



Guiding Companies in Enhancing Occupational Health and Safety Practices for Factory Staff

Study and Recommendations on Social and Physical
Barriers in Jordanian Industrial Workplaces



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Executive Summary

Enhancing occupational health and safety (OHS) practices for factory staff in Jordan involves a multi-faceted approach that considers local regulations, cultural factors, and industry-specific risks.

This study investigates the social and physical barriers present in industrial workplaces in Jordan, with the goal of providing actionable recommendations to improve occupational health and safety, employee satisfaction, and overall productivity. The analysis encompasses social and physical barriers in the workplace. Barriers are considered as an obstacle against development, all industrial factories face numerous types of barriers the most common of them are physical and social barriers¹. Indeed those barriers make a huge obstacle against organization improvement². This study aimed to recognize barriers in Jordanian workplace and try to eliminate them as possible and address youth's empowerment (particularly refugees and young women) in Jordan to raise industry's attractiveness to youth group. Our study used a mixed method design incorporating both quantitative and qualitative approach, with two instruments to collect data. This study population is employees in Jordanian industries, the total of industrial facilities is 1228 factory and the total of employee working in them is 144927. The research took place in two governments (Amman and Irbid) and the following Industrial Estates (Alhasan Industrial Estate & King Abdullah II Ibn Al-Hussein Industrial Estate, particularly in five sectors: Garment, Food, Packaging, Chemicals, and Plastics).

The findings of our project revealed that, some of Jordanian industrial factories have risks in workplaces, also most employees suffer from depression and face difficulties because of the long distance from home to the factory with limited transportations. In addition, some of industrial factories don't have clear policies and procedures in the workplace to promote safety and health, for instance protocols for hazard identification, risk assessment, and accident prevention. The majority of employees in our study do not suffer from friction or bullying, and there is an equal treatment between Syrian refugees and Jordanian employees at work. Furthermore, management ensures that all employees receive comprehensive training for their rules, including how to recognize hazards, use safety equipment, and respond to emergencies. Additionally, most employees can balance between work and home, also they took training programs for awareness and development.

This report concludes, that in order to make their workplaces safer and prevent work related injuries, companies should identify specific risks in different areas of the factory and reduce the risk in work environment, also to collaborate with local government or transportation organization to supply the factories with buses or vans to deliver employees who live far from industrial area, as well as try options for flexible work schedules, shift work or part time.

Moreover, cooperation with disability organizations to build insights and guide factories management for making industrial facilities more accessible for employees with disabilities is essential. As well as maintaining mental health and well-being among employees. Finally, discovering barriers that exist in the workplace environment revealed that various areas in industries need to improve. That is why this project provides great guidance for agencies and management to build a developmental strategy and make a huge improvement.

Introduction

In today's dynamic workplaces, achieving optimal productivity and fostering a supportive environment often hinges on overcoming various barriers. Among these, social and physical barriers stand out as significant challenges that organizations must address to promote inclusivity and enhance overall efficiency. Social barriers encompass interpersonal dynamics, cultural differences, and communication challenges that can hinder collaboration and teamwork. On the other hand, physical barriers refer to obstacles in the workplace layout or infrastructure that limit accessibility or impede movement. Understanding and effectively managing these barriers are essential for creating an inclusive and conducive work environment where every individual can thrive. This report explores the impacts of these barriers within the Jordanian industrial sector, and strategies to mitigate their effects, aiming to cultivate a workplace environment that nurtures diversity, productivity, and employee well-being.

All industrial factories encounter various obstacles that hinder their productivity. Among the most common challenges and barriers are Occupational Safety and Health (OSH), work related injuries, and mental wellbeing at work. Therefore, this report will focus on addressing the OSH barriers in the workplace that individual companies can control. Najahna program addressing youth's empowerment (particularly refugees and young women) in Jordan to raise industry's attractiveness to youth groups. This study focused on the Occupational Health, Safety, and Environmental standards inside five industrial sectors, with the aim to develop guidelines for manufacturing companies on reviewing their work environments to enhance their appeal to young people.

Within the Najahna program, Danish Industry (DI) together with Jordan Chamber of Industry (JCI), work to empower youth in Jordan, particularly young women, and Syrian refugees, through education and employment. A sub-activity under the Najahna Program aims at raising private labor market's capacity and willingness to include youth (including women and young Syrian refugees) into their workplace, and provide for a healthy, safe and gender sensitive work environment.

RISK FACTORS THAT ARE SPECIFIC TO YOUNG WORKERS



WORK HAZARDS TO WHICH YOUNG WORKERS ARE FREQUENTLY EXPOSED

Background

Studying social and physical barriers in Jordanian workplaces requires a nuanced understanding of the cultural, economic, and organizational dynamics specific to Jordan.

