

SECURITY AND SAFETY ERRORS IN PUBLIC SWIMMING POOLS IN THE STATE OF BISKRA

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Abstract : This study aims to address safety and security-related issues in public swimming pools in Biskra State, focusing on errors caused by both human and material factors. Utilizing a descriptive approach, we employed a questionnaire to gather data on essential safety and security standards. This questionnaire was distributed to swimming coaches in Biskra State. After analyzing and interpreting their responses, we identified numerous safety and security errors within these pools, attributed to both human and material factors. Based on these findings, we have proposed a series of targeted measures and recommendations.

Keywords: security and safety, public swimming pools, risk management

Introduction

Swimming pools are among the most crucial sports facilities, playing a significant role in the development of swimming and other sports disciplines. They serve a wide range of community members, from recreational users to athletes. As such, meticulous attention must be given to all aspects of their design and operation, from site selection to maintenance systems. Adhering to basic standards and requirements is essential for ensuring safety and security during use. Public swimming pools, which are filled with fresh water and owned by the state, provide services to all societal segments, whether or not there are usage fees. These pools are often exposed to various risks, primarily due to errors or lapses in adhering to fundamental standards and requirements. we consider that security and safety are paramount among them.

This study focuses on evaluating the key security and safety standards in public swimming pools in the state of Biskra, specifically through the perspectives of swimming coaches. The goal is to identify significant shortcomings and errors related to security and safety both inside and outside these facilities. Given the large number of users and the potential risks involved, it is critical to address any errors to prevent harm and ensure user safety. Therefore, we will explore the issue of security and safety errors in public swimming pools in Biskra by investigating the following questions:

1-1 Main Question:

- Are there security and safety errors in public swimming pools in the state of Biskra?

1-2 Sub-Questions:

- Are there security and safety errors in public swimming pools in Biskra that are attributable to human factors?

- Are there security and safety errors in public swimming pools in Biskra that are due to material factors?

General Hypothesis:

- Security and safety errors exist in public swimming pools in the state of Biskra.

1-3 Partial Hypotheses:

- Security and safety errors in public swimming pools in Biskra are caused by human factors.
- Security and safety errors in public swimming pools in Biskra are caused by material factors.

1-4 Study Objectives:

- To identify and highlight security and safety errors in public swimming pools in Biskra.
- To examine errors related to security and safety caused by human factors in these pools.
- To investigate errors related to security and safety caused by material factors in these pools.

1-5 The Importance of the Study:

This study is considered one of the first studies in Algeria that is concerned with the issue of risk management. Through this study, we tried to focus on the most important security and safety errors, and this is by evaluating the security and safety errors caused by the worker.

Human, as well as evaluating security and safety errors caused by the physical factor, and this is by presenting the most important standards and requirements for security and safety stipulated globally to a group of swimming coaches in order to compare them with the reality of their application in public swimming pools in the state of Biskra.

2- Previous Studies

- 2-1 Cemal Gundogdu's Study (2008):** Conducted in Turkey, this study, titled "Safety Management in Swimming Pools," aimed to assess the safety and management practices of various types of swimming pools, including open, semi-Olympic, and closed pools used mainly for sports activities. The research employed a descriptive approach and analyzed 80 public swimming pools managed by municipalities, private entities, universities, the Ministry of Education, military institutions, and the police. The study utilized questionnaires, observations, and interviews. Key findings revealed that 52% of lifeguards lacked training in first aid and emergency procedures. Additionally, 64% of pools lacked necessary first aid and emergency equipment, 71% had safety signs, and 75% of pool edges and surrounding areas did not meet safety standards, posing health risks to swimmers.
- 2-2 Khaled Youssef Abdel Rahman Al-Sharqawi's Study (2014):** Conducted at Tanta University in Egypt, this study, titled "Health Requirements for Swimming Pools According to International Standards and Their Relationship to the Incidence of Sports Injuries," aimed to evaluate the alignment of swimming pools in Egypt with international health standards and the availability of these standards. Using a descriptive analytical approach, the researcher surveyed 75 swimming athletes through interviews and questionnaires. The study found significant deficiencies in the implementation of international health requirements, particularly concerning pool location, services, and security and safety measures. It also noted a lack of qualified supervisors for monitoring and emergency response.
- 2-3 Samia Hassan Al-Qattan's Study (2016):** Conducted in Bahrain, this study, titled "Evaluating the Requirements of the Pool Lifeguard Profession in the Kingdom of Bahrain," aimed to assess the qualifications, organizational factors, and tools required for pool lifeguards. Utilizing a descriptive approach, the study surveyed 58 lifeguards (41 males and

