

INPLASY PROTOCOL

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None declared.

Safety competencies: a systematic review

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Review question / Objective: 1) What is the pattern of safety competency studies? 2) What are safety competencies in occupational safety and health? 3) What are the key competencies that should be possessed in order to improve an organization's safety culture?

Condition being studied: A systematic literature review was done on all previous studies about safety competencies in all conditions and sectors such as construction, education, and manufacturing. However, studies from the medical sector were excluded from this study.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 26 March 2022 and was last updated on 26 March 2022 (registration number INPLASY202230246).

INTRODUCTION

Review question / Objective: 1) What is the pattern of safety competency studies? 2) What are safety competencies in occupational safety and health? 3) What are the key competencies that should be possessed in order to improve an organization's safety culture?

Rationale: Safety competencies are known as the crucial part of developing a safety culture. Workers with higher competencies

are capable of preventing accidents from happening and also able to reduce the effects of accidents if it happens. They also would be able to study the fault from the accident that occurred to avoid it in the future. This is because competence is referred to as a set of explicit knowledge and skills, awareness of implicit social roles, self-concepts, traits, and motivations inherent in an individual. Consistent and ongoing research on safety competencies is essential to developing safety professionals in a global environment. The

results from the previous studies can be used as a reference for decisions to establish a comprehensive model of learning to grow the competencies in occupational safety and health glossary.

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METHODS

Search strategy: Search string for 3 main database. Scopus - TITLE-ABS-KEY ("occupational safety and health" OR "occupational health and safety") AND ("safety competencies" OR "safety competency" OR "safety competence") Science Direct - ("occupational safety and health" OR "occupational health and safety") AND ("safety competency" OR "safety competencies" OR "safety competence") Web of Science (WOS) - (((ALL= ("occupational safety and health")) OR ALL= ("occupational health and safety")) AND ALL= ("safety competencies")) OR ALL= ("safety competency") OR ALL= ("safety competence").

Participant or population: The search recorded 312 articles.

Intervention: The review combine the results of multiple studies about safety competency and provide a list of safety competencies in various field of occupation world.

Comparator: No specific comparator which means any comparator including no comparator were included in the review.

Study designs to be included: The review follow PRISMA 2020 statement, 5 step approach for systematic literature review (Khan et. al. 2003) and The art of writing literature review (Paul & Criado 2020).

Eligibility criteria: The review search for article about Safety Competencies which were publish since 2000 till August 2021. The research limit the paper type to Indexed Journal (articles, research, review) which were write in English only.

Information sources: The search for the article is limited to three electronic databases which are Scopus, Science Direct, and Web of Science.

Main outcome(s): Safety competencies definition were determined which can be concluded as workers' knowledge, skills, and experience to complete their work safely . It is the underlying qualities of a worker that are causally correlated to criterion-referenced safe daily organizations' performance and also professional capability, skills, and experience gained through systematic process safety education and training which motivates employees to do duties in a safe and effective manner. This review also has identified the core competencies that workers should pose in order to perform the daily task safely such as knowledge about safety, communication and the skills to perform the job in the way they should do.

Data management: The PRISMA 2020 checklist.

Quality assessment / Risk of bias analysis: To reduce the risk of bias and ensure the quality of the review, a standard checklist were used which is PRISMA Statement 2020 checklist.

Strategy of data synthesis: First, the research goals are reviewed and be used as guidance for the analysis. Then, search results were organized and reviewed. Next, we identify affinities, patterns, and themes such as country of publications, year of publication, and also the field of publications. All of the findings will be summarized and shared.

Subgroup analysis: Not applied in this review.

Sensitivity analysis: Not applied in this review.

Language: The search limit to English written paper only.

Country(ies) involved: Malaysia, Indonesia.

Keywords: Occupational safety and health; safety competencies; safety management practice; safety culture; safety skills.

Contributions of each author:

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