(00)00009-6.
- Coyle, I. R., Sleeman, S. D., & Adams, N. (1995). Safety climate. *Journal of Safety Research*, 26(4), 247-254. doi: 10.1016/0022-4375(95)00020-q.

- Currie, L., & Watterson, L. (2010). Measuring the safety climate in NHS organisations. *Nursing Standard* (Royal College of Nursing (Great Britain): 1987), 24(24), 35-38.
- Dalling, I. (1997). Understanding and assessing safety culture. *Journal of Radiological Protection*, 17(4), 261-274. doi: 10.1088/0952-4746/17/4/005.
- Darbra, R. M., Crawford, J. F. E., Haley, C. W., & Morrison, R. J. (2007). Safety culture and hazard risk perception of Australian and New Zealand maritime pilots. *Marine Policy*, 31(6), 736-745. doi: 10.1016/j.marpol.2007.02.004.
- De Wet, C., Spence, W., Mash, R., Johnson, P., & Bowie, P. (2010). The development and psychometric evaluation of a safety climate measure for primary care. *Quality and Safety in Health Care*, 19(6), 578-584. doi: 10.1136/qshc.2008.031062.
- Dedobbeleer, N., & Béland, F. (1991). A safety climate measure for construction sites. *Journal of Safety Research*, 22(2), 97-103. doi: 10.1016/0022-4375(91)90017-p.
- Deilkås, E., & Hofoss, D. (2010). Patient safety culture lives in departments and wards: Multilevel partitioning of variance in patient safety culture. *BMC Health Services Research*, 10. doi: 10.1186/1472-6963-10-85.
- Deilkås, E. T., & Hofoss, D. (2008). Psychometric properties of the Norwegian version of the Safety Attitudes Questionnaire (SAQ), Generic version (Short Form 2006). *BMC Health Services Research*, 8. doi: 10.1186/1472-6963-8-191.
- DeJoy, D. M., Della, L. J., Vandenberg, R. J., & Wilson, M. G. (2010). Making work safer: testing a model of social exchange and safety management. *Journal of Safety Research*, 41(2), 163-171.
- DeJoy, D. M., Schaffer, B. S., Wilson, M. G., Vandenberg, R. J., & Butts, M. M. (2004). Creating safer workplaces: Assessing the determinants and role of safety climate. *Journal of Safety Research*, 35(1), 81-90. doi: 10.1016/j.jsr.2003.09.018.
- Depasquale, J. P., & Geller, E. S. (1999). Critical success factors for behavior-based safety: A study of twenty industry-wide applications. *Journal of Safety Research*, 30(4), 237-249.
- Desai, V. M., Roberts, K. H., & Ciavarella, A. P. (2006). The relationship between safety climate and recent accidents: Behavioral learning and cognitive attributions. *Human Factors*, 48(4), 639-650. doi: 10.1518/001872006779166361.
- Díaz-Cabrera, D., Hernández-Fernaund, E., & Isla-Díaz, R. (2007). An evaluation of a new instrument to measure organisational safety culture values and practices. *Accident Analysis and Prevention*, 39(6), 1202-1211. doi: 10.1016/j.aap.2007.03.005.
- Díaz, R. I., & Cabrera, D. D. (1997). Safety climate and attitude as evaluation measures of organizational safety. *Accident Analysis and Prevention*, 29(5), 643-650.
- Didla, S., Mearns, K., & Flin, R. (2009). Safety citizenship behaviour: A proactive approach to risk management. *Journal of Risk Research*, 12(3-4), 475-483. doi: 10.1080/13669870903041433.
- Dittrick, P. (2007). CSB's final report cites 'broken safety culture' at BP. *Oil and Gas Journal*, 105(12), 25-27.

- Dittrick, P. (2008). Operators, contractors agree safety is priority. *Oil and Gas Journal*, 106(6), 33-34.
- DiTullio, B. (2010). On building teams that support a patient safety culture. *AORN Journal*, 92(6). doi: 10.1016/j.aorn.2010.10.005.
- Dodsworth, M., Connelly, K. E., Ellett, C. J., & Sharratt, P. (2007). Organizational climate metrics as safety, health and environment performance indicators and an aid to relative risk ranking within industry. *Process Safety and Environmental Protection*, 85(1 B), 59-69. doi: 10.1205/psep06006.
- Dollard, M. F., & Bakker, A. B. (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology*, 83(3), 579-599. doi: 10.1348/096317909x470690.
- Donald, I., & Canter, D. (1994). Employee attitudes and safety in the chemical industry. *Journal of Loss Prevention in the Process Industries*, 7(3), 203-208.
- Dotts, K. (2006). Building a safety culture. *Textile Rental*, 90(1).
- Duijm, N. J., & Goossens, L. (2006). Quantifying the influence of safety management on the reliability of safety barriers. *Journal of Hazardous Materials*, 130(3 SPEC. ISS.), 284-292. doi: 10.1016/j.jhazmat.2005.07.014.
- Dula, C. S., & Geller, E. S. (2007). Creating a total safety traffic culture. *Improving Traffic Safety Culture in the United States* (pp. 177-199), Washington, DC: AAA Foundation for Traffic Safety.
- Dulaimi, M., & Chin, K. Y. K. (2009). Management perspective of the balanced scorecard to measure safety culture in construction projects in Singapore. *International Journal of Construction Management*, 9(1), 13-25.
- Eby, D. W., & Bingham, C. R. (2007). Customized driver feedback and traffic-safety culture. *Improving Traffic Safety Culture in the United States* (pp. 227-240), Washington, DC: AAA Foundation for Traffic Safety.
- Edkins, G. D. (1998). The INDICATE safety program: Evaluation of a method to proactively improve airline safety performance. *Safety Science*, 30(3), 275-295. doi: 10.1016/s0925-7535(98)00049-6.
- Edkins, G. D., & Pollock, C. M. (1997). The influence of sustained attention on railway accidents. *Accident Analysis and Prevention*, 29(4 SPEC. ISS.), 533-539.
- Edwards, B., Olsen, A. K., Whalen, M. D., & Gold, M. J. (2007). Guiding principles of safety as a basis for developing a pharmaceutical safety culture. *Current Drug Safety*, 2(2), 135-139. doi: 10.2174/157488607780598331.
- Edwards, M., & Jabs, L. B. (2009). When safety culture backfires: Unintended consequences of half-shared governance in a high tech workplace. *Social Science Journal*, 46(4), 707-723. doi: 10.1016/j.soscij.2009.05.007.
- Einarsson, S., & Brynjarsson, B. (2008). Improving human factors, incident and accident reporting and safety management systems in the Seveso industry. *Journal of Loss Prevention in the Process Industries*, 21(5), 550-554. doi: 10.1016/j.jlp.2008.05.004.

- Ek, Å., & Akselsson, R. (2005). Safety culture on board six Swedish passenger ships. *Maritime Policy and Management*, 32(2), 159-176. doi: 10.1080/03088830500097455.
- Ek, Å., & Akselsson, R. (2007). Aviation on the ground: safety culture in a ground handling company. *International Journal of Aviation Psychology*, 17(1), 59-76. doi: 10.1207/s15327108ijap1701_4.
- Ek, Å., Akselsson, R., Arvidsson, M., & Johansson, C. R. (2007). Safety culture in Swedish air traffic control. *Safety Science*, 45(7), 791-811. doi: 10.1016/j.ssci.2006.08.017.
- Evans, A., & Parker, J. (2008). Beyond safety management systems. *Aero Safety*, 3, 12-17.
- Evans, B., Glendon, A. I., & Creed, P. A. (2007). Development and initial validation of an Aviation Safety Climate Scale. *Journal of Safety Research*, 38(6), 675-682. doi: 10.1016/j.jsr.2007.09.005.
- Evans, D. D., Michael, J. H., Wiedenbeck, J. K., & Ray, C. D. (2005). Relationships between organizational climates and safety-related events at four wood manufacturers. *Forest Products Journal*, 55(6), 23-28.
- Faanu, A., Schandorf, C., Darko, E. O., Boadu, M., Emi-Reynolds, G., Awudu, A. R., Kpeglo, D. O. (2010). Inter-comparison of safety culture within selected practices in Ghana utilising ionising radiation. *Radiation Protection Dosimetry*, 142(2-4), 88-91. doi: 10.1093/rpd/ncq192.
- Falconer, B. (2006). Organisational performance and culture in aviation: exploring and recasting existing theoretical approaches. *Human Factors and Aerospace Safety*, 6(3), 217-236.
- Fang, D., Chen, Y., & Wong, L. (2006). Safety climate in construction industry: A case study in Hong Kong. *Journal of Construction Engineering and Management*, 132(6), 573-584. doi: 10.1061/(asce)0733-9364(2006)132:6(573).
- Farrington-Darby, T., Pickup, L., & Wilson, J. R. (2005a). Safety culture in railway maintenance. *Safety Science*, 43(1), 39-60. doi: 10.1016/j.ssci.2004.09.003.
- Fei, K., & Vlasses, F. R. (2008). Creating a safety culture through the application of reliability science. *Journal for Healthcare Quality*, 30(6), 37-43.
- Ferjencik, M. (2010). Root cause analysis of an old accident in an explosives production plant. *Safety Science*, 48(10), 1530-1544. doi: 10.1016/j.ssci.2010.06.003.
- Ferjencik, M., & Jalovy, Z. (2010). What can be learned from incidents in chemistry labs. *Journal of Loss Prevention in the Process Industries*, 23(5), 630-636. doi: 10.1016/j.jlp.2010.06.009.
- Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2007a). Safety culture: Analysis of the causal relationships between its key dimensions. *Journal of Safety Research*, 38(6), 627-641. doi: 10.1016/j.jsr.2007.09.001.
- Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2007b). Safety management system: Development and validation of a multidimensional scale. *Journal of Loss Prevention in the Process Industries*, 20(1), 52-68. doi: 10.1016/j.jlp.2006.10.002.
- Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2009). Relation between occupational safety management and firm performance. *Safety Science*, 47(7), 980-991. doi: 10.1016/j.ssci.2008.10.022.

- Filho, A. P. G., Andrade, J. C. S., & Marinho, M. M. D. O. (2010). A safety culture maturity model for petrochemical companies in Brazil. *Safety Science*, 48(5), 615-624. doi: 10.1016/j.ssci.2010.01.012.
- Findley, M., Smith, S., Gorski, J., & O'Neil, M. (2007). Safety climate differences among job positions in a nuclear decommissioning and demolition industry: Employees' self-reported safety attitudes and perceptions. *Safety Science*, 45(8), 875-889. doi: 10.1016/j.ssci.2006.08.027.
- Fitzgerald, M. K. (2005). Safety performance improvement through culture change. *Process Safety and Environmental Protection*, 83(4 B), 324-330. doi: 10.1205/psep.04381.
- Fleming, M., Flin, R., Mearns, K., & Gordon, R. (1998). Risk perceptions of offshore workers on UK oil and gas platforms. *Risk Analysis*, 18(1), 103-110. doi: 10.1111/j.1539-6924.1998.tb00920.x
- Fleming, M., & Wentzell, N. (2008). Patient safety culture improvement tool: development and guidelines for use. *Healthcare Quarterly* (Toronto, Ont.), 11(3 Spec No.), 10-15.
- Flin, R. (2003). "Danger-men at work": Management influence on safety. *Human Factors and Ergonomics In Manufacturing*, 13(4), 261-268. doi: 10.1002/hfm.10042.
- Flin, R. (2007). Measuring safety culture in healthcare: A case for accurate diagnosis. *Safety Science*, 45(6), 653-667. doi: 10.1016/j.ssci.2007.04.003.
- Flin, R., Burns, C., Mearns, K., Yule, S., & Robertson, E. M. (2006). Measuring safety climate in health care. *Quality and Safety in Health Care*, 15(2), 109-115. doi: 10.1136/qshc.2005.014761.
- Flin, R., Mearns, K., O'Connor, P., & Bryden, R. (2000). Measuring safety climate: Identifying the common features. *Safety Science*, 34(1-3), 177-192. doi: 10.1016/s0925-7535(00)00012-6.
- Flin, R., O'Dea, A., & Yule, S. (2002). Leadership behaviors for maximizing safety. *Journal of Petroleum Technology*, 54(11).
- Fogarty, G. J., & Shaw, A. (2010). Safety climate and the theory of planned behavior: Towards the prediction of unsafe behavior. *Accident Analysis and Prevention*, 42(5), 1455-1459. doi: 10.1016/j.aap.2009.08.008.
- Ford, M. T., & Tetrick, L. E. (2008). Safety motivation and human resource management in North America. *International Journal of Human Resource Management*, 19(8), 1472-1485. doi: 10.1080/09585190802200231.
- Fox, J. (1993). Decision-support systems as safety-critical components: Towards a safety culture for medical informatics. *Methods of Information in Medicine*, 32(5), 345-348.
- Frank, W. L. (2007). Process safety culture in the CCPS risk based process safety model. *Process Safety Progress*, 26(3), 203-208. doi: 10.1002/prs.10201.
- Frosdick, S. (1993). "Safety cultures" in British stadia and sporting venues: Understanding cross-organizational collaboration for managing public safety in British sports grounds. *Disaster Prevention and Management*, 4(4), 13-21.
- Fukuda, T., Seki, Y., & Takagi, M. (2010). Implementing traffic-safety community-based activity for development of traffic safety culture in Vietnam. *Proceedings of the Road Safety on Four Continents Conference*, 15, 734-754.