17 females) using questionnaires. Key findings highlighted a low level of lifeguard training, with few rescuers having received formal training in rescue and first aid. The study also identified challenges such as long working hours, insufficient numbers of lifeguards, and a lack of essential equipment like rescue ropes, observation seats, first aid rooms, and oxygen machines

3-Terminology of the study

In our study, we relied on the most important terms that have a direct relationship to the variables of the study, among them the terms defined below operationally as follows:

3-1-Security and safety

It is a set of rules and foundations based on a set of well-studied solutions to risks, crises and disasters that have previously occurred or were expected to occur, as they contribute to preventing the occurrence of these risks or reducing their severity.

3-2-Public swimming pools

These are all state-owned swimming pools that aim to provide their services to all segments of society at the lowest costs.

3-3-Risk management

They are plans and systematic procedures with strategies that are carried out by anticipating the risk and identifying it before or when it occurs, and trying to evaluate it, and its severity to arrange it with other risks in order to treat the most severe and dangerous ones. Then the risks should be treated and monitored.

4-Methodological procedures for the study

The study must rely on a systematic and organized plan to reach its goals, as these procedures represent the researcher's path in his study. These procedures are as follows:

4-1-The exploratory study

The exploratory study is considered one of the most important stages that scientific research goes through, as it gives a clear picture about the subject of the study and the problem based on this topic. The beginning of the exploratory study is through searching for previous studies that are similar to the subject of the study. After the research process was conducted within the limits of our ability, because we did not find similar previous studies that investigated the same variables as our study. However, we have come up with previous studies that are related, that is, they bear one of the variables of the study. For the exploratory study focusing on the public swimming pools in the state of Biskra, we initially contacted the Procuratorate of the Directorate of the Institute responsible for postgraduate studies, scientific research, and external relations on September 22, 2019, to document facility provision. On the same day, we visited the Directorate of Youth and Sports of Biskra to engage with the office managing training and resources. We learned that the public swimming pools in Biskra operate year-round.

Subsequently, we reached out to the Biskra State Swimming Association to compile a list of accredited swimming coaches. The researcher's background—having been a swimmer for 12 years and a swimming coach and referee in Biskra—greatly facilitated the exploratory study, including the distribution and collection of questionnaire forms. The practical experience of the researcher in the study area provided valuable insights and ease in conducting the research.

Based on the exploratory study, we reached the following conclusions:

- Define the concepts and limits of the theoretical study.

- Determine research variables and formulate hypotheses.
- Define the research population and its characteristics and identify the most important indicators to construct the research tool.
 - Identify the most important obstacles and difficulties.

4-2-Study process

The nature of the subject of the study is what determines the type of method appropriate for the researcher, and in accordance with the nature of the study being addressed, in order to address the subject of the study, the descriptive approach was used .

4-3- The study Population

The native population of our country is a resident of the piscine farms in Algeria, whereas the available population is a farm in the Piscine's public in the province of Biskra.

4- 4 The Study sample

In our study, we used a comprehensive survey method, which means selecting all sample members to obtain the necessary data. Our study sample was represented by all the swimming coaches accredited by the Swimming Association in the state of Biskra, which is (46) coaches, distributed among 03 public swimming pools in the state. The questionnaires were distributed to All sample members and (33) questionnaires were retrieved.

5-Steps for conducting a field study

These steps and field procedures represent the spatial, temporal, and human domain that the researcher is studying in order to test the study hypotheses and reach its goals.

5-1-Spatial field:

The spatial area is represented by the public swimming pools in the state of Biskra, which provide their services throughout the year and are represented in 03 public swimming pools:

- Olympic swimming pool in Biskra.
- The semi-Olympic swimming pool created in Biskra.
- Oulad Jalal Biskra Semi-Olympic Swimming Pool.

5-2-Temporal domain:

The basic study was conducted in both its theoretical and field parts, starting from the 2017/2018 academic season until 2019/2020.

5-3-The human field:

The human field is represented by swimming coaches certified by the Biskra State Swimming Association, who number 46 coaches.