Economically, Jordan faces challenges such as unemployment and underemployment, which influence workplace dynamics and employee satisfaction. These economic factors can contribute to both social and physical barriers, affecting job opportunities, career advancement, and overall work environment quality.

By studying both social and physical barriers in Jordanian workplaces, it is possible to gain insights into how cultural norms, economic conditions, and infrastructure impact organizational effectiveness, employee engagement, and the broader socio-economic development of the country. Such studies can inform strategies for fostering inclusivity, improving workplace design, and enhancing overall productivity in Jordan's evolving business landscape.

The Industrial Sector in Jordan

Jordan's industrial sector plays a crucial role in the national economy, contributing significantly to the country's GDP. It provides jobs to thousands of individuals, from unskilled laborers to highly skilled professionals in various fields. The industrial sector contributed approximately 18-20% to Jordan's GDP and employed around 20-25% of the total workforce in Jordan.

The industrial sector plays a major role in contributing to consolidating the pillars of economic and social development, as this is clear through its effective contributions as one of the basic pillars in advancing economic growth, and its major role in employment and employment. The industrial sector contributes about a quarter of the national economy directly. The industrial sector also employs about 251 thousand workers, most of them Jordanians, working in approximately 18 thousand industrial facilities spread throughout all governorates of the Kingdom, thus constituting about 21% of the total Jordanian workforce, and this percentage increases to reach about 28% of the total employment volume in the sector.

According to the latest analytical study on work-related injuries issued by the Social Security Corporation, which is the only source monitoring work-related accidents and injuries, work-related accidents and injuries are still very worrying in Jordan, and their rates are on the rise. Since its establishment, the Insurance Institution has dealt with more than 611,000 work-related injuries. Considering that there are large numbers of work accidents and injuries that occur to workers who are not included, or whose establishments evade reporting their injuries to the insurance institution. The report of the Jordanian Center for Labor Rights referred to official data on occupational safety and health and stated that they indicate that the numbers of work injuries and occupational diseases have even increased in 2022 compared to 2020 at a rate of (58.9%). The report indicated that the percentage of traumatic deaths that occurred during the year 2023 constituted (1.4%) of the total injuries in 2022, while the percentage (disability less than 30.0%) constituted about (26.1%) of the total injuries.

Social Security Report 2022

- A work injury occurs **every 30 minutes** across all sectors
- The **health and social work sector** occupied the highest number of registered injuries, amounting to **4,654** work-related injuries, representing **28.8%** of the total injuries
- **“Falling”** accounted for the highest incidence of work-related injuries in 2022, amounting to **4,319** injuries, at a rate of **26.7%** of the total injuries
- **3,895** injuries occurred among insured **female workers**, representing **24.1%** of the injuries in the private sector
- **Sunday** had the highest amounts of injuries, with **2,959** work-related injuries, representing **17,7%** in the public and private sector
- **6,896** injuries occurred to people **under the age of 30**, representing **42.7%** of the total injuries

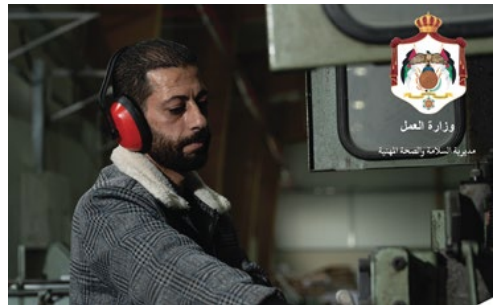
المؤسسة العامة للضمان الاجتماعي
Social Security Corporation



Regulations for occupational safety and health

It is necessary to provide job stability, a safe and sound work environment, and decent work opportunities to make occupational safety a way of life and behavior, which contributes to reducing workers' exposure to risks and injuries as much as possible.

The Ministry of Labor (MoL) completed the labor law procedures, that came into effect during 2023, which covers occupational safety.



The Ministry of Labor issued 3 new regulations for occupational safety and health to improve the work environment for workers in the private sector, which are: the System for Preventive and Curative Medical Care for Workers in Institutions No. (32) of 2023; the System for Occupational Safety and Health, Prevention of Occupational Hazards, and Prevention of Occupational Hazards in Institutions No. (31) of 2023; and the Regulations for Forming Occupational Safety and Health Committees and Appointing Supervisors in Institutions No. (33) of 2023.

The Ministry also issued instructions in accordance with these regulations (e.g. Instructions specifying the types of sources of occupational hazards in the work environment and the necessary precautions and preventive measures for the year 2023, Instructions for classifying and determining the degree of risk of economic activity for the year 2023, Instructions for risk assessment in the work environment for the year 2023). Accordingly, most Jordanian factories meet the requirements of the Civil Defense to protect against fire danger and the requirements of the Ministry of Labor and Social Security to protect against work-related injuries, which in turn aims to provide a safe working environment for workers. By proactively addressing both social and physical barriers, Jordanian workplaces can foster a more inclusive, supportive, and productive environment where all employees can thrive and contribute effectively to organizational success.