- Fullarton, C., & Stokes, M. (2007). The utility of a workplace injury instrument in prediction of workplace injury. *Accident Analysis and Prevention*, 39(1), 28-37. doi: 10.1016/j.aap.2006.05.015.
- Fuller, J. (2007). Create a safety culture. *Air Beat*, 42-45.
- Fung, I. W. H., Tam, C. M., Tung, K. C. F., & Man, A. S. K. (2005). Safety cultural divergences among management, supervisory and worker groups in Hong Kong construction industry. *International Journal of Project Management*, 23(7), 504-512. doi: 10.1016/j.ijproman.2005.03.009.
- Gaba, D. M., Singer, S. J., & Rosen, A. K. (2007). Safety culture: Is the "unit" the right "unit of analysis?" *Critical Care Medicine*, 35(1), 314-316. doi: 10.1097/01.ccm.0000251492.27808.b7.
- Gaba, D. M., Singer, S. J., Sinaiko, A. D., Bowen, J. D., & Ciavarelli, A. R. (2003). Differences in safety climate between hospital personnel and naval aviators. *Human Factors*, 45(2), 173-185.
- Galvin, J. (2006). Health and safety in Australia's mines. *Materials World*, 14(4), 22-23.
- Galvin, J. M. (2005). Occupational health and safety acts - Performance and prosecution in the Australian minerals industry. *Transactions of the Institutions of Mining and Metallurgy, Section A: Mining Technology*, 114(4). doi: 10.1179/037178405x74086.
- Gamst, F. C. (2006). U.S. railroad history relating to fatigue, safety culture, and technology. *Transportation research circular*, (E-C085), 13-49.
- Garcia, A. M., Boix, P., & Canosa, C. (2004). Why do workers behave unsafely at work? Determinants of safe work practices in industrial workers. *Occupational and Environmental Medicine*, 61(3), 239-246.
- Gaygisiz, E. (2010). Cultural values and governance quality as correlates of road traffic fatalities: A nation level analysis. *Accident Analysis & Prevention*, 42(6), 1894-1901.
- Geller, E. S., Roberts, D. S., & Gilmore, M. R. (1996). Predicting propensity to actively care for occupational safety. *Journal of Safety Research*, 27(1), 1-8. doi: 10.1016/0022-4375(95)00024-0.
- George, F. (2007). The safety culture and practicality of SOPs. *Business and Commercial Aviation*, 101(3), 138-144.
- Gershon, R. R. M., Karkashian, C. D., Grosch, J. W., Murphy, L. R., Escamilla-Cejudo, A., Flanagan, P. A., Martin, L. (2000). Hospital safety climate and its relationship with safe work practices and workplace exposure incidents. *American Journal of Infection Control*, 28(3), 211-221.
- Ghosh, A. (2007). Enhance safety culture in your manufacturing sites. *Hydrocarbon Processing*, 86(10), 19.
- Gibbons, A. M., Von Thaden, T. L., & Wiegmann, D. A. (2006). Development and initial validation of a survey for assessing safety culture within commercial flight operations. *International Journal of Aviation Psychology*, 16(2), 215-238. doi: 10.1207/s15327108ijap1602_6.
- Gill, G. K., & Shergill, G. S. (2004a). Perceptions of safety management and safety culture in the aviation industry in New Zealand. *Journal of Air Transport Management*, 10(4), 233-239. doi: 10.1016/j.jairtraman.2004.02.002.

- Gillen, M., Baltz, D., Gassel, M., Kirsch, L., & Vaccaro, D. (2002). Perceived safety climate, job demands, and coworker support among union and nonunion injured construction workers. *Journal of Safety Research*, 33(1).
- Ginsburg, L., Gilin, D., Tregunno, D., Norton, P. G., Flemons, W., & Fleming, M. (2009). Advancing measurement of patient safety culture. *Health Services Research*, 44(1), 205-224. doi: 10.1111/j.1475-6773.2008.00908.x.
- Ginsburg, L., Norton, P. G., Casebeer, A., & Lewis, S. (2005). An educational intervention to enhance nurse leaders' perceptions of patient safety culture. *Health Services Research*, 40(4), 997-1020. doi: 10.1111/j.1475-6773.2005.00401.x.
- Ginsburg, L. R., Chuang, Y. T., Blair Berta, W., Norton, P. G., Ng, P., Tregunno, D., & Richardson, J. (2010). The relationship between organizational leadership for safety and learning from patient safety events. *Health Services Research*, 45(3), 607-632. doi: 10.1111/j.1475-6773.2010.01102.x.
- Gittleman, J. L., Gardner, P. C., Haile, E., Sampson, J. M., Cigularov, K. P., Ermann, E. D., Chen, P. Y. (2010). [Case Study] CityCenter and Cosmopolitan Construction Projects, Las Vegas, Nevada: Lessons learned from the use of multiple sources and mixed methods in a safety needs assessment. *Journal of Safety Research*, 41(3), 263-281. doi: 10.1016/j.jsr.2010.04.004.
- Glendon, A. I., & Litherland, D. K. (2001). Safety climate factors, group differences and safety behaviour in road construction. *Safety Science*, 39(3), 157-188. doi: 10.1016/s0925-7535(01)00006-6.
- Glendon, A. I., & Stanton, N. A. (2000). Perspectives on safety culture. *Safety Science*, 34(1-3), 193-214. doi: 10.1016/s0925-7535(00)00013-8.
- Glendon, I. (2008a). Safety culture and safety climate: How far have we come and where could we be heading? *Journal of Occupational Health and Safety - Australia and New Zealand*, 24(3), 249-271.
- Glendon, I. (2008b). Safety culture: Snapshot of a developing concept. *Journal of Occupational Health and Safety - Australia and New Zealand*, 24(3), 179-189.
- Glendon, I., & Booth, R. (1995). Measuring management performance in occupational health and safety. *Journal of Occupational Health and Safety - Australia and New Zealand*, 11(6), 559-565.
- Gluck, P. A. (2010). Physician leadership: Essential in creating a culture of safety. *Clinical Obstetrics and Gynecology*, 53(3), 473-481. doi: 10.1097/GRF.0b013e3181ec1476.
- Goble, W. (2009). Safety culture for operations and maintenance. *Hydrocarbon Processing*, 88(7).
- Goble, W. M. (2001). A safety culture. *Hydrocarbon Processing*, 80(7), 93.
- Goh, Y. M., Brown, H., & Spickett, J. (2010). Applying systems thinking concepts in the analysis of major incidents and safety culture. *Safety Science*, 48(3), 302-309. doi: 10.1016/j.ssci.2009.11.006.

- Goldenhar, L. M., Williams, L. J., & Swanson, N. G. (2003). Modelling relationships between job stressors and injury and near-miss outcomes for construction labourers. *Work and Stress*, 17(3), 218-240. doi: 10.1080/02678370310001616144.
- Goodman, G. R. (2003). A fragmented patient safety concept: the structure and culture of safety management in healthcare. *Hospital Topics*, 81(2), 22-29.
- Gordon, R., Kirwan, B., & Perrin, E. (2007). Measuring safety culture in a research and development centre: A comparison of two methods in the air traffic management domain. *Safety Science*, 45(6), 669-695. doi: 10.1016/j.ssci.2007.04.004.
- Gore, D. C., Powell, J. M., Baer, J. G., Sexton, K. H., Richardson, C., Marshall, D. R., Townsend Jr, C. M. (2010). Crew resource management improved perception of patient safety in the operating room. *American Journal of Medical Quality*, 25(1), 60-63. doi: 10.1177/1062860609351236.
- Grabowski, M., Ayyalasomayajula, P., Merrick, J., & McCafferty, D. (2007). Accident precursors and safety nets: Leading indicators of tanker operations safety. *Maritime Policy and Management*, 34(5), 405-425. doi: 10.1080/03088830701585084
- Grabowski, M., You, Z., Song, H., Wang, H., & Merrick, J. R. W. (2010). Sailing on Friday: Developing the link between safety culture and performance in safety-critical systems. *IEEE Transactions on Systems, Man, and Cybernetics Part A: Systems and Humans*, 40(2), 263-284. doi: 10.1109/tsmca.2009.2035300.
- Grabowski, M. R., Ayyalasomayajula, P., Haiyuan, W., Merrick, J. R., McCafferty, D., Meador, M. L., & Kinney, C. (2007). Accident precursors and safety nets: Initial results from the leading indicators of safety project. *Transactions - Society of Naval Architects and Marine Engineers*, 115, 288-295.
- Griffin, M. A., & Neal, A. (2000). Perceptions of safety at work: A framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, 5(3), 347-358.
- Grobe, J. (2010). Creating and maintaining public confidence. *Nuclear Plant Journal*, 28(5), 26-28.
- Grosch, J. W., Gershon, R. R. M., Murphy, L. R., & DeJoy, D. M. (1999). Safety climate dimensions associated with occupational exposure to blood-borne pathogens in nurses. *American Journal of Industrial Medicine*, 36(SUPPL. 1), 122-124.
- Grote, G. (2007). Understanding and assessing safety culture through the lens of organizational management of uncertainty. *Safety Science*, 45(6), 637-652. doi: 10.1016/j.ssci.2007.04.002.
- Grote, G. (2008). Diagnosis of safety culture: A replication and extension towards assessing "safe" organizational change processes. *Safety Science*, 46(3), 450-460. doi: 10.1016/j.ssci.2007.05.005.
- Grote, G., & Künzler, C. (1996). Safety culture and its reflections in job and organizational design: Total Safety Management. *International Journal of Environment and Pollution*, 6(4-6), 618-631.
- Grote, G., & Künzler, C. (2000). Diagnosis of safety culture in safety management audits. *Safety Science*, 34(1-3), 131-150. doi: 10.1016/s0925-7535(00)00010-2

- Guldenmund, F. (2008). Safety culture in a service company. *Journal of Occupational Health and Safety - Australia and New Zealand*, 24(3), 221-235.
- Guldenmund, F. W. (2000). The nature of safety culture: A review of theory and research. *Safety Science*, 34(1-3), 215-257. doi: 10.1016/s0925-7535(00)00014-x.
- Guldenmund, F. W. (2007). The use of questionnaires in safety culture research - an evaluation. *Safety Science*, 45(6), 723-743. doi: 10.1016/j.ssci.2007.04.006.
- Guldenmund, F. W. (2010). (Mis)understanding safety culture and its relationship to safety management. *Risk Analysis*, 30(10), 1466-1480. doi: 10.1111/j.1539-6924.2010.01452.x.
- Gunnar, Y., & Olsen, S. (2008). *Safety culture in the Norwegian Public Roads Administration southern region results from focus group interviews*. Oslo, Norway: Norwegian Institute of Transport Ergonomics.
- Gwynne, P. (2003). NASA chastised for safety complacency. *Physics World*, 16(10), 8.
- Gyekye, S. A. (2005). Workers' perceptions of workplace safety and job satisfaction. *International Journal of Occupational Safety and Ergonomics: JOSE*, 11(3), 291-302.
- Gyekye, S. A., & Salminen, S. (2005). Are "good soldiers" safety conscious? An examination of the relationship between organizational citizenship behaviors and perception of workplace safety. *Social Behavior and Personality*, 33(8), 805-820. doi: 10.2224/sbp.2005.33.8.805.
- Gyekye, S. A., & Salminen, S. (2007). Workplace safety perceptions and perceived organizational support: do supportive perceptions influence safety perceptions? *International Journal of Occupational Safety and Ergonomics: JOSE*, 13(2), 189-200.
- Gyekye, S. A., & Salminen, S. (2009). Educational status and organizational safety climate: Does educational attainment influence workers' perceptions of workplace safety? *Safety Science*, 47(1), 20-28. doi: 10.1016/j.ssci.2007.12.007.
- Gyekye, S. A., & Salminen, S. (2010). Organizational safety climate and work experience. *International Journal of Occupational Safety and Ergonomics*, 16(4), 431-443.
- Haber, S. B., & Shurberg, D. A. (2002). Assessing safety culture in organizational context. *Proceedings of the 7th Institute of Electrical and Electronics Engineers Conference on Human Factors and Power Plants*, Scottsdale, AZ.
- Haber, S. B., & Shurberg, D. A. (2007). Challenges of creating and maintaining a proactive safety culture within a highly regulated environment. *Transactions of the American Nuclear Society*, 96, 308-309.
- Habibi, E., & Fereidan, M. (2009). Safety cultural assessment among management, supervisory and worker groups in a tar refinery plant. *Journal of Research in Health Sciences*, 9(1), 30-36.
- Hahn, S. E., & Murphy, L. R. (2008). A short scale for measuring safety climate. *Safety Science*, 46(7), 1047-1066. doi: 10.1016/j.ssci.2007.06.002.
- Haines, T., Stringer, B., & Duku, E. (2007). Workplace safety climate and incivility among British Columbia and Ontario operating room nurses: A preliminary investigation. *Canadian Journal of Community Mental Health*, 26(2), 141-152.

- Hale, A. R., Guldenmund, F. W., van Loenhout, P. L. C. H., & Oh, J. I. H. (2010). Evaluating safety management and culture interventions to improve safety: Effective intervention strategies. *Safety Science*, 48(8), 1026-1035. doi: 10.1016/j.ssci.2009.05.006.
- Hale, A. R., Heming, B. H. J., Carthey, J., & Kirwan, B. (1997). Modelling of safety management systems. *Safety Science*, 26(1-2), 121-140. doi: 10.1016/s0925-7535(97)00034-9.
- Hale, A. R., Waterbeemd, H. A. V. D., Potter, R., Heming, B. H., Swuste, P. H. J. J., & Guldenmund, F. W. (2004). Developing an effective diagnosis for safety improvement in steelworks. *Occupational Ergonomics*, 4(4), 229-240.
- Hall, G. B., Dollard, M. F., & Coward, J. (2010). Psychosocial safety climate: Development of the PSC-12. *International Journal of Stress Management*, 17(4), 353-383. doi: 10.1037/a0021320.
- Hall, J. E. (2004). Aviation safety in a congested environment. *Issues in Aviation Law and Policy*, 1051-1059.
- Harder, B. T. (2007). Development of an implementation infrastructure to support a traffic safety culture. *Improving Traffic Safety Culture in the United States* (pp. 345-365), Washington, DC: AAA Foundation for Traffic Safety.
- Hartmann, C. W., Meterko, M., Rosen, A. K., Zhao, S., Shokeen, P., Singer, S., & Gaba, D. M. (2009). Relationship of hospital organizational culture to patient safety climate in the veterans health administration. *Medical Care Research and Review*, 66(3), 320-338. doi: 10.1177/1077558709331812.
- Harvey, J., Bolam, H., Gregory, D., & Erdos, G. (2001). The effectiveness of training to change safety culture and attitudes within a highly regulated environment. *Personnel Review*, 30(6), 615-636.
- Harvey, J., Erdos, G., Bolam, H., Cox, M. A. A., Kennedy, J. N. P., & Gregory, D. T. (2002). An analysis of safety culture attitudes in a highly regulated environment. *Work and Stress*, 16(1), 18-36. doi: 10.1080/02678370110113226.
- Haukelid, K. (2008). Theories of (safety) culture revisited-An anthropological approach. *Safety Science*, 46(3), 413-426. doi: 10.1016/j.ssci.2007.05.014.
- Håvold, J. I. (2000). Culture in maritime safety. *Maritime Policy and Management*, 27(1), 79-88. doi: 10.1080/030888300286716.
- Håvold, J. I. (2005). Safety-culture in a Norwegian shipping company. *Journal of Safety Research*, 36(5), 441-458. doi: 10.1016/j.jsr.2005.08.005.
- Håvold, J. I. (2007). National cultures and safety orientation: A study of seafarers working for Norwegian shipping companies. *Work and Stress*, 21(2), 173-195. doi: 10.1080/02678370701424594.
- Håvold, J. I. (2010a). Safety culture aboard fishing vessels. *Safety Science*, 48(8), 1054-1061. doi: 10.1016/j.ssci.2009.11.004.
- Håvold, J. I. (2010b). Safety culture and safety management aboard tankers. *Reliability Engineering and System Safety*, 95(5), 511-519. doi: 10.1016/j.res.2010.01.002.