6-Data collection methods

In this study, we utilized a questionnaire as the primary tool for gathering the necessary information to test our hypotheses. The questionnaire was designed based on previous studies and then reviewed by a panel of professors to assess its face validity. These experts provided feedback, noting that some sections contained unclear phrases that might be difficult for the participants to understand. Based on their recommendations, we revised the questionnaire, changing the response format from a binary Likert scale to a five-point Likert scale, as the binary format was deemed unsuitable for the nature of our study. Additionally, several redundant phrases were removed, as they conveyed similar meanings.

After incorporating the professors' feedback, the revised questionnaire was distributed to the sample, collected, and its reliability was measured. The structure of the questionnaire was as follows:

- Part 1: It includes the Collection of demographic information about the participants, such as, gender, age, educational level, years of experience, and the location of the swimming pool.
- Part 2: This part includes the selection of topics and phrases of the questionnaire, which are presented in Table No 1.

Table -1-: Questionnaire topics and phrases.

The number	The Axis	Axis of the phrases' numbers	Number of axis statements
1	Security and safety errors caused by the human factor	1-2-3-4-5-6-7-8	8
2	Security and safety errors caused by the physical factor	9-10-11-12-13	5

Source: Prepared by the researcher.

As for the measurement method in the questionnaire, we used a five-point Likert scale according to the negative and positive options and degrees, and they are presented in Table No. (2)

Table -2-: shows the measurement method in the questionnaire according to the five-point Likert scale.

I strongly disagree	I agree	to some extent	I agree	I strongly agree
1	2	3	4	5
5	4	3	2	1

Source: Likert scale.

6-1- Internal consistency validity of the questionnaire

To measure the validity of internal consistency, we calculated the correlation coefficient for each axis and its statements using the Pearson correlation coefficient, which is as shown in Tables No. (3) and No. (4).

Table -3-: shows the correlation coefficient between the statements of the axis of security and safety errors caused by the human factor in the public swimming pools of the state of Biskra and the overall score for the axis.

Numbers	Statements	Correlation value	Statistical significance
1	When you participate in the swimming pool, you are required to have a certificate proving that you are free from skin diseases and infectious diseases.	0.599**	+ significance
2	You notice that the pool water gets dirty and discolored while you use it.	0.308	No significance
3	The water and surroundings of the pool are cleaned and dirt and debris are removed periodically.	0.780**	+ Significance

4	The sprinklers and toilets are cleaned periodically.	0.755**	+ Significance
5	The pool workers require you to shower and wash your feet before entering the pool.	0.619**	+ Significance
6	Pool workers wear a uniform that makes it easy for you to identify them	0.710**	+ Significance
7	The pool has lifeguards in case of drowning.	0.824**	+ Significance
8	The swimming pool imposes laws to respect privacy and maintain the ethical aspect in accordance with custom and tradition	0.703**	+ Significance

Note: ** = correlation at the significance level (0.01)

Source:Prepared by the researcher based on the outputs of the SPSS program.

From the results shown in Table No. (3), which presents the statements of the first factor and the Pearson correlation coefficient values, it is evident that all the items in the first axis are statistically significant, with the exception of statement No. (2).

Table -4-: shows the correlation coefficient between the statements of the axis of security and safety errors caused by the physical factor in the public swimming pools of the state of Biskra and the overall score for the axis.

The numbers	Statements	Correlation value	Statistical significance
9	The number of showers and toilets available in the pool is sufficient	0.645**	+ significance
10	The swimming pool has first aid and rescue equipment.	0.561**	+ significance
11	The pool has information panels explaining how to deal with drowning and first aid.	0.729**	+ significance
12	The swimming pool has a telephone and emergency exits.	0.715**	+ significance
13	The pool has backup lighting that works in the event of a power outage.	0.730**	+ significance
Note: ** = correlation at the significance level (0.01)			

Source: Prepared by the researcher based on the outputs of the SPSS program.

The results displayed in Table No. (4), which show the statements of the second factor and the Pearson correlation coefficient values, indicate that all the items in the second axis are statistically significant.

Table -5-: shows the correlation coefficient between the questionnaire's axes and the axes' total score

The number	Axis	Correlation value	Statistical significance
1	Security and safety errors caused by the human factor	0.866**	+significance
2	Security and safety errors caused by the physical factor	0.866**	+significance

Source: Prepared by the researcher based on the outputs of the SPSS program.

The results presented in Table No. (5), which display the questionnaire analysis and the total correlation values for the axes, indicate that all axes are statistically significant.

