

## **Background**

In the Iran-Iraq war, many Iranian soldiers were captured by the Iraqi army. They faced several problems in the camps, of which physical and mental health was one of the important risks.

## **Previous Studies**

... [1-4]. Mousavi *et al.* determined and prioritized the health problems of the prisoners of war. The most important health problems of the prisoners of war were post-traumatic depression, dental caries, depression, anxiety and bone and joint diseases [5]. ... [6-10]. Kiani *et al.* research showed that the optimal use of sports activities during leisure time can improve the physical and mental health and improve the social relationships of the veterans [11].

In addition to sports and sports activities for reducing physical and mental disorders, cultural-artistic activities and programs can also be effective in reducing these injuries. Narimani in a research on the stressor experiences of captivity and the ways of coping with it said that cultural programs, such as praying, hymn, sports programs and various types of hobbies were methods to deal with a variety of stresses and diseases in the camps [12]. ... [13].

## **Aim(s)**

The aim of this study was to design a model of factors affecting the physical and psychological damages of Iranian prisoners of war and the methods to prevent and treat them in Iraqi camps.

## **Research type**

This research is a descriptive-survey study.

## **Research society, place and time**

This study was conducted on prisoners of war in Semnan from the early 2016 to late 2017.

## **Sampling method and number**

20 prisoners of war who were captured in Iraq, including strategic leaders, directors and those with cultural activists were interviewed, of whom 15 subjects were registered by the Red Cross and 5 subjects were listed as missing in action.

## **Used devices & materials**

Data was collected through semi-structured interviews and literature review. Data collection continued to reach data saturation. Data was encoded after the collection, then the model was extracted from them.

After collecting the initial information through the interviews and references they were recorded in the table for each interview or text, the codes then were selected and numbered (open coding). Coding was accessible, since the researcher had a history of 53 months of captivity, however in order to ensure the right coding at this stage, all the concepts were provided to at least 5 prisoners of war and experts. Accordingly, most of the codes were approved and some were corrected.

The suggested titles were collected first through exploratory interviews with experts and prisoners of war for "axial" and "selective" coding and for finding an appropriate code for each category of concepts. Some titles (codes) were usually introduced by the experts for each category of concepts or dimensions, however only an option should be selected as the final option. Multi-voting method was used to find the most suitable option in two stages. The first stage was designed to determine the "component" titles for categorizing concepts (axial coding) and the second stage to indicate "dimensions" for a group of "components". Multi-voting method can be done using the experts, so some of the experts who had the following conditions were selected:

- 1) The prisoners of war interviewed in the previous stages were informed about this research.
- 2) The prisoners of war who had at least a Ph.D degree.
- 3) The prisoners of war who had at least two years of captivity.
- 4) The prisoners of war who could attend the voting session.

Based on the accepted method, the options obtained from the exploratory interview stage were written on the board and the experts were asked to select among the remaining two-thirds options.

It continued until an option was selected, based on which the most appropriate option (the selected code) was selected.

The validity of the research was approved by interviews, the presence of the researcher in relevant associations, and deep and long interaction with the subject. During the interviews, the researcher's perceptions were monitored while interviewing to overcome the possibility of any misunderstandings from their statements. The expected reliability of this research was well guaranteed and estimated, since the academic experts' views were used in all stages of the research process.

## Finding by Text

Table 2 shows some codes extracted from interviews and documents as examples.