Study focus and objectives

The main objective for this report is to define the Social & Physical Barriers in workplace that face youth workers, particularly young women, and refugees. Sub-objectives are the following:

- 1- Identify the industrial sectors and distribution.
- 2- Identify the volume of each sector in its' industrial zone.
- 3- Identifying the percentage of young people in industrial sectors.
- 4- Identify the percentage of females working in industrial sectors.
- 5- Identifying the percentage of Syrian refugees, male and female, working in the industrial sectors.

Findings

This study revealed that, some of Jordanian industrial factories have risk in workplaces, also most employees suffer from depression and face difficulties because of the long distance from home to the factory with limited transportations. In addition, some of industrial factories don't have clear policies and procedures in the workplace to promote safety and health, for instance protocols for hazard identification, risk assessment, and accident prevention, as well as they are not equipped for people with special needs.

The most of employees from our sample do not suffer from friction, bullying, and there is an equal treatment between Syrian refugees and Jordanian employees at work. Management ensure that all employees receive comprehensive training for their rules, including how to recognize hazards, use safety equipment, and respond to emergencies. Additionally, most employees can balance work and home with no family issues, also they took training programs for awareness and development.

Recommendations and Conclusion

The employer shall make risk assessment for the factory and put action plan to reduce the risk in work environment, also collaborate with local government or transportation organization to supply the factories with buses or vans to deliver employees who live far from industrial area, as well as try options for flexible work schedules, shift work or part time.

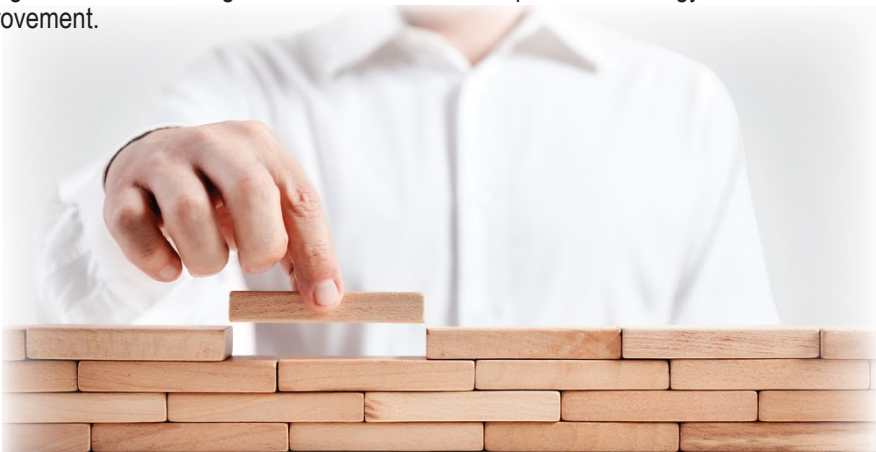
Furthermore, it is recommended for employer to cooperate with disability organizations to build insights and guide factories management for making industrial facilities more accessible for employees with disabilities. As well as maintaining mental health and well-being among employees through managing psychosocial risks in the workplace..... As results have proven that mental health and wellbeing are some of the biggest challenges factory workers are faced with. People with disabilities have high retention rates. Persons with disabilities are employed at lower rates than the general population in Jordan. Jordan country have made efforts to include persons with disabilities in their labor markets, however, the gap persists, and employers still have negative attitudes towards them. This cannot be explained by persons with disabilities being unable or unwilling to work.

Rather, there are several barriers that prevent them from accessing employment opportunities.



When companies hire a qualified and competent person with a disability, they will win. The company will achieve the highest levels of quality in work. The workers with disabilities have proven to be more loyal and easier to retain. In addition to achieving the concept of social responsibility towards this segment of society, which leads to improving the level of work and company culture. Thus, achieving legal compliance related to employing a percentage of people with disabilities in each institution. On other hand, Employers' perceptions regarding employing persons with disabilities, employers believed that persons with disabilities were more susceptible to accidents and injuries, thought that persons with disabilities were not as productive as other employees. assumed that customers would feel uncomfortable around persons with disabilities. also expressed concerns that accommodation for persons with disabilities would be too expensive; they would not be able to communicate with them; health insurance would be too expensive; and they would not be able to work normal hours. Encouraging companies to employ persons with disabilities involves promoting the benefits of inclusivity, dispelling misconceptions, and providing practical strategies for successful integration. Key points include highlighting the diverse perspectives and skills that persons with disabilities bring to the workplace, addressing concerns about productivity with factual information, and promoting inclusive hiring policies that actively seek out disabled candidates. It's essential to offer training on disability awareness and accommodations, connect employers with support resources, and showcase successful case studies to demonstrate the positive impact of inclusive practices. By fostering a supportive environment and advocating for accessibility, companies can enhance diversity, employee satisfaction, and overall organizational success.