6-2-Stability of the questionnaire

Table -6-: shows the reliability coefficient of the questionnaire.

The number	Stability coefficient	Stability value	Statistical significance
1	Alpha de Cronbach	0.928	High
2	Guttman split-half	0.782	High

Source: Prepared by the researcher based on the outputs of the SPSS program.

The values in Table (6) show that the reliability of the questionnaire ranges from 0.782 to 0.928, indicating a high level of consistency. Based on these results, we can conclude that the questionnaire is suitable for testing the study's hypotheses.

6-3 Statistical Methods

We input and analyzed the questionnaire data using IBM SPSS Statistics 21, applying the following statistical techniques.

- Calculation of frequencies and percentages.
- Calculation of arithmetic means.
- Ca2 account
- Calculate the Pearson correlation coefficient.
- Calculating the reliability coefficient, Alpha, Crohnbach.
- Calculating the split-half stability coefficient.

7- Results

After we discovered that the questionnaire's axes and phrases were testable, we distributed them to the sample members and then retrieved them for analysis through the necessary statistical methods.

7-1- Presentation of the results of the first hypothesis:

The first hypothesis says that there are errors related to security and safety caused by the human factor in the public swimming pools of the state of Biskra.

Table -7-: shows the results of the first axis.

The number of the statements	First axis statements	The mean	The calculated Ca2	The statements' order
1	When you participate in the swimming pool, you will be asked for a certificate proving that you are free from skin diseases and the contaminated illnesses	3.5455	13.212	05
2	You notice that the pool water gets dirty and discolored while you use it.	2,6061	5.424	03
3	The water and surroundings of the pool are cleaned and dirt and debris are removed periodically.	3.6061	16.333	06
4	The sprinklers and toilets are cleaned periodically.	3.121	13.515	04
5	The pool workers require you to shower and wash your feet before entering the pool.	3.8788	16.333	08
6	Pool workers wear a uniform that makes it easy for you to identify them.	2.3030	21.697	01
7	The pool has lifeguards in case of drowning.	2.3333	14.121	02
8	The swimming pool imposes laws to respect privacy and maintain the ethical aspect in accordance with custom and tradition.	3.8182	20.212	07
Note: The tabular K2 is at a significance level of (0.05) = 9.49 / degree of freedom = 04				

Source: Prepared by the researcher based on the outputs of the SPSS program.

It is clear to us from Table No. (7) related to the results of the first axis and the first hypothesis that says: There are errors related to security and safety caused by the human factor in the public swimming pools of the state of Biskra. As the sample's answers in this axis were all statistically significant except for statement No. 2, and it becomes clear to us by arranging the sample results

according to the ascending order of the arithmetic averages, that the worst applied standards, i.e. the most frequent errors in public swimming pools in the state of Biskra, were in the following order:

- **First place:** for phrase No. 7, which says that pool workers wear uniforms that make it easy for you to recognize them. This has an arithmetic average of 2.3030.
- **Second place:** for phrase No. 4, which says that the pool has lifeguard supervisors in the event of drowning. This is an arithmetic average of 2.3333
- **Third place:** for phrase No. 2, which says: “You notice the pool water getting dirty and discolored while you use it.” This has an arithmetic average of 2.818.
- **Fourth place:** for statement No. 4, which says that showers and toilets are cleaned periodically, and this has an arithmetic average of 3.121.
- **Fifth place:** for phrase No. 1, which says that when you participate in the swimming pool, you are required to have a certificate proving that you are free from skin diseases and infectious diseases, and this has an arithmetic average of 3.5455.
- **Sixth place:** for statement number 3, which says that the water and surroundings of the pool are cleaned and dirt and filth are removed on a periodic basis. This has an arithmetic average of 3.6061.
- **Seventh place:** for phrase number 8, which says that laws are imposed on the swimming pool to respect privacy and maintain the moral aspect in accordance with custom and tradition. This has an arithmetic average of 3.8182.
- **Eighth place:** for statement number 5, which says that the pool workers require you to shower and wash your feet before entering the pool, and this has an arithmetic mean of 3.8788.

It is clear to us from the above that the smallest values of the results reflect the worst standards applied and the most errors. The smallest value was 2.3030, which represents statement No. She says that the pool workers require you to shower and wash your feet before entering the pool.

7-2- Presentation of the results of the second hypothesis:

The second hypothesis says that there are errors related to security and safety caused by the physical worker in the public swimming pools in the state of Biskra.