- Håvold, J. I., & Nettet, E. (2009). From safety culture to safety orientation: Validation and simplification of a safety orientation scale using a sample of seafarers working for Norwegian ship owners. *Safety Science*, 47(3), 305-326. doi: 10.1016/j.ssci.2008.05.002.
- Hayes, B. E., Perander, J., Smecko, T., & Trask, J. (1998). Measuring perceptions of workplace safety: Development and validation of the work safety scale. *Journal of Safety Research*, 29(3), 145-161.
- Hedlund, J. (2007). Improving traffic safety culture in the United States - The journey forward: Summary and synthesis. *Improving Traffic Safety Culture in the United States*, Washington, DC: AAA Foundation for Traffic Safety.
- Helen, C. L., Cooke, T., & Blismas, N. (2010). Properties of group safety climate in construction: The development and evaluation of a typology. *Construction Management and Economics*, 28(10), 1099-1112. doi: 10.1080/01446193.2010.501807.
- Hendershot, D. C., & Smades, W. (2007). Safety culture begins in the classroom. *Process Safety Progress*, 26(2), 83-84. doi: 10.1002/prs.10200.
- Henk, R. H., & Fette, B. (2010). After graduated driver licensing, what's next? The role of peer influence in changing safety culture among young drivers. *Proceedings of the Australian Road Research Board International Conference*, Melbourne, Australia.
- Hennessey, M. (1992). Bearing the burden of safety. *Tunnels & Tunnelling International*, 24(7).
- Hetherington, C., Flin, R., & Mearns, K. (2006). Safety in shipping: The human element. *Journal of Safety Research*, 37(4), 401-411. doi: 10.1016/j.jsr.2006.04.007.
- Hofmann, D. A., & Mark, B. (2006). An investigation of the relationship between safety climate and medication errors as well as other nurse and patient outcomes. *Personnel Psychology*, 59(4), 847-869. doi: 10.1111/j.1744-6570.2006.00056.x.
- Hofmann, D. A., Morgeson, F. P., & Gerras, S. J. (2003). Climate as a moderator of the relationship between leader-member exchange and content specific citizenship: Safety climate as an exemplar. *Journal of Applied Psychology*, 88(1), 170-178. doi: 10.1037/0021-9010.88.1.170.
- Hofmann, D. A., & Stetzer, A. (1996). A cross-level investigation of factors influencing unsafe behaviors and accidents. *Personnel Psychology*, 49(2), 307-339.
- Hofmann, D. A., & Stetzer, A. (1998). The role of safety climate and communication in accident interpretation: Implications for learning from negative events. *Academy of Management Journal*, 41(6), 644-657.
- Høivik, D., Moen, B. E., Mearns, K., & Haukelid, K. (2009). An explorative study of health, safety and environment culture in a Norwegian petroleum company. *Safety Science*, 47(7), 992-1001. doi: 10.1016/j.ssci.2008.11.003.
- Høivik, D., Tharaldsen, J. E., Baste, V., & Moen, B. E. (2009). What is most important for safety climate: The company belonging or the local working environment? - A study from the Norwegian offshore industry. *Safety Science*, 47(10), 1324-1331. doi: 10.1016/j.ssci.2009.04.001.
- Holden, L. M., Watts, D. D., & Hinton Walker, P. (2009). Patient safety climate in primary care: Age matters. *Journal of Patient Safety*, 5(1), 23-28. doi: 10.1097/PTS.0b013e318199d4bf.

- Holt, R. (2008). Behavior-based safety: A key element in a total safety culture. *Textile Rental*, 92(1), 44-46.
- Hooper, J., & Charney, W. (2005). Creation of a safety culture: reducing workplace injuries in a rural hospital setting. *American Association of Occupational Health Nurses (AAOHN) Journal*, 53(9), 394-398.
- Hope, L., & Mearns, K. (2007). Managing health risks in the offshore workplace: Impact on health climate, safety climate and risk identification. *International Journal of Risk Assessment and Management*, 7(2), 152-164. doi: 10.1504/ijram.2007.011728.
- Hope, S., Øverland, S., Brun, W., & Matthiesen, S. B. (2010). Associations between sleep, risk and safety climate: A study of offshore personnel on the Norwegian continental shelf. *Safety Science*, 48(4), 469-477. doi: 10.1016/j.ssci.2009.12.006.
- Hopfl, H., & MacGregor, C. (1997). Risk management and organisational learning at British Airways. *Journal of Occupational Health and Safety - Australia and New Zealand*, 13(6), 533-539.
- Hopkins, A. (1999). Counteracting the cultural causes of disaster. *Journal of Contingencies and Crisis Management*, 7(3), 141-149.
- Hopkins, A. (2006). Studying organisational cultures and their effects on safety. *Safety Science*, 44(10), 875-889. doi: 10.1016/j.ssci.2006.05.005.
- Howard, E., & Sweatman, P. (2007). Road Safety culture development for substantial road trauma reduction: can the experience of the State of Victoria, Australia, be applied to achieve road safety improvement in North America? *Improving Traffic Safety Culture in the United States* (pp. 305-327), Washington, DC: AAA Foundation for Traffic Safety.
- Hsu, S. H., Lee, C. C., Wu, M. C., & Takano, K. (2008). A cross-cultural study of organizational factors on safety: Japanese vs. Taiwanese oil refinery plants. *Accident Analysis and Prevention*, 40(1), 24-34. doi: 10.1016/j.aap.2007.03.020.
- Hsu, S. H., Lee, C. C., Wu, M. C., & Takano, K. (2010). The influence of organizational factors on safety in Taiwanese high-risk industries. *Journal of Loss Prevention in the Process Industries*, 23(5), 646-653. doi: 10.1016/j.jlp.2010.06.018.
- Huang, Y.-H., Ho, M., Smith, G. S., & Chen, P. Y. (2006). Safety climate and self-reported injury: assessing the mediating role of employee safety control. *Accident Analysis & Prevention*, 38(3), 425-433.
- Huang, Y. H., Chen, J. C., DeArmond, S., Cigularov, K., & Chen, P. Y. (2007). Roles of safety climate and shift work on perceived injury risk: A multi-level analysis. *Accident Analysis and Prevention*, 39(6), 1088-1096. doi: 10.1016/j.aap.2007.02.006.
- Huang, Y. H., Chen, P. Y., & Grosch, J. W. (2010). Safety climate: New developments in conceptualization, theory, and research. *Accident Analysis and Prevention*, 42(5), 1421-1422. doi: 10.1016/j.aap.2009.12.007.
- Huang, Y. H., Ho, M., Smith, G. S., & Chen, P. Y. (2006). Safety climate and self-reported injury: Assessing the mediating role of employee safety control. *Accident Analysis and Prevention*, 38(3), 425-433. doi: 10.1016/j.aap.2005.07.002.

- Hudson, P. (2007). Implementing a safety culture in a major multi-national. *Safety Science*, 45(6), 697-722. doi: 10.1016/j.ssci.2007.04.005.
- Hurst, N. (1997). From research to practical tools - developing assessment tools for safety management and safety culture. *Journal of Loss Prevention in the Process Industries*, 10(1), 63-66. doi: 10.1016/s0950-4230(96)00034-4.
- Hutchinson, A., Cooper, K. L., Dean, J. E., McIntosh, A., Patterson, M., Stride, C. B., Smith, C. M. (2006). Use of a safety climate questionnaire in UK health care: Factor structure, reliability and usability. *Quality and Safety in Health Care*, 15(5), 347-353. doi: 10.1136/qshc.2005.016584.
- Isaac, A. (1997). The Cave Creek incident: A reasoned explanation. *Australasian Journal of Disaster and Trauma Studies*, 1997(3), 1-15.
- Ismail, F., Harun, H., Ismail, R., & Majid, M. Z. A. (2010). A framework of safety culture for the Malaysian construction companies: A methodological development. *Pertanika Journal of Social Science and Humanities*, 18(1), 45-54.
- Izundu, U. (2008). UK oil industry reflects on Piper Alpha lessons. *Oil and Gas Journal*, 106(45), 26-27.
- Jackson, J., Sarac, C., & Flin, R. (2010). Hospital safety climate surveys: Measurement issues. *Current Opinion in Critical Care*, 16(6), 632-638. doi: 10.1097/MCC.0b013e32833f0ee6.
- Järvis, M., & Tint, P. (2009). The formation of a good safety culture at enterprise. *Journal of Business Economics and Management*, 10(2), 169-180. doi: 10.3846/1611-1699.2009.10.169-180.
- Jeffcott, S., Pidgeon, N., Weyman, A., & Walls, J. (2006). Risk, trust, and safety culture in U.K. train operating companies. *Risk Analysis*, 26(5), 1105-1121. doi: 10.1111/j.1539-6924.2006.00819.x.
- Jenness, J. W. (2007). Supporting Highway Safety Culture by Addressing Anonymity. *Improving Traffic Safety Culture in the United States* (pp. 213-226), Washington, DC: AAA Foundation for Traffic Safety.
- Jiang, L., Yu, G., Li, Y., & Li, F. (2010). Perceived colleagues' safety knowledge/behavior and safety performance: Safety climate as a moderator in a multilevel study. *Accident Analysis and Prevention*, 42(5), 1468-1476. doi: 10.1016/j.aap.2009.08.017.
- Jiao, X. Y., Song, S. X., & Wu, J. Y. (2007). Nuclear safety culture star-class assessment system based BP neural network. *Hedongli Gongcheng/Nuclear Power Engineering*, 28(1).
- Johnsen, S. O., Vatn, J., Rosness, R., & Herrera, I. A. (2006). Cross border railway operations: Improving safety at cultural interfaces. *Cognition, Technology and Work*, 8(1), 76-88. doi: 10.1007/s10111-005-0022-8.
- Johnson, C., Kirwan, B., & Licu, T. (2009). The interaction between safety culture and degraded modes: A survey of national infrastructures for air traffic management. *Risk Management*, 11(3-4), 241-284. doi: 10.1057/rm.2009.10.
- Johnson, S. E. (2007). The predictive validity of safety climate. *Journal of Safety Research*, 38(5), 511-521. doi: 10.1016/j.jsr.2007.07.001.

- Johnston, I. (2010). Beyond "best practice" road safety thinking and systems management - A case for culture change research. *Safety Science*, 48(9), 1175-1181. doi: 10.1016/j.ssci.2009.12.003.
- Jorgensen, E., Sokas, R. K., Nickels, L., Gao, W., & Gittleman, J. L. (2007). An English/Spanish safety climate scale for construction workers. *American Journal of Industrial Medicine*, 50(6), 438-442. doi: 10.1002/ajim.20457.
- Kadak, A. C., & Matsuo, T. (2007). The nuclear industry's transition to risk-informed regulation and operation in the United States. *Reliability Engineering and System Safety*, 92(5), 609-618. doi: 10.1016/j.ress.2006.02.004.
- Kadri, S. H., & Jones, D. W. (2006). Nurturing a strong process safety culture. *Process Safety Progress*, 25(1), 16-20. doi: 10.1002/prs.10110.
- Kao, C. S., Lai, W. H., Chuang, T. F., & Lee, J. C. (2008). Safety culture factors, group differences, and risk perception in five petrochemical plants. *Process Safety Progress*, 27(2), 145-152. doi: 10.1002/prs.10246.
- Kath, L. M., Magley, V. J., & Marmet, M. (2010). The role of organizational trust in safety climate's influence on organizational outcomes. *Accident Analysis and Prevention*, 42(5), 1488-1497. doi: 10.1016/j.aap.2009.11.010.
- Kath, L. M., Marks, K. M., & Ranney, J. (2010). Safety climate dimensions, leader-member exchange, and organizational support as predictors of upward safety communication in a sample of rail industry workers. *Safety Science*, 48(5), 643-650. doi: 10.1016/j.ssci.2010.01.016.
- Katz-Navon, T., Naveh, E., & Stern, Z. (2005). Safety climate in health care organizations: A multidimensional approach. *Academy of Management Journal*, 48(6), 1075-1089.
- Kawamata, S. (2010). What safety culture and corporate ethics aim for. *Atomos*, 52(1), 39-43.
- Kaya, S., Barsbay, S., & Karabulut, E. (2010). The Turkish version of the safety attitudes questionnaire: Psychometric properties and baseline data. *Quality and Safety in Health Care*, 19(6), 572-577. doi: 10.1136/qshc.2008.032003.
- Kelley, S. (2001). Profit margin of safety: Denver carrier finds safety culture to be good business. *Commercial Carrier Journal*, 158(8), 74-76.
- Kelloway, E. K., Mullen, J., & Francis, L. (2006). Divergent effects of transformational and passive leadership on employee safety. *Journal of Occupational Health Psychology*, 11(1), 76-86. doi: 10.1037/1076-8998.11.1.76.
- Kemsley, J. N. (2010). Assessing safety: Survey characterizes the safety culture in academic laboratories. *Chemical and Engineering News*, 88(25), 33.
- Kennedy, R., & Kirwan, B. (1998). Development of a hazard and operability-based method for identifying safety management vulnerabilities in high risk systems. *Safety Science*, 30(3), 249-274. doi: 10.1016/s0925-7535(98)00025-3.
- Keren, N., Mills, T. R., Freeman, S. A., & Shelley Ii, M. C. (2009). Can level of safety climate predict level of orientation toward safety in a decision making task? *Safety Science*, 47(10), 1312-1323. doi: 10.1016/j.ssci.2009.01.009.