In conclusion, discovering barriers that exist in the workplace environment revealed that various areas in industries need to improve. That is why this report provides great guidance for agencies and management to build a developmental strategy and make a huge improvement.



Barriers

As we are aware, barriers exist in every workplace including industrial factories². They were defined as any factors or obstacles that disrupt workflow, reduce productivity, or negatively impact employees' well-being⁵. All barrier types affect different aspects of the work environment. Some common types of barriers in the workplace are **(social barriers, technological barriers, organizational barriers, cultural barriers, physical barriers, and psychological barriers)**². This report included physical and social barriers in detail.

Physical Barriers

Physical barriers that relate to the tangible and concrete aspects of the working environment, facilities, and resources in a company. According to the literature, physical barriers in an industrial workplace can vary depending on the specific industry and workplace setup⁶. Usually, physical challenges refer to obstacles or conditions related to the physical environment in the workplace that negatively affect the efficiency of workflow⁶. The most common example of physical barriers is inadequate workspace, where limited space or overcrowding can hinder employees' movement and make it challenging for them to perform their tasks efficiently, also it can increase the risk of accidents, especially in environments where heavy machinery or equipment is involved⁷. Another example is poor lighting in an industrial setting which can lead to eye strain, fatigue among employees, visibility issues, and difficulty in identifying hazards or reading the instructions (machinery safety). Moreover, unsafe flooring, lack of ergonomic design, noise pollution, temperature extremes, and lack of accessibility all are considered as examples of physical barriers in the industrial workplace.⁷ Furthermore, physical barriers affect both employees and the overall workflow in an industrial factory⁸. They may increase the risk of accidents and injuries which range from minor cuts and bruises to more severe fractures, sprains, or even fatalities⁷. As well as physical barriers cause discomfort which can reduce employee productivity. For example, inadequate workspace led to fatigue, and decreases individual efficiency⁸. Similarly, noise pollution or extreme temperatures may distract employees and affect their concentration levels. Additionally, there are numerous negative impacts of physical barriers here are some of them, negative impact on employee health, increased absenteeism and turnover, legal and financial consequences, and the impact on overall business performance⁹. That is why solving physical barriers in the industrial workplace is crucial for organizational development and employees' safety.

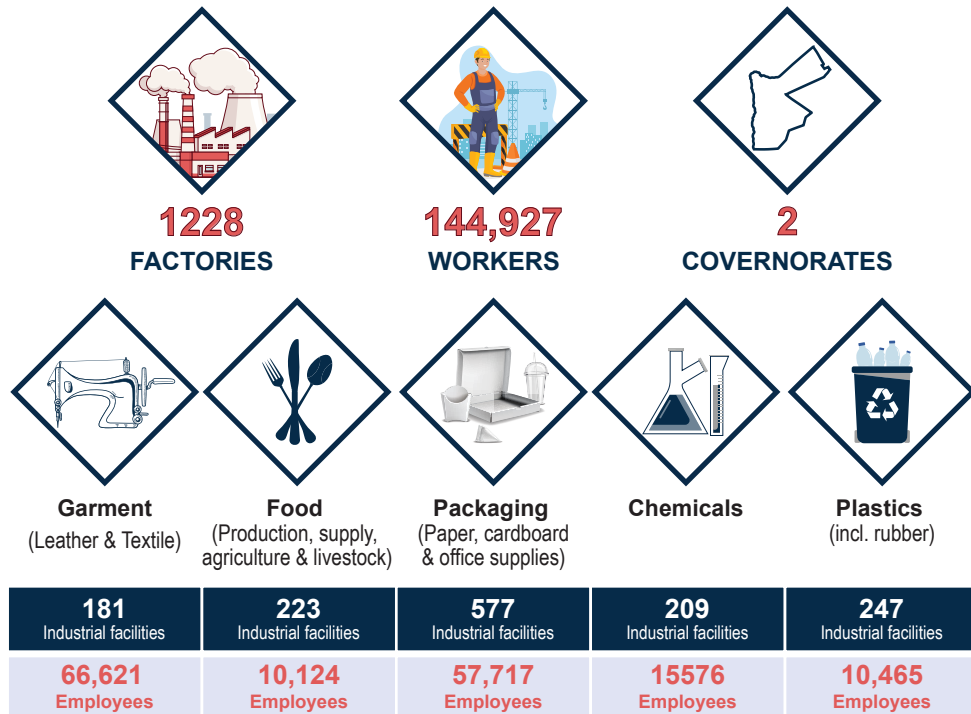
Social Barriers

Social barriers in the workplace can significantly impact both individual performance and overall organizational effectiveness. Social barriers that are the tangible aspects and relate to the cultural, organizational and interpersonal aspects in a company. Not only physical barriers exist in each company but also social barriers¹. Generally, social barriers associated