Table -8-: shows the results of the second axis

The numbers	Statements	The mean	The calculated CA2	The statements' order
9	The number of showers and toilets available in the pool is sufficient	3.424	11.242	05
10	The swimming pool has first aid and rescue equipment.	3.1212	18.515	04
11	The pool has information panels explaining how to deal with drowning and first aid.	2.2121	45.939	02
12	The swimming pool has a telephone and emergency exits	2.6061	32.303	03

13	The pool has backup lighting that works in the event of a power outage.	2.1818	24.424	01
Note: The tabular K2 is at a significance level of $(0.05) = 9.49$ / degree of freedom = 04				

Source: Prepared by the researcher based on the outputs of the SPSS program.

Table No. (8), which presents the results for the second axis and the second hypothesis—stating that security and safety errors in public swimming pools in the state of Biskra are caused by physical factors—show that all responses from the sample were statistically significant. By analyzing the sample's results in ascending order of arithmetic averages, we identified the most frequent errors in public swimming pools in Biskra. The worst applied standard, ranked first, was statement No. 13, which indicates that the pool has backup lighting that activates during power outages, with an arithmetic average of 2.1818.

- **Second place:** for phrase No. 11, which says that the swimming pool has information signs explaining methods of dealing with drowning and first aid. This is an arithmetic average of 2.2121
- **Third place:** for phrase No. 12, which says that the swimming pool has a telephone for help and emergency exits. This has an arithmetic average of 2.6061.
- **Fourth place:** for statement number 10, which says that the swimming pool has first aid and rescue equipment, and this is with an arithmetic average of 3.1212.

- **Fifth place:** Statement No. 9, which states that the number of showers and toilets available in the swimming pool is sufficient, ranked fifth with an arithmetic average of 3.424.

From the above, we can conclude that the lowest values reflect the worst-applied standards and the most frequent errors. The smallest value, 2.1818, corresponds to statement No. 13, which refers to the lack of backup lighting in the pool in case of a power outage. The highest value, 3.424, corresponds to statement No. 9, which concerns the adequacy of showers and toilets in the swimming pool.

7-3 Discussion of Results

After analyzing the results from the study sample, we will now discuss these findings in light of relevant references and previous studies.

7-4 Discussion of the First Partial Hypothesis:

The first partial hypothesis suggests that security and safety errors in public swimming pools in Biskra are caused by human factors. Our analysis indicates that public swimming pools in Biskra exhibit several security and safety issues due to these factors. One significant issue, as agreed upon by the study participants and observed during the researcher's field visit, is the lack of distinctive uniforms for pool staff. This absence makes it difficult for pool users to identify staff members, a standard that is crucial for effective organization and management. The absence of uniformed staff contributes to disorder, as distinctive attire signals that personnel are in charge of the pool's operations. This is echoed in Talafha (2019), who states, "Workers must wear clean uniforms during work hours." However, it was observed that pool workers do not prioritize their appearance or uniforms.

Another notable issue is the absence of dedicated lifeguards. Instead, swimming coaches bear the sole responsibility for training, supervision, and rescue, which is an excessive burden. Public

swimming pools should have specialized staff for monitoring and rescue, as Khaled Youssef (2017, p. 48) emphasizes: "Qualified supervisors must be provided for follow-up and rescue."

Additionally, there were concerns about the water quality, as many swimming instructors in Biskra reported that the water ranged from average to poor, failing to meet health and safety standards. This aligns with the recommendation from Contra Costa Health Services (2010), which highlights the "necessity of keeping the water clean and pure." The lack of cleanliness in showers and toilets, as well as their insufficient numbers, was also identified as a recurring problem in Biskra's public swimming pools.

Hence, through the overall results of the first axis related to the first hypothesis, which says that there are errors related to security and safety caused by the human factor in public swimming pools in the state of Biskra. It is already clear to us that there are errors in security and safety caused by the human factor, and from here we can say that the first hypothesis is fulfilled.

7-5 Discussing the results of the second partial hypothesis:

Due to the absence of previous studies investigating the same variables as our study, we were limited in our ability to directly compare findings. However, we identified related studies that focused on one of the variables included in our research. For the exploratory study on the spatial aspect, specifically focusing on public swimming pools in the state of Biskra, we reached out to the Procuratorate of the Directorate of the Institute responsible for postgraduate studies, scientific research, and external relations to gather documentation on available facilities. This contact was made on 09/22/2019.