- Khan, F., Abunada, H., John, D., & Benmosbah, T. (2010). Development of risk-based process safety indicators. *Process Safety Progress*, 29(2), 133-143. doi: 10.1002/prs.10354.
- Khatri, N., Brown, G. D., & Hicks, L. L. (2009). From a blame culture to a just culture in health care. *Health Care Management Review*, 34(4), 312-322. doi: 10.1097/HMR.0b013e3181a3b709
- Kho, M. E., Carbone, J. M., Lucas, J., & Cook, D. J. (2005). Safety climate survey: Reliability of results from a multicenter ICU survey. *Quality and Safety in Health Care*, 14(4), 273-278. doi: 10.1136/qshc.2005.014316.
- Kines, P., Andersen, L. P. S., Spangenberg, S., Mikkelsen, K. L., Dyreborg, J., & Zohar, D. (2010). Improving construction site safety through leader-based verbal safety communication. *Journal of Safety Research*, 41(5), 399-406. doi: 10.1016/j.jsr.2010.06.005.
- Kirk, S., Parker, D., Claridge, T., Esmail, A., & Marshall, M. (2007). Patient safety culture in primary care: Developing a theoretical framework for practical use. *Quality and Safety in Health Care*, 16(4), 313-320. doi: 10.1136/qshc.2006.018366.
- Kirwan, B., Mearns, K., Kennedy, R. J., Gordon, R., Licu, T., Leone, M., Wennerberg, A. (2009). Safety culture enhancement in European air traffic management- Rising to the challenge. *Proceedings of the 4th Institution of Engineering and Technology International Conference on System Safety*, London, UK.
- Kleiner, B. M. (1999). Macroergonomic analysis and design for improved safety and quality performance. *International Journal of Occupational Safety and Ergonomics*, 5(2), 217-245.
- Kletz, T. A. (2007). How we changed the safety culture. *Organic Process Research and Development*, 11(6), 1091-1095. doi: 10.1021/op7000595.
- Knee, M. (2007). Safety culture. *Australian Mining*, 99(1), 40.
- Kondo, J. (1996). The spirit of safety: Oriental safety culture. *Nuclear Engineering and Design*, 165(3), 281-287. doi: 10.1016/0029-5493(96)01213-7.
- Kongsvik, T., Almklov, P., & Fenstad, J. (2010). Organisational safety indicators: Some conceptual considerations and a supplementary qualitative approach. *Safety Science*, 48(10), 1402-1411. doi: 10.1016/j.ssci.2010.05.016.
- Koning, T. (2010). Safety culture - a practical approach. *Offshore Engineer*, 35(4), 105-106.
- Kudo, Y., Kido, S., Taruzuka Shahzad, M., Saegusa, Y., Satoh, T., & Aizawa, Y. (2009). Safety climate and motivation toward patient safety among Japanese nurses in hospitals of fewer than 250 beds. *Industrial Health*, 47(1), 70-79. doi: 10.2486/indhealth.47.70.
- Lamendola, M. (1999). Developing a safety culture in your business. *EC and M: Electrical Construction and Maintenance*, 98(5), 44-X44.
- Laurence, D. (2005). Safety rules and regulations on mine sites - The problem and a solution. *Journal of Safety Research*, 36(1), 39-50. doi: 10.1016/j.jsr.2004.11.004.
- Lawrie, M., Parker, D., & Hudson, P. (2006). Investigating employee perceptions of a framework of safety culture maturity. *Safety Science*, 44(3), 259-276. doi: 10.1016/j.ssci.2005.10.003.
- Lee, P. I., & Weitzel, T. R. (2005). Air carrier safety and culture: an investigation of Taiwan's adaptation to western incident reporting programs. *Journal of Air Transportation*, 10(1), 20.

- Lee, T. (1998). Assessment of safety culture at a nuclear reprocessing plant. *Work and Stress*, 12(3), 217-237.
- Lee, T., & Harrison, K. (2000). Assessing safety culture in nuclear power stations. *Safety Science*, 34(1-3), 61-97. doi: 10.1016/s0925-7535(00)00007-2.
- Lee, T. Z., Wu, C. H., & Hong, C. W. (2007). An empirical investigation of the influence of safety climate on organizational citizenship behavior in Taiwan's facilities. *International Journal of Occupational Safety and Ergonomics: JOSE*, 13(3), 255-269.
- Lee, W. C., Wung, H. Y., Liao, H. H., Lo, C. M., Chang, F. L., Wang, P. C., Hou, S. M. (2010). Hospital safety culture in Taiwan: A nationwide survey using chinese version safety attitude questionnaire. *BMC Health Services Research*, 10. doi: 10.1186/1472-6963-10-234
- Leeming, J. R. (1997). Engineering a culture change. *Mining Technology*, 79(915), 279-286.
- Lekberg, A. K. (2002). Safety culture and organizational issues during decommissioning of nuclear power plants. *Proceedings of the 7th Institute of Electrical and Electronics Engineers Conference on Human Factors and Power Plants*, Scottsdale, AZ.
- Li, K. J. (2001). Maritime safety culture and development of ship and offshore installations design standards in the 21st century. In *Practical Design of Ships and Other Floating Structures*. Proceedings of the Eighth International Symposium on Practical Design of Ships and Other Floating Structures (Vol. 1, pp. 3-11).
- Li, W.-C., & Harris, D. (2005). Where safety culture meets national culture: the how and why of the china airlines CI-611 accident. *Human Factors and Aerospace Safety*, 5(4), 345-353.
- Liang, M. J., Yang, G., & Chen, D. W. (2008). Safety control program for complex system based on behavior science. *Journal of Coal Science and Engineering*, 14(4), 578-580. doi: 10.1007/s12404-008-0414-5.
- Lin, E. T. A., & Wen, K. P. T. (2005). Singapore's contractors' attitudes towards safety culture. *Journal of Construction Research*, 6(1), 157-178. doi: 10.1142/s1609945105000316.
- Lin, S. H., Tang, W. J., Miao, J. Y., Wang, Z. M., & Wang, P. X. (2008). Safety climate measurement at workplace in China: A validity and reliability assessment. *Safety Science*, 46(7), 1037-1046. doi: 10.1016/j.ssci.2007.05.001.
- Lin, S. H., Wang, Z. M., Tang, W. J., Liang, L. H., Wang, M. Z., & Lan, Y. J. (2007). Development of safety climate measurement at workplace: Validity and reliability assessment. *Journal of Sichuan University (Medical Science Edition)*, 38(4), 720-724.
- Lindberg, L., Judd, K., & Snyder, J. (2008). Developing a safety culture with front-line staff. *Hospitals & health networks/AHA*, 82(9), 84-85.
- Lingard, H. C., Cooke, T., & Blismas, N. (2009). Group-level safety climate in the Australian construction industry: Within-group homogeneity and between-group differences in road construction and maintenance. *Construction Management and Economics*, 27(4), 419-432. doi: 10.1080/01446190902822971.
- Lingard, H. C., Cooke, T., & Blismas, N. (2010). Safety climate in conditions of construction subcontracting: A multi-level analysis. *Construction Management and Economics*, 28(8), 813-825. doi: 10.1080/01446190903480035.

- Lu, C. S., & Shang, K. C. (2005). An empirical investigation of safety climate in container terminal operators. *Journal of Safety Research*, 36(3), 297-308. doi: 10.1016/j.jsr.2005.05.002.
- Lu, C. S., & Tsai, C. L. (2008). The effects of safety climate on vessel accidents in the container shipping context. *Accident Analysis and Prevention*, 40(2), 594-601. doi: 10.1016/j.aap.2007.08.015.
- Lu, C. S., & Tsai, C. L. (2010). The effect of safety climate on seafarers' safety behaviors in container shipping. *Accident Analysis and Prevention*, 42(6), 1999-2006. doi: 10.1016/j.aap.2010.06.008.
- Lu, C. S., & Yang, C. S. (2011). Safety climate and safety behavior in the passenger ferry context. *Accident Analysis and Prevention*, 43(1), 329-341. doi: 10.1016/j.aap.2010.09.001.
- Ludwig, D. A., Andrews, C. R., Jester-ten Veen, N. R., & Laqui, C. (2007). *Safety Management Systems for Airports (Vol. 1)*. Washington, DC: Transportation Research Board.
- Lund, J., & Aarø, L. E. (2004). Accident prevention. Presentation of a model placing emphasis on human, structural and cultural factors. *Safety Science*, 42(4), 271-324. doi: 10.1016/s0925-7535(03)00045-6.
- Luria, G. (2008). Climate strength - How leaders form consensus. *Leadership Quarterly*, 19(1), 42-53. doi: 10.1016/j.leaqua.2007.12.004.
- Luria, G. (2010). The social aspects of safety management: Trust and safety climate. *Accident Analysis and Prevention*, 42(4), 1288-1295. doi: 10.1016/j.aap.2010.02.006.
- Luria, G., & Rafaeli, A. (2008). Testing safety commitment in organizations through interpretations of safety artifacts. *Journal of Safety Research*, 39(5), 519-528. doi: 10.1016/j.jsr.2008.08.004.
- Luria, G., & Yagil, D. (2010). Safety perception referents of permanent and temporary employees: Safety climate boundaries in the industrial workplace. *Accident Analysis and Prevention*, 42(5), 1423-1430. doi: 10.1016/j.aap.2009.02.016.
- Ma, Q., & Yuan, J. (2009). Exploratory study on safety climate in Chinese manufacturing enterprises. *Safety Science*, 47(7), 1043-1046. doi: 10.1016/j.ssci.2009.01.007.
- Machin, M. A., & De Souza, J. M. D. (2004). Predicting health outcomes and safety behaviour in taxi drivers. *Transportation Research Part F: Traffic Psychology and Behaviour*, 7(4-5), 257-270. doi: 10.1016/j.trf.2004.09.004.
- Mahlum, F. (2009). *2009 Traffic Safety Culture Index*. Washington, DC: AAA Foundation for Traffic Safety.
- Makino, M. (2007). Maintaining oversight of safety culture from diverse viewpoint; both specialists in safety culture and site/resident inspectors join in workshop. *Atomos*, 49(11-12), 762-764.
- Mardon, R. E., Khanna, K., Sorra, J., Dyer, N., & Famolaro, T. (2010). Exploring relationships between hospital patient safety culture and adverse events. *Journal of Patient Safety*, 6(4), 226-232. doi: 10.1097/PTS.0b013e3181fd1a00.

- Mark, B. A., Hughes, L. C., Belyea, M., Chang, Y., Hofmann, D., Jones, C. B., & Bacon, C. T. (2007). Does safety climate moderate the influence of staffing adequacy and work conditions on nurse injuries? *Journal of Safety Research*, 38(4), 431-446. doi: 10.1016/j.jsr.2007.04.004.
- Matsubara, S., Hagihara, A., & Nobutomo, K. (2008). Development of a patient safety climate scale in Japan. *International Journal for Quality in Health Care*, 20(3), 211-220. doi: 10.1093/intqhc/mzn003.
- McDonald, M. A., Lipscomb, H. J., Bondy, J., & Glazner, J. (2009). "Safety is everyone's job:" The key to safety on a large university construction site. *Journal of Safety Research*, 40(1), 53-61. doi: 10.1016/j.jsr.2008.12.005.
- McDonald, N., Corrigan, S., Daly, C., & Cromie, S. (2000). Safety management systems and safety culture in aircraft maintenance organisations. *Safety Science*, 34(1-3), 151-176. doi: 10.1016/s0925-7535(00)00011-4.
- McFadden, K. L., Henagan, S. C., & Gowen Iii, C. R. (2009). The patient safety chain: Transformational leadership's effect on patient safety culture, initiatives, and outcomes. *Journal of Operations Management*, 27(5), 390-404. doi: 10.1016/j.jom.2009.01.001.
- McGonagle, A. K., & Kath, L. M. (2010). Work-safety tension, perceived risk, and worker injuries: A meso-mediational model. *Journal of Safety Research*, 41(6), 475-479. doi: 10.1016/j.jsr.2010.09.002.
- McKay, M., & Lacoursière, J. P. (2008). Development of a process safety culture of chemical engineers. *Process Safety Progress*, 27(2), 153-155. doi: 10.1002/prs.10253.
- McMillan, A. C. (2007). Strong corporate safety cultures foster safe communities. *Safety and Health*, 175(6), 74.
- McNeely, C. L., & Gifford, J. L. (2007). Effecting a traffic safety culture: Lessons From cultural change initiatives (pp. 21-39).
- Mearns, K., Flin, R., Gordon, R., & Fleming, M. (1998). Measuring safety climate on offshore installations. *Work and Stress*, 12(3), 238-254.
- Mearns, K., Hope, L., Ford, M. T., & Tetrick, L. E. (2010). Investment in workforce health: Exploring the implications for workforce safety climate and commitment. *Accident Analysis and Prevention*, 42(5), 1445-1454. doi: 10.1016/j.aap.2009.08.009.
- Mearns, K., Rundmo, T., Flin, R., Gordon, R., & Fleming, M. (2004). Evaluation of psychosocial and organizational factors in offshore safety: A comparative study. *Journal of Risk Research*, 7(5), 545-561. doi: 10.1080/1366987042000146193.
- Mearns, K., Whitaker, S. M., & Flin, R. (2001). Benchmarking safety climate in hazardous environments: A longitudinal, interorganizational approach. *Risk Analysis*, 21(4), 771-786. doi: 10.1111/0272-4332.214149.
- Mearns, K., Whitaker, S. M., & Flin, R. (2003). Safety climate, safety management practice and safety performance in offshore environments. *Safety Science*, 41(8), 641-680. doi: 10.1016/s0925-7535(02)00011-5.

- Mearns, K., & Yule, S. (2009). The role of national culture in determining safety performance: Challenges for the global oil and gas industry. *Safety Science*, 47(6), 777-785. doi: 10.1016/j.ssci.2008.01.009.
- Mearns, K. J., & Flin, R. (1999). Assessing the state of organizational safety - Culture or climate? *Current Psychology*, 18(1), 5-17.
- Mein, D. T. E. (2002). Safety management systems promote a positive safety culture that can pay dividends. *International Civil Aviation Organization Journal*, 57(4), 16-18.
- Meliá, J. L., Mearns, K., Silva, S. A., & Lima, M. L. (2008). Safety climate responses and the perceived risk of accidents in the construction industry. *Safety Science*, 46(6), 949-958. doi: 10.1016/j.ssci.2007.11.004.
- Mengolini, A., & Debarberis, L. Lessons learnt from a crisis event: how to foster a sound safety culture. *Safety Science*. doi: 10.1016/j.ssci.2010.02.022.
- Mengolini, A., & Debarberis, L. (2007). Safety culture enhancement through the implementation of IAEA guidelines. *Reliability Engineering and System Safety*, 92(4), 520-529. doi: 10.1016/j.ress.2006.01.003.
- Mengolini, A., & Debarberis, L. (2008). Effectiveness evaluation methodology for safety processes to enhance organisational culture in hazardous installations. *Journal of Hazardous Materials*, 155(1-2), 243-252. doi: 10.1016/j.jhazmat.2007.11.078.
- Mercer, B. J. (2008). Creating a culture of traffic safety: Learning from four states with improved safety records. *TR News*, (259), 18-20. Washington, DC: Transportation Research Board.
- Merritt, C. W. (2006). BP is not alone. *Safety and Health*, 174(3), 74.
- Meshkati, N. (1998). Lessons of Chernobyl and beyond: Creation of the safety culture in nuclear power plants. *Proceedings of the Human Factors and Ergonomics Society*, 1, 745-749.
- Meshkati, N. (2007). Lessons of the Chernobyl nuclear accident for sustainable energy generation: Creation of the safety culture in nuclear power plants around the world. *Energy Sources, Part A: Recovery, Utilization and Environmental Effects*, 29(9), 807-815. doi: 10.1080/00908310500280934
- Milczarek, M., & Najmiec, A. (2004). The relationship between workers' safety culture and accidents, near accidents and health problems. *International Journal of Occupational Safety and Ergonomics: JOSE*, 10(1), 25-33.
- Minnema, D. M. (2007a). Addressing safety culture improvement within self-regulated government agencies. *Transactions of the American Nuclear Society*, 96, 310-311.
- Minnema, D. M. (2007b). Leadership and oversight in safety culture: Lessons learned from Davis-Besse. *Transactions of the American Nuclear Society*, 97, 189-190.
- Mitroussi, K. (2001). The evolution of the safety culture of IMO: A case of organisational culture change. *Disaster Prevention and Management*, 12(1), 16-23. doi: 10.1108/09653560310463810.