**Table 2.** A part of the viewpoints of interviewees (prisoners) on campus cultural programs

Interviewee code	Statements extracted from the interviews	Categories/Components	Frequency
p1 · p2 · p3 · p4 · p5 · p8 · p9 · p10 · p11 · p13 · p14 · p16	Religious classes in the camp caused the peace of mind and soul of the prisoners.	Religious classes	12
p2 · p3 · p4 · p5 · p6 · p7 · p8 · p9 · p10 · p13 · p15 · p16	Science classes made prisoners more relaxed.	Science classes	12
p1 · p5 · p6 · p7 · p8 · p9 · p12 · p13 · p14 · p15 · p16	Holding ceremonies on occasions made the prisoners more alive.	Social-cultural programs	11
p1 · p2 · p3 · p4 · p7 · p8 · p11 · p12 · p13 · p14 · p15 · p16 · p17 · p18 · p19 · p20	Making rosary, photo albums, etc. was an appropriate method to provide medicines and necessary supplies.	Creativity and innovation	15
p1 · p2 · p3 · p4 · p5 · p7 · p8 · p9 · p10 · p12 · p13 · p14 · p15 · p16 · p17 · p18	Sport was one of the most important means for physical and mental health.	Intellectual sports	16
p1 · p3 · p4 · p5 · p6 · p7 · p8 · p9 · p12 · p13 · p14 · p18 · p19 · p20	Martial arts were banned in the camp, but it made their body prepare to cope with crisis and increased courage and endurance.	Martial Arts	14
p1 · p3 · p4 · p5 · p6 · p7 · p8 · p9 · p12 · p13 · p14	Football, volleyball, basketball, table tennis and table football were the popular ball games in the camp.	Ball games	14
p1 · p2 · p3 · p4 · p5 · p6 · p7 · p8 · p9 · p10 · p11 · p12 · p13 · p14	Sport was a mechanism to deal with the suffering of captivity; sport competitions were exciting and inspiring.	Sport competitions and joyful sports	14
p1 · p2 · p3 · p4 · p5 · p7 · p8 · p9 · p10 · p11 · p13 · p14 · p15	Scheduling and decision making in the unstable conditions of the Iraqi camps were considered as two main functions of camp leaders.	Camp strategic leaders	13
p1 · p2 · p3 · p4 · p5 · p6 · p7 · p8 · p9 · p10 · p11 · p12 · p13 · p14 · p16	Delivering letters from Iran and examination of injured subjects and patients by the Red Cross physician was an appropriate opportunity for the prisoners of war.	International Red Cross	15
p1 · p2 · p3 · p4 · p5 · p6 · p10 · p11 · p12 · p13 · p14 · p15 · p16	Various factors, including torture of Iraqis, spies and Munafiqun, etc., affected the physical and mental health of prisoners.	Physical and mental health	13

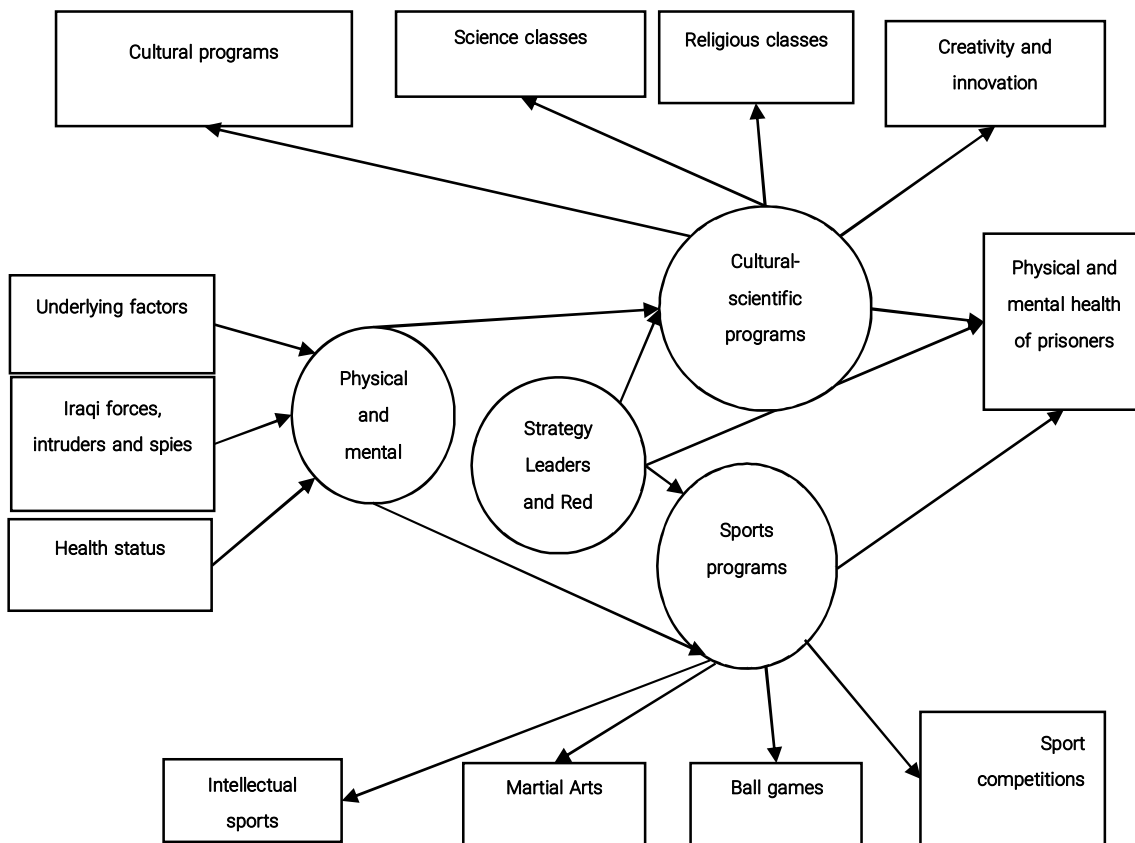
Some of the characteristics of the prisoners of war are also shown in Table 3.