On the same day, we visited the Directorate of Youth and Sports in Biskra, specifically the office overseeing the training and resource management department, to obtain information about public swimming pools in the area that provide year-round services. Subsequently, we approached the Biskra State Swimming Association to gather data on accredited swimming coaches. The researcher's personal experience—having been a swimmer for 12 years and working as a coach and referee facilitated the fieldwork and contributed to the smooth distribution and collection of questionnaires from the study participants.

Following the exploratory study, we reached the following **Conclusions:**

- It enabled us to define the concepts and scope of the theoretical study.
- It enabled us to identify research variables and formulated hypotheses.
- It enabled us to determine the research population, its characteristics, and key indicators for developing the research tool.
- It enabled us to recognize significant obstacles and challenges.

8- Study Program: The nature of the study determined the appropriate research methodology. Given the subject matter, a descriptive approach was chosen for this study.

In this study, we utilized a questionnaire as the primary tool for gathering the necessary information to test our hypotheses. The questionnaire was designed based on previous studies and then reviewed by a panel of professors to assess its face validity. These experts provided feedback, noting that some sections contained unclear phrases that might be difficult for the participants to understand. Based on their recommendations, we revised the questionnaire, changing the response format from a binary Likert scale to a five-point Likert scale, as the binary format was deemed unsuitable for the nature of our study. Additionally, several redundant phrases were removed, as they conveyed similar meanings.

After incorporating the professors' feedback, the revised questionnaire was distributed to the sample, collected, and its reliability was measured. The structure of the questionnaire was as follows:

8-1 Part One: It includes collecting demographic information about the participants, including gender, age, educational level, years of experience, and the location of the swimming pool. From the results shown in Table No. (3), which presents the statements of the first factor and the Pearson correlation coefficient values, it is evident that all the items in the first axis are statistically significant, with the exception of statement No. (2).

The results displayed in Table No. (4), which show the statements of the second factor and the Pearson correlation coefficient values, indicate that all the items in the second axis are statistically significant.

The results presented in Table No. (5), which display the questionnaire analysis and the total correlation values for the axes, indicate that all axes are statistically significant.

The values in Table (6) show that the reliability of the questionnaire ranges from 0.782 to 0.928, indicating a high level of consistency. Based on these results, we can conclude that the questionnaire is suitable for testing the study's hypotheses.

8-2 Statistical Methods We input and analyzed the questionnaire data using IBM SPSS Statistics 21, applying the following statistical techniques:

- Calculation of frequencies and percentages.

- Calculation of arithmetic means.

Table No. (8), which presents the results for the second axis and the second hypothesis—stating that security and safety errors in public swimming pools in the state of Biskra are caused by physical factors—shows that all responses from the sample were statistically significant. By analyzing the sample's results in ascending order of arithmetic averages, we identified the most frequent errors in public swimming pools in Biskra. The worst applied standard, ranked first, was statement No. 13, which indicates that the pool has backup lighting that activates during power outages, with an arithmetic average of 2.1818.

8-3 Fifth place: Statement No. 9, which states that the number of showers and toilets available in the swimming pool is sufficient, ranked fifth with an arithmetic average of 3.424. From the above, we can conclude that the lowest values reflect the worst-applied standards and the most frequent errors. The smallest value, 2.1818, corresponds to statement No. 13, which refers to the lack of backup lighting in the pool in case of a power outage. The highest value, 3.424, corresponds to statement No. 9, which concerns the adequacy of showers and toilets in the swimming pool.

9- Discussion of Results:

After analyzing the results from the study sample, we will now discuss these findings in light of relevant references and previous studies.

9-1 Discussion of the First Partial Hypothesis

The first partial hypothesis suggests that security and safety errors in public swimming pools in Biskra are caused by human factors. Our analysis indicates that public swimming pools in Biskra exhibit several security and safety issues due to these factors. One significant issue, as agreed upon by the study participants and observed during the researcher's field visit, is the lack of distinctive uniforms for pool staff. This absence makes it difficult for pool users to identify staff members, a standard that is crucial for effective organization and management. The absence of uniformed staff

contributes to disorder, as distinctive attire signals that personnel are in charge of the pool's operations. This is echoed in Talafha (2019), who states, "Workers must wear clean uniforms during work hours." However, it was observed that pool workers do not prioritize their appearance or uniforms.