- Miyachi, Y., Murakoshi, A., Akatsuka, H., & Suzuki, A. (2010). Development of evaluation method of safety climate in work site. *Quarterly Report of RTRI* (Railway Technical Research Institute) (Japan), 51(2), 95-100. doi: 10.2219/rtriqr.51.95.
- Modak, I., Sexton, J. B., Lux, T. R., Helmreich, R. L., & Thomas, E. J. (2007). Measuring safety culture in the ambulatory setting: The safety attitudes questionnaire - Ambulatory version. *Journal of General Internal Medicine*, 22(1), 1-5. doi: 10.1007/s11606-007-0114-7.
- Mohaghegh, Z., & Mosleh, A. (2009a). Incorporating organizational factors into probabilistic risk assessment of complex socio-technical systems: Principles and theoretical foundations. *Safety Science*, 47(8), 1139-1158. doi: 10.1016/j.ssci.2008.12.008.
- Mohaghegh, Z., & Mosleh, A. (2009b). Measurement techniques for organizational safety causal models: Characterization and suggestions for enhancements. *Safety Science*, 47(10), 1398-1409. doi: 10.1016/j.ssci.2009.04.002.
- Mohamed, S. (2002). Safety climate in construction site environments. *Journal of Construction Engineering and Management*, 128(5), 375-384. doi: 10.1061/(asce)0733-9364(2002)128:5(375).
- Mohamed, S. (2003). Scorecard approach to benchmarking organizational safety culture in construction. *Journal of Construction Engineering and Management*, 129(1), 80-88. doi: 10.1061/(asce)0733-9364(2003)129:1(80).
- Mohamed, S., Ali, T. H., & Tam, W. Y. V. (2009). National culture and safe work behaviour of construction workers in Pakistan. *Safety Science*, 47(1), 29-35. doi: 10.1016/j.ssci.2008.01.003.
- Montmayeul, R., Mosneron-Dupin, F., & Llory, M. (1994). The managerial dilemma between the prescribed tasks and the real activity of operators: Some trends for research on human factors. *Reliability Engineering and System Safety*, 45(1-2), 67-73.
- Mooren, L., Grzebieta, R. H., & Williamson, A. (2009). Lessons from occupational safety for work related road safety. *Proceedings of the Australasian Road Safety Research, Policing and Education Conference* (Vol. 13).
- Moray, N. (2006). Culturing safety for railroads. *Transportation Research Circular E-C085, Railroad Operational Safety: Status and Research Needs* (pp. 62-94). Washington, DC: Transportation Research Board.
- Morimoto, R. (2007). Identifying key factors for improving air transport safety from corporate responsibility aspects. *Proceedings of the 11th World Conference on Transport Research*.
- Morley, F. J., & Harris, D. (2006). Ripples in a pond: an open system model of the evolution of safety culture. *International Journal of Occupational Safety and Ergonomics: JOSE*, 12(1), 3-15.
- Morrow, S. L., McGonagle, A. K., Dove-Steinkamp, M. L., Walker Jr, C. T., Marmet, M., & Barnes-Farrell, J. L. (2010). Relationships between psychological safety climate facets and safety behavior in the rail industry: A dominance analysis. *Accident Analysis and Prevention*, 42(5), 1460-1467. doi: 10.1016/j.aap.2009.08.011.
- Mottram, C. (2005). Training hones the safety culture at Birse Civils Ltd: Company clocks up a zero accident rate. *Human Resource Management International Digest*, 13(2), 14-16. doi: 10.1108/09670730510586940.

- Mullen, J. (2004). Investigating factors that influence individual safety behavior at work. *Journal of Safety Research*, 35(3), 275-285. doi: 10.1016/j.jsr.2004.03.011.
- Mullen, J. E., & Kevin Kelloway, E. (2009). Safety leadership: A longitudinal study of the effects of transformational leadership on safety outcomes. *Journal of Occupational and Organizational Psychology*, 82(2), 253-272. doi: 10.1348/096317908x325313.
- Nævestad, T. O. (2008). Safety cultural preconditions for organizational learning in high-risk organizations. *Journal of Contingencies and Crisis Management*, 16(3), 154-163. doi: 10.1111/j.1468-5973.2008.00544.x.
- Nævestad, T. O. (2009). Mapping research on culture and safety in high-risk organizations: Arguments for a sociotechnical understanding of safety culture. *Journal of Contingencies and Crisis Management*, 17(2), 126-136. doi: 10.1111/j.1468-5973.2009.00573.x.
- Nævestad, T. O. (2010). Evaluating a safety culture campaign: Some lessons from a Norwegian case. *Safety Science*, 48(5), 651-659. doi: 10.1016/j.ssci.2010.01.015.
- Naveh, E., Katz-Navon, T., & Stern, Z. (2005). Treatment errors in healthcare: A safety climate approach. *Management Science*, 51(6), 948-960. doi: 10.1287/mnsc.1050.0372.
- Naveh, E., Katz-Navon, T., & Stern, Z. (2006). Readiness to report medical treatment errors: The effects of safety procedures, safety information, and priority of safety. *Medical Care*, 44(2), 117-123. doi: 10.1097/01.mlr.0000197035.12311.88.
- Neal, A., & Griffin, M. A. (2006). A study of the lagged relationships among safety climate, safety motivation, safety behavior, and accidents at the individual and group levels. *Journal of Applied Psychology*, 91(4), 946-953. doi: 10.1037/0021-9010.91.4.946.
- Neal, A., Griffin, M. A., & Hart, P. M. (2000). The impact of organizational climate on safety climate and individual behavior. *Safety Science*, 34(1-3), 99-109. doi: 10.1016/s0925-7535(00)00008-4.
- Neitzel, R. L., Seixas, N. S., Harris, M. J., & Camp, J. (2008). Exposure to fall hazards and safety climate in the aircraft maintenance industry. *Journal of Safety Research*, 39(4), 391-402. doi: 10.1016/j.jsr.2008.02.033.
- Newnam, S., Griffin, M. A., & Mason, C. (2008). Safety in work vehicles: A multilevel study linking safety values and individual predictors to work-related driving crashes. *Journal of Applied Psychology*, 93(3), 632-644. doi: 10.1037/0021-9010.93.3.632.
- Nielsen, K. J., Rasmussen, K., Glasscock, D., & Spangenberg, S. (2008). Changes in safety climate and accidents at two identical manufacturing plants. *Safety Science*, 46(3), 440-449. doi: 10.1016/j.ssci.2007.05.009.
- Nieva, V. F., & Sorra, J. (2003). Safety culture assessment: A tool for improving patient safety in healthcare organizations. *Quality and Safety in Health Care*, 12(SUPPL. 2).
- Niskanen, T. (1994). Safety climate in the road administration. *Safety Science*, 17(4), 237-255. doi: 10.1016/0925-7535(94)90026-4.
- Nordén-Hägg, A., Sexton, J. B., Källemark-Sporrong, S., Ring, L., & Kettis-Lindblad, T. (2010). Assessing safety culture in pharmacies: The psychometric validation of the safety

- attitudes questionnaire (SAQ) in a national sample of community pharmacies in Sweden. *BMC Clinical Pharmacology*, 10. doi: 10.1186/1472-6904-10-8.
- O'Connor, M. F. (2007). Safety culture: Easy to advocate, difficult to create. *Critical Care Medicine*, 35(5), 1429. doi: 10.1097/01.ccm.0000262934.40069.30.
- O'Connor, P., O'Dea, A., Kennedy, Q., & Buttrey, S. E. (2011). Measuring safety climate in aviation: A review and recommendations for the future. *Safety Science*, 49(2), 128-138. doi: 10.1016/j.ssci.2010.10.001.
- O'Toole, M. (2002). The relationship between employees' perceptions of safety and organizational culture. *Journal of Safety Research*, 33(2).
- Olive, C., O'Connor, T. M., & Mannan, M. S. (2006). Relationship of safety culture and process safety. *Journal of Hazardous Materials*, 130(1-2 SPEC. ISS.), 133-140. doi: 10.1016/j.jhazmat.2005.07.043.
- Olsen, E. (2010). Exploring the possibility of a common structural model measuring associations between safety climate factors and safety behaviour in health care and the petroleum sectors. *Accident Analysis and Prevention*, 42(5), 1507-1516. doi: 10.1016/j.aap.2010.02.002.
- Olsen, E., Bjerkan, A. M., & Nvestad, T. O. (2009). Modelling the effects of a large-scale safety culture programme: A combined qualitative and quantitative approach. *Journal of Risk Research*, 12(3-4), 389-409. doi: 10.1080/13669870902812271.
- Ooshaksaraie, M., Amran, A. A., Yasir, M. S., & Yahaya, R. (2009). Safety culture evaluation in the metal products industry of Iran. *European Journal of Social Sciences*, 11(1), 160-169.
- Ostrom, L., Wilhelmsen, C., & Kaplan, B. (1993). Assessing safety culture. *Nuclear Safety*, 34(2), 163-172.
- Østvik, J., Rundmo, T., & Sjøberg, L. (1997). Associations between safety climate and emotional reactions to platform movements onboard an offshore installation. *Safety Science*, 26(3), 155-168. doi: 10.1016/s0925-7535(97)00037-4.
- Oxstrand, J., & Sylvander, C. (2010). Resilience engineering: Fancy talk for safety culture: A nordic perspective on resilience engineering. Proceedings of the 3rd International Symposium on Resilient Control Systems (ISRCs) (pp. 135-137), Idaho Falls, ID.
- Öz, B., Özkan, T., & Lajunen, T. (2010). An investigation of the relationship between organizational climate and professional drivers' driver behaviours. *Safety Science*, 48(10), 1484-1489. doi: 10.1016/j.ssci.2010.07.009.
- Pace, W. D. (2007). Measuring a safety culture: Critical pathway or academic activity? *Journal of General Internal Medicine*, 22(1), 155-156. doi: 10.1007/s11606-006-0061-8.
- Parise, G., Nabours, R. E., & McClung, L. B. (2008). Relevance of competence in risk reduction for electrical safety. *IEEE Transactions on Industry Applications*, 44(6), 1892-1895. doi: 10.1109/tia.2008.2006348.
- Parker, D., Lawrie, M., & Hudson, P. (2006). A framework for understanding the development of organisational safety culture. *Safety Science*, 44(6), 551-562. doi: 10.1016/j.ssci.2005.10.004.
- Parsons, S. O., & Meshkati, N. (1998). Chernobyl - then, now, and where to go from here. *Proceedings of the Human Factors and Ergonomics Society*, 1, 736.

- Patterson, E. (2002). Safety takes a front seat at WMATA. *Mass Transit*. (28:3, pp. 42-45): Cygnus Publishing, Inc.
- Patterson, P. D., Huang, D. T., Fairbanks, R. J., & Wang, H. E. (2010). The emergency medical services safety attitudes questionnaire. *American Journal of Medical Quality*, 25(2), 109-115. doi: 10.1177/1062860609352106.
- Payne, S. C., Bergman, M. E., Beus, J. M., Rodríguez, J. M., & Henning, J. B. (2009). Safety climate: Leading or lagging indicator of safety outcomes? *Journal of Loss Prevention in the Process Industries*, 22(6), 735-739. doi: 10.1016/j.jlp.2009.07.017.
- Payne, S. C., Bergman, M. E., Rodríguez, J. M., Beus, J. M., & Henning, J. B. (2010). Leading and lagging: Process safety climate-incident relationships at one year. *Journal of Loss Prevention in the Process Industries*, 23(6), 806-812. doi: 10.1016/j.jlp.2010.06.004.
- Pellicer, E., & Molenaar, K. R. (2009). Discussion of "Developing a model of construction safety culture" by Rafiq M. Choudhry, Dongping Fang, and Sherif Mohamed. *Journal of Management in Engineering*, 25(1), 44-45. doi: 10.1061/(asce)0742-597x(2009)25:1(44).
- Pfeiffer, Y., & Manser, T. (2010). Development of the German version of the Hospital Survey on Patient Safety Culture: Dimensionality and psychometric properties. *Safety Science*, 48(10), 1452-1462. doi: 10.1016/j.ssci.2010.07.002.
- Pidgeon, N. (1997). The limits to safety? Culture, politics, learning and man-made disasters. *Journal of Contingencies and Crisis Management*, 5(1), 1-14.
- Pidgeon, N. (1998). Safety culture: Key theoretical issues. *Work and Stress*, 12(3), 202-216.
- Pidgeon, N. (2001). Safety Culture: Transferring theory and evidence from the major hazards industries. *Proceedings of the 10th Seminar on Behavioral Research in Road Safety* (pp. 49-60).
- Pidgeon, N. (2010). Systems thinking, culture of reliability and safety. *Civil Engineering and Environmental Systems*, 27(3), 211-217. doi: 10.1080/10286608.2010.482660.
- Pidgeon, N., & O'Leary, M. (2000). Man-made disasters: Why technology and organizations (sometimes) fail. *Safety Science*, 34(1-3), 15-30. doi: 10.1016/s0925-7535(00)00004-7.
- Pinkerton, S. (2005). Patient safety culture. *Health Care Management Review*, 30(1), 1.
- Pooley, E. D. (1999). Putting Air Safety Management into practice demands a positive corporate safety culture. *International Civil Aviation Organization Journal*, 54(1), 10-14.
- Pousette, A., Larsson, S., & Törner, M. (2008). Safety climate cross-validation, strength and prediction of safety behaviour. *Safety Science*, 46(3), 398-404. doi: 10.1016/j.ssci.2007.06.016.
- Pringle, J., Weber, R. J., Rice, K., Kirisci, L., & Sirio, C. (2009). Examination of how a survey can spur culture changes using a quality improvement approach: A region-wide approach to determining a patient safety culture. *American Journal of Medical Quality*, 24(5), 374-384. doi: 10.1177/1062860609336367.
- Probst, T. M. (2004). Safety and Insecurity: Exploring the Moderating Effect of Organizational Safety Climate. *Journal of Occupational Health Psychology*, 9(1), 3-10. doi: 10.1037/1076-8998.9.1.3.