**Table 3.** The absolute and relative frequency of levels of education and length of captivity in participants (N=20)

Variables	Frequency	Percentage
Length of captivity, month		
20-50	7	35.0

50-70	5	25.0
70-100	5	25.0
100-130	3	15.0
<b>Education level</b>		
Diploma	2	10.0
Undergraduate degree	4	20.0
Master's degree	7	35.0
PhD	7	35.0

In the resulted model, the factors affecting the physical and mental injuries to the prisoners and the methods of preventing and treating various types of physical and psychological injuries in Iraqi camps were designed and explained according to the mediating role of the strategic leaders of the camp and the Red Cross (Figure 1).



**Figure 1.** The model of factors affecting the physical and psychological injuries of Iranian prisoners of war in Iraqi camps

**Effective factors in physical and psychological injuries to prisoners of war:** The most important factors affecting the physical and mental health of the prisoners of war were the poor conditions of prisoners of war's health and the unfavorable behaviors of Iraqis and some of the Iranian prisoners of war, such as spies, Munafiqun, and those who turned away from the Islamic Republic of Iran as well as some of the underlying factors including repeated life, cultural and ideological differences of prisoners of war, and the lack of prior education about the time of captivity.

**The role of the Red Cross in reducing physical and mental injuries to prisoners of war:** the services of the International Committee of the Red Cross have had a direct or indirect effect on the physical and mental health of the prisoners of war.

**The role of strategic leaders in reducing physical and mental injuries:** Persons such as clerics, teachers, university professors, army commanders, and IRGC officers were saviors of the prisoners of war in crisis situations. Scheduling and decision making in the unstable conditions of the Iraqi camps were considered as two main functions of camp leaders.

**Cultural-scientific programs:** cultural and scientific programs at the camps included religious and national programs, educational classes with various scientific subjects, art classes, and creative and innovation programs.

**Sports programs:** sport programs were one of the most important factors affecting the physical and mental health of prisoners of war in Iraqi camps. They were held in four categories, including sports, martial arts, wrestling, and ball games at the camps.

**Physical and mental health of prisoners of war:** leaders and other experts such as clerics and professors made their best to identify as much as possible the harmful and critical factors that harmed the normal personality of the prisoners of war and also to modify them in order to make a well atmosphere in the camp.

### **Main comparison to the similar studies**

According to the literature review and also the researcher studies, so far no specific study has been done on designing factors affecting the physical and psychological injuries of Iranian prisoners of war in Iraqi camps and the strategies for reducing these factors. Studying and explaining the different dimensions of the model and documenting the valuable experiences of 10 years of captivity of Iranian prisoners of war, as an important part of the eight-year Holy Defense is indispensable.

### **Limitations**

The limited references about the research subject was one of the limitations of this research.

### **Suggestions**

Training aspects of living in camps effective human resources management in camps as well as cultural-sports activities which are a very valuable experience for living in difficult situations via formal and informal training to the targeted groups, especially military personnel is suggested

### **Conclusions**

The prisoners' cultural-sports activities in the Iraqi camps have positive effects, including increasing the patience of the prisoners, increasing their physical and mental health and their social health level, increasing their freshness, happiness, feeling of trust, concentration and accuracy, and reduction of depression.

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### **Ethical permissions**

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### **Conflicts of interests**

None declared.

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