with challenges in employees' relationship, interaction among workers, and culture divergence¹⁰. Certainly, social barriers affect employees' communication, collaboration, and work environment. Consequently, organizational productivity and staffs' harmony will be disrupted¹¹. Generally, Social barriers affect various aspects in industrial factories including individuals' behavior and effectiveness¹⁰. Their impact will negatively alter business performance and thrive, thus addressing social barriers is essential for sustainable development. Decreased employee morale, poor communication and collaboration, increased turnover and absenteeism, reduced productivity and innovation, legal and reputational risks¹², those are all considered as examples of social barriers influence.

In summary, all industrial factories face numerous types of barriers the most common are physical and social barriers, indeed those barriers make a huge obstacle against organization improvement¹. Therefore, all organizations must take into consideration how to solve and eliminate those barriers as much as possible to continue their existing and development.

This report is based on a study conducted on a sample of 1,228 factories and 144,927 employees across five industrial sectors located in the two governorates of Amman and Irbid in Jordan (see Figure 1). For more in dept information about the study design, please refer to the Methodology section.



Main Findings

Physical Barriers

Finding #1: Facing Risks in the Work Environment

Industrial workers often encounter various hazards, including unsafe machinery, exposure to harmful chemicals, inadequate safety protocols, and lack of proper training. In our study, over half of the workers acknowledged workplace risks, and 37.3% specifically identified environmental factors, such as harmful chemicals and fumes, that adversely affect employees.

One respondent recounted a 2019 incident in which a fire broke out in a textile factory, injuring multiple employees. Investigations revealed several safety lapses: the factory lacked proper fire safety equipment, emergency exits were blocked, and workers had not received adequate evacuation training, as reported in the News 13. Additionally, most employees complained about exposure to hazardous materials that could cause harm over time.

High risk in the workplace environment is considered as a critical physical barrier which affects all aspects in the organization, including production and employees' safety and well-being. That is why it is very important to shed light on risks in the workplace and treat them immediately.



Finding #2: Long Commutes and Limited Transportation Options

In Jordan, factories are typically located far from residential areas, thus workers often face challenges due to the lack of transportation services operating around the clock. 59.2% of employees complained about the long distance between their homes and work places. For instance, a group of factory workers who live several kilometers away in urban areas often struggle to find reliable and affordable transportation to and from work, due to the lack of public transportation during late-night and early-morning shifts. As a result, they are forced to walk long distances or rely on informal transportation methods, which can be exhausting, time-consuming,

unsafe, and expensive, especially during winter or late hours where the risk of accidents or harassment may increase.

The lack of reliable transportation options not only adds to the physical and mental strain on workers but also affects their punctuality and overall productivity. Additionally, it can contribute to absence and turnover rates.



Finding #3: Industrial Factories are not Equipped for People with Special Needs

The lack of accessibility for people with special needs in industrial factory buildings in Jordan is considered as a significant concern, as it increases the risk of injury within the work area. Additionally affecting job opportunities for people with disabilities and increasing barriers to enter and remain in the workforce. Unfortunately, around 70% of workers confirmed that their workplace facilities do not accommodate individuals with disabilities or special needs. As a result, this finding is considered a critical example of physical barriers in industrial workplace in Jordan.

Social Barriers

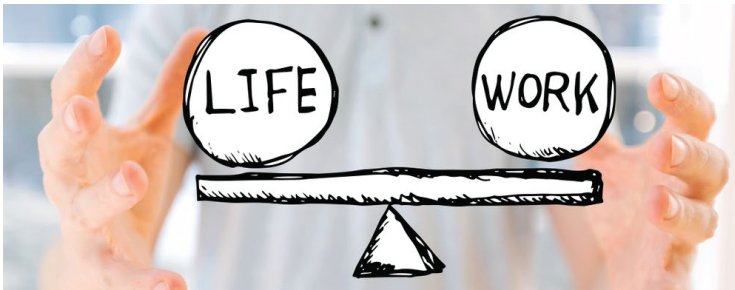
Finding #4: Perceived Equal Treatment of Syrian and Jordanian Employees

Bullying at work affects industries across each sector and individuals. Also, it stands as a significant challenge for both employees and organizations. Employees who experience bullying may suffer from stress, anxiety, depression, and other mental health issues, as a result job satisfaction and performance will be decreased. Moreover, bullying in the workplace can contribute to high turnover rates. In Jordanian industries, 65.8% stated that there is not any form of bullying at work and 82.3% of them said that there is harmony among employees. Thus, a proactive strategy must be implemented to eliminate bullying as much as possible and create a safe and collaborative environment.