- Probst, T. M., & Brubaker, T. L. (2007). Organizational safety climate and supervisory layoff decisions: Preferences versus predictions. *Journal of Applied Social Psychology*, 37(7), 1630-1648. doi: 10.1111/j.1559-1816.2007.00230.x.
- Probst, T. M., Brubaker, T. L., & Barsotti, A. (2008). Organizational injury rate underreporting: The moderating effect of organizational safety climate. *Journal of Applied Psychology*, 93(5), 1147-1154. doi: 10.1037/0021-9010.93.5.1147.
- Probst, T. M., & Estrada, A. X. (2010). Accident under-reporting among employees: Testing the moderating influence of psychological safety climate and supervisor enforcement of safety practices. *Accident Analysis and Prevention*, 42(5), 1438-1444. doi: 10.1016/j.aap.2009.06.027.
- Pronovost, P., & Sexton, B. (2005). Assessing safety culture: Guidelines and recommendations. *Quality and Safety in Health Care*, 14(4), 231-233. doi: 10.1136/qshc.2005.015180.
- Prussia, G. E., Brown, K. A., & Willis, P. G. (2003). Mental models of safety: Do managers and employees see eye to eye? *Journal of Safety Research*, 34(2), 143-156. doi: 10.1016/s0022-4375(03)00011-2.
- Radcliffe, M. (2009). Health and safety culture creates unnecessary fears. *Nursing Times*, 105(39), 32.
- Rahimi, M. (1995). Merging strategic safety, health and environment into total quality management. *International Journal of Industrial Ergonomics*, 16(2), 83-94. doi: 10.1016/0169-8141(94)00074-d.
- Rail Safety and Standards Board. Developing practical tools for measuring and managing safety culture. (2008). <http://www.rssb.co.uk/library/research-development-and-innovation/research-brief-t397.pdf>.
- Rakauskas, M. E., Ward, N. J., & Gerberich, S. G. (2009). Identification of differences between rural and urban safety cultures. *Accident Analysis and Prevention*, 41(5), 931-937. doi: 10.1016/j.aap.2009.05.008.
- Ranney, J., & Nelson, C. (2004). Impacts of participatory safety rules revision in the U.S. Railroad industry: An exploratory assessment. *Transportation Research Record: Journal of the Transportation Research Board*, (1899), 156-163. (pp. 156-163).
- Ranney, J., & Nelson, C. (2007). *The impact of participatory safety rules revision on incident rates, liability claims, and safety culture in the U.S. railroad industry* (No. DOT/FRA/ORD-07/14). Washington, DC: Federal Railroad Administration.
- Rao, S. (2007). Safety culture and accident analysis-A socio-management approach based on organizational safety social capital. *Journal of Hazardous Materials*, 142(3), 730-740. doi: 10.1016/j.jhazmat.2006.06.086.
- Ratnasingam, J., Ioras, F., & Bennet, M. (2010). Determinants of workers health and safety in the Malaysian wooden furniture industry. *Journal of Applied Sciences*, 10(5), 425-430. doi: 10.3923/jas.2010.425.430.
- Reason, J. (1998). Achieving a safe culture: Theory and practice. *Work and Stress*, 12(3), 293-306.

- Reiman, T., & Oedewald, P. (2006). Assessing the maintenance unit of a nuclear power plant - identifying the cultural conceptions concerning the maintenance work and the maintenance organization. *Safety Science*, 44(9), 821-850. doi: 10.1016/j.ssci.2006.05.004.
- Reiman, T., & Oedewald, P. (2007). Assessment of complex sociotechnical systems - Theoretical issues concerning the use of organizational culture and organizational core task concepts. *Safety Science*, 45(7), 745-768. doi: 10.1016/j.ssci.2006.07.010.
- Reinach, S., & Gertler, J. (2001). An examination of railroad yard worker safety (No. DOT/FRA/ORD-01-20). Washington, DC: Federal Railroad Administration.
<http://ntl.bts.gov/lib/12000/12800/12871/ord0120.pdf>.
- Relihan, E., Glynn, S., Daly, D., Silke, B., & Ryder, S. (2009). Measuring and benchmarking safety culture: application of the safety attitudes questionnaire to an acute medical admissions unit. *Irish Journal of Medical Science*, 1-7. doi: 10.1007/s11845-009-0352-2.
- Render, M. L., & Hirschhorn, L. (2005). An irreplaceable safety culture. *Critical Care Clinics*, 21(1), 31-41. doi: 10.1016/j.ccc.2004.08.002.
- Reniers, G. L. L., Ale, B. J. M., Dullaert, W., & Soudan, K. (2009). Designing continuous safety improvement within chemical industrial areas. *Safety Science*, 47(5), 578-590. doi: 10.1016/j.ssci.2008.07.003.
- Reynolds, G. S., & Lehman, W. E. K. (2008). Workgroup temperance of alcohol and safety climate moderate the cognitive effects of workplace substance-abuse prevention. *Journal of Applied Social Psychology*, 38(7), 1827-1866. doi: 10.1111/j.1559-1816.2008.00371.x.
- Richardson, R., & Watkiss, R. (2003). The influence of leadership and behaviors on safety performance. *Offshore Europe*. Aberdeen, UK: Society of Petroleum Engineers. doi: <http://dx.doi.org/10.2118/83990-MS>.
- Richardson, S. (2004). Aotearoa/New Zealand nursing: From eugenics to cultural safety. *Nursing Inquiry*, 11(1), 35-42.
- Richter, A., & Koch, C. (2004). Integration, differentiation and ambiguity in safety cultures. *Safety Science*, 42(8), 703-722. doi: 10.1016/j.ssci.2003.12.003.
- Robaina, C., Partanen, T. J., & Ávila, I. (2010). A program for the reduction of occupational injuries and changes in safety culture among stevedores at port of Havana, Cuba. *International Journal of Occupational and Environmental Health*, 16(3), 312-319.
- Robb, G., & Seddon, M. (2010). Measuring the safety culture in a hospital setting: A concept whose time has come? *New Zealand Medical Journal*, 123(1314), 66-70.
- Roberts, V., & Perryman, M. M. (2007). Creating a culture for health care quality and safety. *Health Care Manager*, 26(2), 155-158. doi: 10.1097/01.HCM.0000268620.79233.8a.
- Robertson, B. (2002). Changing the culture of speed on New Zealand roads. *Proceedings of the Australasian road safety research, policing and education conference*, 6(2), 221-224. Monash University.
- Rochlin, G. I. (1999). Safe operation as a social construct. *Ergonomics*, 42(11), 1549-1560. doi: 10.1080/001401399184884.

- Rodney, G. A. (1991). Rebuilding a Safety Culture. Proceedings of the Flight Safety Foundation 44th International Air Safety Seminar, Singapore.
- Rollenhagen, C. (2010). Can focus on safety culture become an excuse for not rethinking design of technology? *Safety Science*, 48(2), 268-278. doi: 10.1016/j.ssci.2009.07.008.
- Rønning, S. (2007). Innovative coaching program enhances safety culture. *Offshore*, 67(1).
- Rooke, J., & Clark, L. (2005). Learning, knowledge and authority on site: A case study of safety practice. *Building Research and Information*, 33(6), 561-570. doi: 10.1080/09613210500294751.
- Rosen, A. K., Gaba, D. M., Meterko, M., Shokeen, P., Singer, S., Zhao, S., Falwell, A. (2008). Recruitment of hospitals for a safety climate study: Facilitators and barriers. *Joint Commission Journal on Quality and Patient Safety*, 34(5), 275-284.
- Rosen, M. (1997). Towards a global nuclear safety culture. *Nuclear Energy*, 36(4), 287-289.
- Ross, B. (2011). Danger culture/safety culture. *Dissent*, 58(1), 7-8.
- Rowland, B., Davey, J., Freeman, J., & Wishart, D. (2007). A profile of taxi drivers' road safety attitudes and behaviours: is safety important? *Proceedings of 3rd International Road Safety Conference*, Perth, Western Australia.
- Rowland, B., Davey, J., Freeman, J., & Wishart, D. (2008). Work-related road safety risk assessment: utilisation of self-report surveys to predict organisational risk. *Proceedings of the Australasian Road Safety Research, Policing and Education Conference* (205-215), Adelaide, SA.
- Ruchlin, H. S., Dubbs, N. L., & Callahan, M. A. (2004). The role of leadership in instilling a culture of safety: Lessons from the literature. *Journal of Healthcare Management*, 49(1), 47-58.
- Rundmo, T. (2000). Safety climate, attitudes and risk perception in Norsk Hydro. *Safety Science*, 34(1-3), 47-59. doi: 10.1016/s0925-7535(00)00006-0.
- Saarony, G., & Maennl, U. (2007). Building a safety culture: A blueprint for success. *Good Clinical Practice Journal*, 14(9), 29-31.
- Saji, G. (1991). Total safety: A new safety culture to integrate nuclear safety and operational safety. *Nuclear Safety*, 32(3), 416-423.
- Saji, G. (2003). Safety goals in 'risk-informed, performance-based' regulation. *Reliability Engineering and System Safety*, 80(2), 163-172. doi: 10.1016/s0951-8320(03)00026-7.
- Saleh, J. H., Marais, K. B., Bakolas, E., & Cowlagi, R. V. (2010). Highlights from the literature on accident causation and system safety: Review of major ideas, recent contributions, and challenges. *Reliability Engineering and System Safety*, 95(11), 1105-1116. doi: 10.1016/j.ress.2010.07.004.
- Salminen, S., & Saari, J. (1995). Measures to improve safety and productivity simultaneously. *International Journal of Industrial Ergonomics*, 15(4), 261-269. doi: 10.1016/0169-8141(94)00042-2.
- Salminen, S., & Seppälä, A. (2005). Safety climate in Finnish- and Swedish-speaking companies. *International Journal of Occupational Safety and Ergonomics: JOSE*, 11(4), 389-397.

- Sampson, B. (2009). Safety first. *Professional Engineering*, 22(12), 19-20.
- Sanguedolce, S. (2007). Principles of a safety culture. *Water Well Journal*, 61(12), 44-45.
- Saw, J. L., Wilday, J., & Harte, H. Learning organisations for major hazards and the role of the regulator. *Process Safety and Environmental Protection*. doi: 10.1016/j.psep.2010.03.006.
- Schroeder, D., Bailey, L., Pounds, J., & Manning, C. (2006). A human factors review of the operational error literature. Oklahoma City, OK: Federal Aviation Administration Civil Aeromedical Institute.
- Schutz, A. L., Counte, M. A., & Meurer, S. (2007). Development of a patient safety culture measurement tool for ambulatory health care settings: Analysis of content validity. *Health Care Management Science*, 10(2), 139-149. doi: 10.1007/s10729-007-9014-y.
- Schwarzwalder, J. E. (2005). AWWA's Health, Safety, and Environment Committee: Helps organizations and utilities understand and improve their safety culture. *Journal of the American Water Works Association*, 97(7), 44-47.
- Sellers, G. (2000). Behaviour-based approach to safety. *Manager*, (20), 26.
- Seo, D. C. (2005). An explicative model of unsafe work behavior. *Safety Science*, 43(3), 187-211. doi: 10.1016/j.ssci.2005.05.001.
- Seo, D. C., Torabi, M. R., Blair, E. H., & Ellis, N. T. (2004). A cross-validation of safety climate scale using confirmatory factor analytic approach. *Journal of Safety Research*, 35(4), 427-445. doi: 10.1016/j.jsr.2004.04.006.
- Sexton, J. B., Helmreich, R. L., Neilands, T. B., Rowan, K., Vella, K., Boyden, J., Thomas, E. J. (2006). The safety attitudes questionnaire: Psychometric properties, benchmarking data, and emerging research. *BMC Health Services Research*, 6. doi: 10.1186/1472-6963-6-44.
- Shang, K. C., & Lu, C. S. (2009). Effects of safety climate on perceptions of safety performance in container terminal operations. *Transport Reviews*, 29(1), 1-19. doi: 10.1080/01441640802264943.
- Shannon, H. S., & Norman, G. R. (2009). Deriving the factor structure of safety climate scales. *Safety Science*, 47(3), 327-329. doi: 10.1016/j.ssci.2008.06.001.
- Sharpanskykh, A., & Stroeve, S. (2009). An agent-based approach to modeling and analysis of safety culture in air traffic. *Proceedings of the International Conference on Computational Science and Engineering*, 4, 229-236, Vancouver, BC.
- Shelkownikov, V. G. (1991). Toward a Soviet aviation safety culture. *Proceedings of the Flight Safety Foundation 44th International Air Safety Seminar, Arlington, VA*.
- Sherman, P. J., Helmreich, R. L., & Merritt, A. C. (1997). National culture and flight deck automation: Results of a multinational survey. *International Journal of Aviation Psychology*, 7(4), 311-329.
- Shoji, T., & Egawa, Y. (2006). The structure of safety climates and its effects on workers' attitudes and work safety at Japanese construction work sites. *Journal of UOEH*, 28(1), 29-43.
- Short, J., Boyle, L. N., Shackelford, S., Inderbitzen, B., & Bergoffen, G. (2007). *The role of safety culture in preventing commercial motor vehicle crashes*. Washington, DC: Transportation Research Board.