Another notable issue is the absence of dedicated lifeguards. Instead, swimming coaches bear the sole responsibility for training, supervision, and rescue, which is an excessive burden. Public swimming pools should have specialized staff for monitoring and rescue, as Khaled Youssef (2017, p. 48) emphasizes: "Qualified supervisors must be provided for follow-up and rescue." Additionally, there were concerns about the water quality, as many swimming instructors in Biskra reported that the water ranged from average to poor, failing to meet health and safety standards. This aligns with the recommendation from Contra Costa Health Services (2010), which highlights the "necessity of keeping the water clean and pure." The lack of cleanliness in showers and toilets, as well as their insufficient numbers, was also identified as a recurring problem in Biskra's public swimming pools.

9-2 Discussion of the Second Partial Hypothesis

The second partial hypothesis posits that there are security and safety errors in public swimming pools in the state of Biskra caused by physical factors. Our analysis reveals that these pools exhibit several issues related to physical factors. A significant problem identified by both the study sample and the researcher during field visits is the absence of backup lighting for power outages. Since these pools are used at night, this oversight poses serious safety risks.

We also discovered that information boards displaying drowning prevention methods and first aid procedures are missing. Such boards are crucial as they provide essential safety information and correct common misconceptions about first aid among pool users. Additionally, the lack of emergency telephones and exits represents a critical oversight, as Algerian regulations mandate their presence and functionality. Contra Costa Health Services (2010) emphasizes the necessity of having emergency telephones with a listed emergency number and proper emergency exits.

Furthermore, the absence of first aid and rescue equipment, such as lifeguard observation chairs, ropes, lifelines, oxygen machines, wheelchairs, and ambulances, was noted. Khaled Youssef (2017, p. 49) stresses the need for safety and rescue equipment to be readily available near the pool. The researcher observed these deficiencies firsthand.

Overall, the results from the second axis confirm that there are material-related security and safety errors in public swimming pools in Biskra, supporting the validity of the second hypothesis.

9-3 Discussion of the General Hypothesis

The general hypothesis suggests that there are security and safety errors in public swimming pools in Biskra. To evaluate this hypothesis, we divided it into partial hypotheses that directly support the general hypothesis. The analysis and discussion of these partial hypotheses confirm their validity, thereby validating the general hypothesis as well. Our findings align with those of Cemal, Güner, & Tekin (2008), Khaled Youssef (2017), and Al-Qattan (2016), which also identified security and safety deficiencies in swimming pools.

-Conclusions

Based on the analysis and interpretation of the study results, we conclude the following:

- Security and safety errors exist in public swimming pools in Biskra.
- These errors are related to both human factors and material factors.

-Suggestions

Establish a dedicated risk management team to address and correct security and safety errors related to human and material factors in public swimming pools in Biskra.

-Ensure adherence to international standards and requirements during the establishment and maintenance of swimming pools, with regular quality checks.

-Train personnel responsible for public swimming pools in sports risk management.

-Increase the number of staff responsible for pool operations to ensure proper maintenance and attention to equipment.

-Provide lifeguard supervisors at all times during pool use.

-Maintain high standards of cleanliness and water quality from the source to the point of use

Reference list of books written in Arabic

1. Samia Hassan Al-Qattan, (2016). "Evaluating the requirements for the pool lifeguarding profession in the Kingdom of Bahrain." Journal of Educational and Psychological Sciences, 17(02), pp. 13-43.

2. Abdul Rahman Sharqawi Khaled Youssef, (2017). Health requirements for swimming pools according to international standards and their relationship to the incidence of sports injuries, first edition. Egypt: World Sports Foundation.

3. Hadeel Ahmed Arif Talafha, (2019). Marketing strategy for swimming pools in the northern region from the point of view of affiliates. Master's thesis, Yarmouk University, Jordan.

Reference list of books written in a foreign language

1. Cemal GÜNDOĞDU; Güner EKENCİ; Tekin ÇOLAKOĞLU, (2008). "YÜZMEHAVUZLARIA GÜVENLİK VE YÖNETİM". Niğde University Journal of Physical Education and Sport Sciences,02(01), p.p. 9-22.
2. Contra Costa Health Services (2010),PUBLIC SWIMMING POOL, https://cchealth.org/eh/recreationalhealth/pdf/pool_operation_requirements.pdf (Consulté le:01/08/2021)