Ensuring equal treatment between all employees is essential to promote harmony among workers, improve communication, and increase productivity. This assessment revealed that 71.9% of workers said there is equal treatment between Syrian refugees and Jordanians employees at work.

Finding #5: Work-Life Balance and Awareness

Building a balance between work and home is considered as one of the challenges in the work field, as well as it is essential for individuals' health, effectiveness, and organizational productivity. Even without family issues, employees face several difficulties in balancing their professional and personal lives, and in keeping this balance. In fact, 88.5% of Jordanian factory employees can balance between work and home, which sheds a light on the question, what is the reason for that percent?



63.8% of industrial workers have attended awareness and training programs. Indeed, taking such a programs are important for employees to improve their skills, and develop their professional growth. Furthermore, by investing in training and development, employees become effective, leading to enhance job performance and organization productivity.

Occupational Safety and Health

Finding #6: No Clear Policies or Procedures to Promote Safety and Health in the Factories

OSH aims to preserve the health and safety of employees in the workplace, also it prevents accidents by identifying hazard material and equipment. Moreover, Jordanian governmental agencies establish the OSH regulations to ensure that employers provide a safe and healthy work environment for their employees.

Data analysis revealed that most factories (96.5%) have manual lifting and handling jacks, 86.2%of factories do not have slopes on factory floor. 86.2% of workers use jack or forklifts, and 31.5% of them deal with chemicals in the factory.

Lack of implementation of OSH regulations may cause a serious consequence for both workers and organizations, including increased risk of accidents and injuries, negative impacts on health, decreased productivity, and legal consequences.

Finding #7: Training on Rules about Hazard, Safety Equipment and Emergency Response

Providing adequate safety training is essential in every organization. Because workers need to recognize potential hazards in the workplace so they can protect themselves and reduce the risk. As well as employees with no long experience must have supervisor on them to reduce the risk and mistakes as much as possible. According to participants, almost all employees (96.2%) have a supervisor for their work which keeps all workers under monitoring and minimizes the risk. Besides that, 87.7% of workers received all the necessary training to know about hazards in the workplace and how to deal with it, also to recognize safe work practice and procedures for their tasks.



Psychometric Health

Finding #8: Depression is the Most Common Issue Amongst Industrial Factory Workers

Good health and well-being of employees are considered as a crucial need in each organization. It directly impacts the productivity and success of both individual employees and the organization. Psychometric health in the workplace refers to the psychological well-being among employees, it involves evaluating various factors related to mental health, such as stress levels, anxiety, and overall psychological aspects.

According to data analysis in our study (figure 2), depression (20.34%) is the most occurring psychometric health issue among the employees from the Jordanian industrial factories in our studies, followed in descending order by obsessive-compulsive disorder (OCD; 17.88%), Reactive Sensitivity (13.24%), Anxiety (12.05%), Paranoia (11.78%), Psychoticism (9.93%), Phobia (7.98%), and Friction (6.57%).

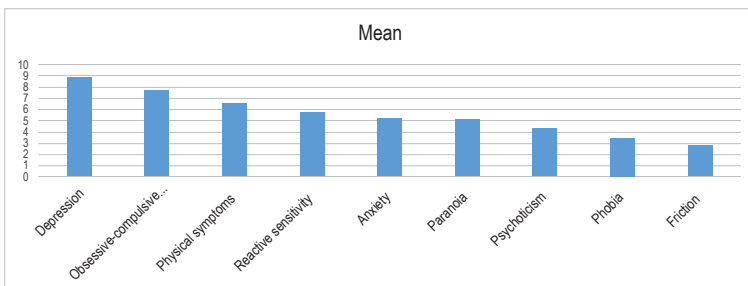


Figure 2. Types of psychometric health issues and their mean occurrence as per our study

Recommendations

This report aims to build a safe, healthy environment in the workplace, motivate young people to work in industrial field, and eliminate obstacles that face employees. Thus, after research and examination of workplace environment in Jordanian industrial factories, this assessment recommends the following:



Physical and Social Barriers

Rec#1: Identify and Reduce physical risks in the Work Environment

Identifying specific risks in different areas of the factory and reduce the risk in work environment by:

- a. Provide safety training for all employees to increase awareness regarding protocols and procedures of potential hazards in the workplace.
- b. Maintain communication between managements and employees to immediately address safety issues.
- c. Evaluate and improve safety procedures based on workers' feedback, and industry best practices to maintain the protection of employees' health and safety.
- d. Regularly review and update safety policies as needed, also ensure all employees understand the policies.
- e. Establish procedures for reporting and investigating workplace accidents, as well as encouraging employees to report safety concerns or incidents.
- f. Ensure that adequate safety equipment and resources are available to all employees to mitigate. For instance, helmets, gloves, goggles, hearing protection, as well as safety signage, and emergency response equipment.
- g. Regular checks on machines to ensure that they all are working well, and all safety equipment is available.