- Sidorenko, V. A., & Shtejnberg, N. A. (1991). Safety culture. *Atomnaya Energiya*, 71(4), 358-374.
- Silbey, S. S. (2009) Taming Prometheus: Talk about safety and culture. *Annual Review of Sociology*, 35, 341-369.
- Silva, S., Lima, M. L., & Baptista, C. (2004). OSCI: An organisational and safety climate inventory. *Safety Science*, 42(3), 205-220. doi: 10.1016/s0925-7535(03)00043-2.
- Sinclair, D. (2010). The origins of safety culture in coalmining: "top-down" versus "bottom-up". *Journal of Health, Safety and Environment*, 26(3), 249-258.
- Sinclair, R. R., Martin, J. E., & Sears, L. E. (2010). Labor unions and safety climate: Perceived union safety values and retail employee safety outcomes. *Accident Analysis and Prevention*, 42(5), 1477-1487. doi: 10.1016/j.aap.2009.11.003.
- Sine, D. M., & Northcutt, N. (2008). Interactive qualitative assessment of patient safety culture survey scores. *Journal of Patient Safety*, 4(2), 78-83. doi: 10.1097/PTS.0b013e3181730322.
- Singer, S., Lin, S., Falwell, A., Gaba, D., & Baker, L. (2009). Relationship of safety climate and safety performance in hospitals. *Health Services Research*, 44(2P1), 399-421. doi: 10.1111/j.1475-6773.2008.00918.x.
- Singer, S., Meterko, M., Baker, L., Gaba, D., Falwell, A., & Rosen, A. (2007). Workforce perceptions of hospital safety culture: Development and validation of the patient safety climate in healthcare organizations survey. *Health Services Research*, 42(5), 1999-2021. doi: 10.1111/j.1475-6773.2007.00706.x.
- Singer, S. J., Gaba, D. M., Falwell, A., Lin, S., Hayes, J., & Baker, L. (2009). Patient safety climate in 92 US hospitals differences by work area and discipline. *Medical Care*, 47(1), 23-31. doi: 10.1097/MLR.0b013e31817e189d.
- Singer, S. J., Gaba, D. M., Geppert, J. J., Sinaiko, A. D., Howard, S. K., & Park, K. C. (2003). The culture of safety: Results of an organization-wide survey in 15 California hospitals. *Quality and Safety in Health Care*, 12(2), 112-118.
- Singer, S. J., Rosen, A., Zhao, S., Ciavarelli, A. P., & Gaba, D. M. (2010). Comparing safety climate in naval aviation and hospitals: Implications for improving patient safety. *Health Care Management Review*, 35(2), 134-146. doi: 10.1097/HMR.0b013e3181c8b20c.
- Singla, A. K., Kitch, B. T., Weissman, J. S., & Campbell, E. G. (2006). Assessing patient safety culture: A review and synthesis of the measurement tools. *Journal of Patient Safety*, 2(3), 105-115. doi: 10.1097/01.jps.0000235388.39149.5a.
- Siu, O. L., Phillips, D. R., & Leung, T. W. (2004). Safety climate and safety performance among construction workers in Hong Kong: The role of psychological strains as mediators. *Accident Analysis and Prevention*, 36(3), 359-366. doi: 10.1016/s0001-4575(03)00016-2.
- Smith, D. R., Muto, T., Sairenchi, T., Ishikawa, Y., Sayama, S., Yoshida, A., & Townley-Jones, M. (2010). Hospital safety climate, psychosocial risk factors and needlestick injuries in Japan. *Industrial Health*, 48(1), 85-95. doi: 10.2486/indhealth.48.85.

- Smith, G. S., Huang, Y. H., Ho, M., & Chen, P. Y. (2006). The relationship between safety climate and injury rates across industries: The need to adjust for injury hazards. *Accident Analysis and Prevention*, 38(3), 556-562. doi: 10.1016/j.aap.2005.11.013.
- Smith, K., & Martin, J. W. (2007). A barrier to building a traffic safety culture in America: understanding why drivers feel invulnerable and ambivalent when it comes to traffic safety. *Improving Traffic Safety Culture in the United States* (pp. 201-212), Washington, DC: AAA Foundation for Traffic Safety.
- Smits, M., Christiaans-Dingelhoff, I., Wagner, C., Wal, G. V. D., & Groenewegen, P. P. (2008). The psychometric properties of the 'hospital survey on patient safety culture' in Dutch hospitals. *BMC Health Services Research*, 8. doi: 10.1186/1472-6963-8-230.
- Smits, M., Wagner, C., Spreeuwenberg, P., Van Der Wal, G., & Groenewegen, P. P. (2009). Measuring patient safety culture: An assessment of the clustering of responses at unit level and hospital level. *Quality and Safety in Health Care*, 18(4), 292-296. doi: 10.1136/qshc.2007.025965
- Snyder, L. A., Krauss, A. D., Chen, P. Y., Finlinson, S., & Huang, Y. H. (2008). Occupational safety: Application of the job demand-control-support model. *Accident Analysis and Prevention*, 40(5), 1713-1723. doi: 10.1016/j.aap.2008.06.008.
- Soeters, J. L., & Boer, P. C. (2000). Culture and flight safety in military aviation. *The International Journal of Aviation Psychology*, 10(2), 111-133.
- Sorensen, J. N. (2002). Safety culture: A survey of the state-of-the-art. *Reliability Engineering and System Safety*, 76(2), 189-204. doi: 10.1016/s0951-8320(02)00005-4.
- Sorra, J. S., & Dyer, N. (2010). Multilevel psychometric properties of the AHRQ hospital survey on patient safety culture. *BMC Health Services Research*, 10. doi: 10.1186/1472-6963-10-199.
- Spence, R. (2004). Risk and regulation: Can improved government action reduce the impacts of natural disasters? *Building Research and Information*, 32(5), 391-402. doi: 10.1080/0961321042000221043.
- Speroff, T., Nwosu, S., Greevy, R., Weinger, M. B., Talbot, T. R., Wall, R. J., Dittus, R. S. (2010). Organisational culture: Variation across hospitals and connection to patient safety climate. *Quality and Safety in Health Care*, 19(6), 592-596. doi: 10.1136/qshc.2009.039511.
- Spielholz, P., Cullen, J., Smith, C., Howard, N., Silverstein, B., & Bonauto, D. (2008). Assessment of perceived injury risks and priorities among truck drivers and trucking companies in Washington State. *Journal of Safety Research*, 39(6), 569-576. doi: 10.1016/j.jsr.2008.09.005.
- Spielholz, P., Ngo, S., Stahl, D., & Al-Mukhtar, M. (2010). Measuring and improving safety climate in your organization. *Proceedings of the American Public Transportation Association Rail Conference*, Vancouver, British Columbia.
- Spigener, J. B. (2006). Leading with safety. *Iron and Steel Technology*, 3(4), 103-107.
- Squires, J. A. (2000). Regulating safety culture in the railroad industry: The time has come for broader horizons. *Transportation Law Journal*, 27(1), 93-112.

- Squires, M., Tourangeau, A., Spence Laschinger, H. K., & Doran, D. (2010). The link between leadership and safety outcomes in hospitals. *Journal of Nursing Management*, 18(8), 914-925. doi: 10.1111/j.1365-2834.2010.01181.x.
- Starren, A. M. L., Beek van der, F. A., & Gort, J. (2010). Stimulating traffic safety of (delivery) vans by enhancing the company's safety culture. *Proceedings of the Road Safety on Four Continents Conference*, 997-1007.
- Stephan, S. (2001). Improving the safety culture of the Australian mining industry. *Journal of Occupational Health and Safety - Australia and New Zealand*, 17(3), 237-249.
- Strahan, C., Watson, B., & Lennonb, A. (2008). Can organisational safety climate and occupational stress predict work-related driver fatigue? *Transportation Research Part F: Traffic Psychology and Behaviour*, 11(6), 418-426. doi: 10.1016/j.trf.2008.04.002.
- Stroeve, S. H., Sharpanskykh, A., & Kirwan, B. Agent-based organizational modelling for analysis of safety culture at an air navigation service provider. *Reliability Engineering and System Safety*. doi: 10.1016/j.res.2010.12.017.
- Sullman, M. J., Pajo, K., & Meadows, M. L. (2002). Impact of transport company safety climate of truck crashes. *Proceedings of the Europe Chapter of the Human Factors and Ergonomics Society Meeting*, New Zealand.
- Sully, M. (2001). When rules are not enough: Safety regulation and safety culture in the commercial driving context. *Proceedings of the Insurance Commission of Western Australia Conference on Road Safety*, Perth, Western Australia.
- Summers, A. E. (2009a). Continuous improvement and existing safety systems. *Journal of Loss Prevention in the Process Industries*, 22(6), 685-688. doi: 10.1016/j.jlp.2009.08.005.
- Summers, A. E. (2009b). Safety management is a virtue. *Process Safety Progress*, 28(3), 210-213. doi: 10.1002/prs.10337.
- Sutton, I. S. (2008). Use root cause analysis to understand and improve process safety culture. *Process Safety Progress*, 27(4), 274-279. doi: 10.1002/prs.10271.
- Swartz, S. M., & Douglas, M. A. (2009). The independence of independents: Influences on commercial driver intentions to commit unsafe acts. *Transportation Journal*, 48(1), 23-41.
- Swuste, P. (2008). WOS2006, regulatory issues, safety climate, culture, and management. *Safety Science*, 46(3), 345-348. doi: 10.1016/j.ssci.2007.07.002.
- Takano, K. (2001). Safety culture for prevention of organizational accidents. *Explosion*, 11(2), 99-103.
- Tam, C. M., Fung, I. W. H., & Chan, A. P. C. (2001). Study of attitude changes in people after the implementation of a new safety management system: The supervision plan. *Construction Management and Economics*, 19(4), 393-403. doi: 10.1080/01446190010027591.
- Taylor, J. C., & Thomas Iii, R. L. (2003). Toward measuring safety culture in aviation maintenance: The structure of trust and professionalism. *International Journal of Aviation Psychology*, 13(4), 321-343.
- Taylor, M. (2009). Mischief, mishap or mayhem: Was a poor safety culture responsible for the Nerpa Russian submarine disaster? *Nuclear Future*, 5(1), 36-40.

- Taylor, R. H. (2003). Managing risks through developing a strong safety culture. *Nuclear Energy*, 42(6), 341-346. doi: 10.1680/nuen.42.6.341.37628.
- Teo, E. A. L., & Feng, Y. (2009). The role of safety climate in predicting safety culture on construction sites. *Architectural Science Review*, 52(1), 5-16. doi: 10.3763/asre.2008.0037.
- Teo, E. A. L., & Ling, F. Y. Y. (2009). Enhancing worksite safety: Impact of personnel characteristics and incentives on safety performance. *International Journal of Construction Management*, 9(2), 103-118.
- Tessier, H. (2006). The importance of leadership in creating a sustainable safety culture. *Pulp and Paper Canada*, 107(4), 62.
- Thai, V. V., & Grewal, D. (2006). The maritime safety management system (MSMS): A survey of the international shipping community. *Maritime Economics and Logistics*, 8(3), 287-310. doi: 10.1057/palgrave.mel.9100161.
- Tharaldsen, J. E., & Haukelid, K. (2009). Culture and behavioural perspectives on safety - Towards a balanced approach. *Journal of Risk Research*, 12(3-4), 375-388. doi: 10.1080/13669870902757252.
- Tharaldsen, J. E., Olsen, E., & Rundmo, T. (2008). A longitudinal study of safety climate on the Norwegian continental shelf. *Safety Science*, 46(3), 427-439. doi: 10.1016/j.ssci.2007.05.006.
- Theune, D. (1996). Companies find unsafe attitudes are the real cause of accidents. *Pulp and Paper*, 70(5), 85-88.
- Thompson, T., & Deno, S. (2008). Safety is no accident. *Proceedings of the Marine Safety & Security Council*, 65(2), 76-82.
- Tippee, B. (2011). Spill panel seeks overhaul of safety culture, regulation. *Oil and Gas Journal*, 109(3), 16-19.
- Tokuhiro, A. (2001). A comparison of safety culture associated with three engineered systems in Japan and the United States. *JSME International Journal, Series C: Mechanical Systems, Machine Elements and Manufacturing*, 44(2), 506-514. doi: 10.1299/jsmec.44.506.
- Topf, M. (2003). Stress, distraction of paper industry business cause need for creating a safety 'culture'. *Pulp and Paper*, 77(12), 40-44.
- Törner, M. (2008). Safety climate in a broad context - What is it, how does it work, and can it be managed? *Scandinavian Journal of Work, Environment and Health*, Supplement(5), 5-8.
- Törner, M., & Pousette, A. (2009). Safety in construction - a comprehensive description of the characteristics of high safety standards in construction work, from the combined perspective of supervisors and experienced workers. *Journal of Safety Research*, 40(6), 399-409. doi: 10.1016/j.jsr.2009.09.005.
- Treiber, L. A. (2009). Safety or control? Workplace organization and occupational health. *Journal of Applied Social Science*, 3(1), 36-54.
- Tucker, J., Ernesti, M., & Tokuhiro, A. (2002). Quantifying the metrics that characterize safety culture of three engineered systems. *Proceedings of the 10th International Conference on Nuclear Engineering* (735-742), Arlington, VA.

- Turnberg, W., & Daniell, W. (2008). Evaluation of a healthcare safety climate measurement tool. *Journal of Safety Research*, 39(6), 563-568. doi: 10.1016/j.jsr.2008.09.004.
- Turner, B. A. (1991). Development of a safety culture. *Chemistry and Industry* (London)(7), 241-243.
- Turney, R. (2009). Health & safety: PSM: Spreading the message. *Chemical Engineer* (822), 35-36.
- Tweeddale, H. M. (2001). Nourishing and poisoning a 'safety culture'. *Process Safety and Environmental Protection*, 79(3), 167-173.
- Valais, A. (2007). Safety culture and safety management. *Journal of Occupational Health and Safety - Australia and New Zealand*, 23(1), 3-6.
- Van Dyke, D. (2009). Effective risk management depends on strong rules and not cutting corners. *Professional Pilot*, 43(6).
- van Elburg, J. C., & Scheurleer, R. L. (2004). Safety culture in European road haulage companies. *Proceedings of the European Transport Conference*, Strasbourg, France.
- Van Vuuren, W. (2000). Cultural influences on risks and risk management: Six case studies. *Safety Science*, 34(1-3), 31-45. doi: 10.1016/s0925-7535(00)00005-9.
- Varonen, U., & Mattila, M. (2000). The safety climate and its relationship to safety practices, safety of the work environment and occupational accidents in eight wood-processing companies. *Accident Analysis and Prevention*, 32(6), 761-769.
- Vecchio-Sadus, A. M., & Griffiths, S. (2004). Marketing strategies for enhancing safety culture. *Safety Science*, 42(7), 601-619. doi: 10.1016/j.ssci.2003.11.001.
- Vinodkumar, M. N., & Bhasi, M. (2009). Safety climate factors and its relationship with accidents and personal attributes in the chemical industry. *Safety Science*, 47(5), 659-667. doi: 10.1016/j.ssci.2008.09.004.
- Vogelsmeier, A., Scott-Cawiezell, J., Miller, B., & Griffith, S. (2010). Influencing leadership perceptions of patient safety through just culture training. *Journal of Nursing Care Quality*, 25(4), 288-294. doi: 10.1097/NCQ.0b013e3181d8e0f2.
- Vogus, T. J., & Sutcliffe, K. M. (2007). The Safety Organizing Scale: Development and validation of a behavioral measure of safety culture in hospital nursing units. *Medical Care*, 45(1), 46-54. doi: 10.1097/01.mlr.0000244635.61178.7a.
- Vogus, T. J., Sutcliffe, K. M., & Weick, K. E. (2010). Doing no harm: Enabling, enacting, and elaborating a culture of safety in health care. *Academy of Management Perspectives*, 24(4), 60-77.
- Wadick, P. (2007). Safety culture among subcontractors in the NSW domestic housing industry. *Journal of Occupational Health and Safety - Australia and New Zealand*, 23(2), 143-152.
- Wahlström, B., & Rollenhagen, C. (2004). Issues of safety culture; reflections from the learnsafe project. *Proceedings of the 4th American Nuclear Society International Topical Meeting on Nuclear Plant Instrumentation, Controls, and Human-Machine Interface Technologies* (NPIC & HMIT), Columbus, OH. http://virtual.vtt.fi/virtual/learnsafe/seminars/npic_paper.pdf.

- Wakefield, J. G., McLaws, M. L., Whitby, M., & Patton, L. (2010). Patient safety culture: Factors that influence clinician involvement in patient safety behaviours. *Quality and Safety in Health Care*, 19(6), 585-591. doi: 10.1136/qshc.2008.030700.
- Walker, A. (2008). A qualitative investigation of the safety culture of two organisations. *Journal of Occupational Health and Safety - Australia and New Zealand*, 24(3), 201-212.
- Walker, G. W. (2010). A safety counterculture challenge to a "safety climate." *Safety Science*, 48(3), 333-341. doi: 10.1016/j.ssci.2009.10.007.
- Wallace, C., & Chen, G. (2006). A multilevel integration of personality, climate, self-regulation, and performance. *Personnel Psychology*, 59(3), 529-557. doi: 10.1111/j.1744-6570.2006.00046.x.
- Wallace, J. C., Popp, E., & Mondore, S. (2006). Safety climate as a mediator between foundation climates and occupational accidents: A group-level investigation. *Journal of Applied Psychology*, 91(3), 681-688. doi: 10.1037/0021-9010.91.3.681.
- Wamuziri, S. (2006). Safety culture in the construction industry. *Proceedings of the Institution of Civil Engineers: Municipal Engineer*, 159(3), 167-174. doi: 10.1680/muen.2006.159.3.167.
- Wang, S.-E. (2003). Evaluation of the correlation for organizational climate and safety climate within crew resource management by clusters of pilots. *Transportation Planning Journal*, 32(3), 527-560.
- Ward, N. J. (2007). The culture of traffic safety in rural america. *Improving Traffic Safety Culture in the United States* (pp. 241-256), Washington, DC: AAA Foundation for Traffic Safety.
- Waterson, P., Griffiths, P., Stride, C., Murphy, J., & Hignett, S. (2010). Psychometric properties of the hospital survey on patient safety cCulture: Findings from the UK. *Quality and Safety in Health Care*, 19(5). doi: 10.1136/qshc.2008.031625.
- Watson, J. (2009). WorkCover NSW: A regulator's approach to improving safety culture. *Journal of Occupational Health and Safety - Australia and New Zealand*, 25(4 SPECIAL ISSUE), 289-295.
- Watts, B. V., Percarpio, K., West, P., & Mills, P. D. (2010). Use of the safety attitudes questionnaire as a measure in patient safety improvement. *Journal of Patient Safety*, 6(4), 206-209. doi: 10.1097/PTS.0b013e3181fbb86.
- Weyman, A., Clarke, D. D., & Cox, T. (2003). Developing a factor model of coal miners' attributions on risk-taking at work. *Work and Stress*, 17(4), 306-320. doi: 10.1080/02678370310001646844.
- Wiegmann, D. A., Thaden, T. L. v., & Gibbons, A. M. (2007). A Review of safety culture theory and its potential application to traffic safety. *Improving Traffic Safety Culture in the United States* (pp. 113-129), Washington, DC: AAA Foundation for Traffic Safety.
- Wiegmann, D. A., Zhang, H., Von Thaden, T., Sharma, G. & Mitchell, A. (2002). *A synthesis of safety culture and safety climate research*. University of Illinois Institute of Aviation Technical Report (ARL-02-3/FAA-02-2). Savoy, IL: Aviation Res. Lab.

- Wiegmann, D. A., Zhang, H., Von Thaden, T. L., Sharma, G., & Gibbons, A. M. (2004). Safety culture: An integrative review. *International Journal of Aviation Psychology*, 14(2), 117-134.
- Williams, A. F., & Haworth, N. (2007). Overcoming barriers to creating a well-functioning safety culture: A Comparison of Australia and the United States. *Institute of Transportation Engineers Journal*, 77(6), 24.
- Williams, W., & Purdy, S. (2005). Fatalism is highly correlated with perceived barriers, self-efficacy and workplace safety climate. *Journal of Occupational Health and Safety - Australia and New Zealand*, 21(3), 247-252.
- Williams, W., Purdy, S., & Storey, L. (2005). Assessing the workplace safety climate. *Journal of Occupational Health and Safety - Australia and New Zealand*, 21(1), 61-66.
- Williamson, A. M., Feyer, A. M., Cairns, D., & Biancotti, D. (1997). The development of a measure of safety climate: The role of safety perceptions and attitudes. *Safety Science*, 25(1-3), 15-27. doi: 10.1016/s0925-7535(97)00020-9.
- Wills, A., Watson, B., & Biggs, H. (2004). The relative influence of fleet safety climate on work-related driver safety. *Proceedings of the Australasian Road Safety Research, Policing and Education Conference, Perth, Western Australia*.
- Wills, A. R., Watson, B., & Biggs, H. C. (2006). Comparing safety climate factors as predictors of work-related driving behavior. *Journal of Safety Research*, 37(4), 375-383. doi: 10.1016/j.jsr.2006.05.008.
- Wills, A. R., Watson, B., & Biggs, H. C. (2009). An exploratory investigation into safety climate and work-related driving. *Work*, 32(1), 81-94.
- Wilpert, B. (2008). Regulatory styles and their consequences for safety. *Safety Science*, 46(3), 371-375. doi: 10.1016/j.ssci.2007.05.010.
- Wilpert, B., & Itoigawa, N. (2002). A culture of safety. *Nuclear Engineering International*, 47(574), 28-31.
- Wilson-Donnelly, K. A., Priest, H. A., Salas, E., & Burke, C. S. (2005). The impact of organizational practices on safety in manufacturing: A review and reappraisal. *Human Factors and Ergonomics In Manufacturing*, 15(2), 135-176. doi: 10.1002/hfm.20000.
- Wilson-Donnelly, K. A., Priest, H. A., Shawn Burke, C., & Salas, E. (2004). Tips for creating a safety culture in organization. *Ergonomics in Design*, 12(4), 25-30.
- Wilson, D. H., & Whittington, H. W. (1996). Safety in the former Soviet nuclear power industry. *Power Engineering Journal*, 10(5), 217-225.
- Wong, D. S., Desai, V. M., Madsen, P., Roberts, K. H., & Ciavarelli, A. (2005). Measuring organizational safety and effectiveness at NASA. *Engineering Management Journal*, 17(4), 59-62.
- Wood, A. M. (2007). A safety culture tunnelling. *Tunnelling and Trenchless Construction*, (30).
- Wretstrand, A., Petzäll, J., Bylund, P. O., & Falkmer, T. (2010). Reducing non-collision injuries in special transportation services by enhanced safety culture. *Medical Engineering and Physics*, 32(3), 254-262. doi: 10.1016/j.medengphy.2009.09.002.

- Wu, T. C., Chen, C. H., & Li, C. C. (2008). A correlation among safety leadership, safety climate and safety performance. *Journal of Loss Prevention in the Process Industries*, 21(3), 307-318. doi: 10.1016/j.jlp.2007.11.001.
- Wu, T. C., Lin, C. H., & Shiau, S. Y. (2009). Developing measures for assessing the causality of safety culture in a petrochemical industry. *Water, Air, and Soil Pollution: Focus*, 9(5-6), 507-515. doi: 10.1007/s11267-009-9242-x.
- Wu, T. C., Lin, C. H., & Shiau, S. Y. (2010). Predicting safety culture: The roles of employer, operations manager and safety professional. *Journal of Safety Research*, 41(5), 423-431. doi: 10.1016/j.jsr.2010.06.006.
- Wu, T. C., Liu, C. W., & Lu, M. C. (2007). Safety climate in university and college laboratories: Impact of organizational and individual factors. *Journal of Safety Research*, 38(1), 91-102. doi: 10.1016/j.jsr.2007.01.003.
- Xie, Y., Wen, J., Gao, X. F., Sun, D., Li, Y. P., Liang, X. X., Liu, Q. L. (2006). Evidence-based evaluation on the overseas aviation risk management and its performance. *Chinese Journal of Evidence-Based Medicine*, 6(2), 131-138.
- Yagil, D., & Luria, G. (2010). Friends in need: The protective effect of social relationships under low-safety climate. *Group and Organization Management*, 35(6), 727-750. doi: 10.1177/1059601110390936.
- Yates, G. R., Bernd, D. L., Sayles, S. M., Stockmeier, C. A., Burke, G., & Merti, G. E. (2005). Building and sustaining a systemwide culture of safety. *Joint Commission Journal on Quality and Patient Safety / Joint Commission Resources.*, 31(12), 684-689.
- Yu, M., Sun, L., & Egri, C. (2008). Workplace safety climate assessment based on behaviors and measurable indicators. *Process Safety Progress*, 27(3), 239-247. doi: 10.1002/prs.10256.
- Yuan, J. P., & Ma, Q. G. (2008). Safety climate practice in Chinese manufacturing industry. *Proceedings of the 4th International Conference Wireless Communications, Networking and Mobile Computing*.
- Yule, S., Flin, R., & Murdy, A. (2007). The role of management and safety climate in preventing risk-taking at work. *International Journal of Risk Assessment and Management*, 7(2), 137-151. doi: 10.1504/ijram.2007.011727.
- Zacharatos, A., Barling, J., & Iverson, R. D. (2005). High-performance work systems and occupational safety. *Journal of Applied Psychology*, 90(1), 77-93. doi: 10.1037/0021-9010.90.1.77.
- Zhang, L. (1995). Development and application of nuclear safety culture. *Nuclear Power Engineering*, 16(5), 443-446.
- Zhou, Q., & Fang, D. (2009). Mechanism of impact of safety climate on safety behavior in construction: An empirical study. *China Civil Engineering Journal*, 42(11), 129-132.
- Zhou, Q., Fang, D., & Mohamed, S. (2011). Safety climate improvement: Case study in a chinese construction company. *Journal of Construction Engineering and Management*, 137(1), 86-95. doi: 10.1061/(asce)co.1943-7862.0000241.

- Zhou, Q., Fang, D., & Wang, X. (2008). A method to identify strategies for the improvement of human safety behavior by considering safety climate and personal experience. *Safety Science*, 46(10), 1406-1419. doi: 10.1016/j.ssci.2007.10.005.
- Zhou, W. (2002). What Confucius said about safety culture. *Nuclear Engineering International*, 47(581), 18-19.
- Zhu, C. J., Fan, D., Fu, G., & Clissold, G. (2010). Occupational safety in China: Safety climate and its influence on safety-related behavior. *China Information*, 24(1), 27-59. doi: 10.1177/0920203x09354952.
- Zohar, D. (1980). Safety climate in industrial organizations: Theoretical and applied implications. *Journal of Applied Psychology*, 65(1), 96-102. doi: 10.1037/0021-9010.65.1.96.
- Zohar, D. (2000). A group-level model of safety climate: Testing the effect of group climate on microaccidents in manufacturing jobs. *Journal of Applied Psychology*, 85(4), 587-596.
- Zohar, D. (2002a). The effects of leadership dimensions, safety climate, and assigned priorities on minor injuries in work groups. *Journal of Organizational Behavior*, 23(1), 75-92. doi: 10.1002/job.130.
- Zohar, D. (2002b). Modifying supervisory practices to improve subunit safety: a leadership-based intervention model. *Journal of Applied Psychology*, 87(1), 156-163.
- Zohar, D. (2008). Safety climate and beyond: A multi-level multi-climate framework. *Safety Science*, 46(3), 376-387. doi: 10.1016/j.ssci.2007.03.006.
- Zohar, D. (2010). Thirty years of safety climate research: Reflections and future directions. *Accident Analysis and Prevention*, 42(5), 1517-1522. doi: 10.1016/j.aap.2009.12.019.
- Zohar, D., & Erev, I. (2007). On the difficulty of promoting workers' safety behaviour: Overcoming the under-weighting of routine risks. *International Journal of Risk Assessment and Management*, 7(2), 122-136. doi: 10.1504/ijram.2007.011726.
- Zohar, D., Livne, Y., Tenne-Gazit, O., Admi, H., & Donchin, Y. (2007). Healthcare climate: A framework for measuring and improving patient safety. *Critical Care Medicine*, 35(5), 1312-1317. doi: 10.1097/01.ccm.0000262404.10203.c9.
- Zohar, D., & Luria, G. (2003). The use of supervisory practices as leverage to improve safety behavior: A cross-level intervention model. *Journal of Safety Research*, 34(5), 567-577. doi: 10.1016/j.jsr.2003.05.006.
- Zohar, D., & Luria, G. (2004). Climate as a social-cognitive construction of supervisory safety practices: Scripts as proxy of behavior patterns. *Journal of Applied Psychology*, 89(2), 322-333. doi: 10.1037/0021-9010.89.2.322.
- Zohar, D., & Luria, G. (2005). A multilevel model of safety climate: Cross-level relationships between organization and group-level climates. *Journal of Applied Psychology*, 90(4), 616-628. doi: 10.1037/0021-9010.90.4.616.
- Zohar, D., & Luria, G. (2010). Group leaders as gatekeepers: Testing safety climate variations across levels of analysis. *Applied Psychology*, 59(4), 647-673. doi: 10.1111/j.1464-0597.2010.00421.x.

Zohar, D., & Tenne-Gazit, O. (2008). Transformational leadership and group interaction as climate antecedents: A social network analysis. *Journal of Applied Psychology*, 93(4), 744-757. doi: 10.1037/0021-9010.93.4.744.

Zou, P. X. W. (2011). Fostering a strong construction safety culture. *Leadership and Management in Engineering*, 11(1), 11-22. doi: 10.1061/(asce)lm.1943-5630.0000093.