Rec#2: Offer flexible work schedules and transportation for employees with long commutes

Collaborate with local government or transportation organizations to supply the factories with buses or vans to deliver employees who live far from industrial area, as well as try options for flexible work schedules, shift work or part time. Offering flexible work schedules and transportation solutions for employees with long commutes can significantly improve their work-life balance and productivity. Here are some strategies to implement these initiatives:

Flexible Work Schedules:

- a. Remote Work Options:
 - Strategy: Allow employees to work from home either full-time or part-time.
 - Benefit: Reduces commuting time and costs, improves work-life balance.

- b. Flexible Working Hours:
 - Strategy: Implement flexible working hours where employees can choose their start and end times within a set range.
 - Benefit: Allows employees to avoid peak traffic times and better manage personal commitments.

- c. Compressed Workweek:
 - Strategy: Offer a compressed workweek, such as four 10-hour days instead of five 8-hour days.
 - Benefit: Provides employees with an extra day off each week, reducing the number of commuting days.

- d. Job Sharing:
 - Strategy: Allow two employees to share the responsibilities of one full-time position.
 - Benefit: Reduces the individual workload and commuting frequency.

- e. Part-Time and Reduced Hours
 - Strategy: Offer part-time or reduced-hour positions.
 - Benefit: Provides flexibility for employees who need or prefer shorter working hours.

Rec#3: Make industrial facilities more accessible for employees with disabilities through collaboration with disability organizations

Cooperate with disability organizations to build insights and guide factories management for making industrial facilities more accessible for employees with disabilities. As an added benefit, people with disabilities have a high retention rate, when the work environment is accommodating their needs.

Occupational Safety and Health

Rec#4: Develop clear policies and procedures to promote health and safety

In order to ensure a safe working environment and preventing accidents in the factories, it is important to develop clear policies and procedures to promote health and safety.

[Give advice on how the factories can do this]

Psychometric Health

Rec#5: Maintain mental health and well-being among employees

Maintain mental health and well-being among employees by the following:

- a. Provide counseling and support for employees who suffer from depression or mental health issues.
- b. Increase the understanding regarding mental health issues by regular training or workshops to raise awareness about mental health.
- c. Offer flexible working hours and regular breaks to help employees manage their workload and maintain a good health and well-being.
- d. Assist workers to build a balance between their personal life and professional work by teaching them how to separate between them.
- e. Offer regular examinations by experts for employees' mental health and monitor their well-being.

Conclusion

As mentioned above, barriers are obstacles that exist in every workplace that disrupt workflow, reduce productivity, or negatively impact employees' well-being. Furthermore, all barriers affect different aspects of the work environment. This assessment aimed to define the social and physical barriers in workplace that face youth workers, particularly young women, and refugees. Moreover, our finding delivers practical solutions which could be implemented in the industrial field and helps both organization and workers to improve.

After data analysis and employee interviews, Jordanian industrial factories have risk in work environment, also most employees suffer from depression and face difficulties because of the long distance from home to the factory with limited transportations. In addition, industrial factories don't have clear policies and procedures in workplace to promote safety and health, for instance protocols for hazard identification, risk assessment, and accident prevention, as well as they are not equipped for people with special needs.

On the positive sight, employee do not suffer from friction, bullying, and there is an equal treatment between Syrian refugees and Jordanians employees at work. Management ensure that all employees receive comprehensive training for their rules, including how to recognize hazards, use safety equipment, and respond to emergencies. Additionally, the majority of employees can balance between work and home with no family issues, also they took training programs for awareness and development.

In conclusion, discovering barriers that exist in the workplace environment revealed that various areas in industries need to improve. That is why this project opens a new research area for future research to have a deep understanding of barriers in the workplace, how they create, and how to eliminate them. Furthermore, this assessment provides great guidance for agencies and management to build a developmental strategy and make a huge improvement.

Methodology

This study started by an extensive literature review on the barriers that face employees in industrial factories in Jordan and highlighted Syrian refugees and women challenges in workplace. The review of previous research and others reports helped to build the goals and the objectives of this assessment and allowed in set the following methodology to proceed with data collection, analysis, and reveal the facts

This report is implemented on a mixed method design incorporating both quantitative and qualitative approach. A quantitative approach was used for measuring the current health situation among employees in terms of their mental and physical health as well as the perceived effect of the physical environmental factors on their health and wellbeing. The Physical Work Environment and Employee Perceived Health and Wellbeing followed a qualitative study which complements the quantitative study by exploring how employees make sense of their health and wellbeing in relation to their physical work environment.

In terms of quantitative approach, the study followed a cross-sectional study design. A randomized sampling method was used, and an electronic format self-report questionnaire with individual interviews was used to collect data. A brief introductory explanation about research objectives and a consent agreement were performed in electronic survey and interviews. For this project, data collection was from 1st September 2023 to 31st October 2023. The inclusion criteria were, Jordanian or Syrian who work in factory located in Jordan and youth ages, on the other hand the exclusion criteria were employee who aged more than 50 years, and managers or administrators.

This study used two instruments to collect data. First instrument aimed to investigate the social and physical barriers associated with OSH in the work environment, also it was separated into two sections, first one consists of social barriers with 12 items targeted only human resource employees, and the second one consists of social barriers with 9 items, physical barriers with 12 items and OSH with 10 items, furthermore, it was targeted other employees. All first instrument data was collected by conducting interviews.

The second instrument measured psychometric health for individuals, it contains 90 items with a scale answer from 0 to 4 (not at all, a little bit, moderately, quite a bit, extremely). This instrument was distributed via social media, as a result only 77 participants answered the questions while 300 participants answered the first instrument.

Sampling

The population of interest for this study is employees in Jordanian industries included Garment industries, Packaging industries, Supply food and agricultural and livestock industries, and Plastic and rubber industries. The total of industrial facilities is 1228 factory and the total of employee working in them is 144927, table1 shows the detailed information regarding the numbers of employee in each industrial facility.

This study took place in two governments (Amman and Irbid) and the following Industrial Estates (Alhasan Industrial Estate & King Abdullah II Ibn Al-Hussein Industrial Estate, particularly in five sectors: Garment, Food, Packaging, Chemicals, and Plastics).

In this study, 53% of Jordanian factories are in king Abdulla ben Alhussain industrial Estate, and the rest of factories are located in Abu-alanda, Industrial clusters, and Almuwaqqar. Moreover, the majority of industries work in the chemical sector 30%, followed by packaging sector 19.7%, and the lowest percentage is for cosmetics sector 4.5%. Besides that, 19.7% of factory recruited from 10-20 worker and more than 50 workers, 12.1% of factory recruited more than 500 workers while 3% of factory recruited less than 10 employees. However, just 16% of Jordanian factories don't recruit Syrian refuge, and 9.1% don't recruited women, while 95.5% do not recruit under-ages.

Most of project participants are Jordanian, single, male, and have secondary education. The major form of work for our participants is permanent. The mean salary for the participant is (M = 294,06) and the most participants have income from 250 to 300, have social security or work permit, giving overtime and working 8 hours.

Study Statistical Analysis

Statistical analysis was conducted using the statistical package for social sciences (SPSS) version 23 software for Windows. Descriptive statistics frequencies, percentages, mean and SD were used to compare characteristics for industrial facilities and employees. Independent samples T-test and ANOVA were used to compare the means of normally distributed continuous variables. The Chi-square test was used to examine the correlation. A P-value < 0.05 was considered statistically significant.

This report is implemented on a mixed method design incorporating both quantitative and qualitative approaches. This study used two instruments to collect data. The first instrument aimed to investigate the social and physical barriers associated with OSH in the work environment. The second instrument measured psychometric health for individuals.

The population of interest for this study is employees in Jordanian industries included Leather and textile industries, Packaging and paper and cardboard and office supplies, Supply food and agricultural and livestock industries, Chemical industries and Plastic and rubber industries. The total of industrial facilities is 1,228 factory and the total of employee working in them is 144,927, table1 shows the detailed information regarding the numbers of employee in each industrial facility. This study took place in two governments (Amman and Irbid) and the following Industrial Estates (Alhasan Industrial Estate & King Abdullah II Ibn Al-Hussein Industrial Estate, particularly in five sectors: Garment, Food, Packaging, Chemicals, and Plastics).

Table 1. Detailed information regarding the number of industrial facilities

Sector	Number of Industrial Facilities	Number of Employees
Garment (Leather & Textile)	181	66,621
Chemicals & Cosmetics	209	15,576
Plastics	247	10,465
Food (Production, Supply (Agriculture & Livestock	577	57,717
Packaging (Paper, Cardboard & Office Supplies)	223	10,124
Total	1437	160,503

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