Deanship of Scientific Research

Impact of designing a program on the Jordan TV based on "TRIZ" theory in developing the awareness of national security among Jordanian university students

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Abstract

This study aimed to identify the effect of designing a program in the Jordanian Television based on the theory of "TRIZ" in raising awareness of national security among Jordanian university students. Arandom cluster sample of (1006) students at the undergraduate level was selected for the academic year (2020-2021), and a questionnaire distributed in six public and private universities in three regions:the Center, North, and South. Through the experimental approach, results showed that the Television program has a great impact in raising awareness of national security in all six dimensions; political, economic, social, military, geopolitical and cyber security. The level of awareness of national security among Jordanian university students was medium before watching the TV program, and it became high after watching the program, and the level of awareness of national security in political, economic, military and social dimensions was similar between the two genders, while the level of awareness of the national geopolitical and cybernetics security of female students was higher than that of male students. The study found that there is no moral difference in the level of awareness of national security in all dimensions according to the difference in the student's majors. In addition, the awareness of national security in all dimensions was similar for all students at different academic levels..

Keywords: TV program, TRIZ theory, national security, awareness.

أثر تصميم برنامج في التلفاز الأردني قائم على نظرية "تريز" في تنمية الوعي بالأمن الوطني لدى طلبة الجامعات الأردنية

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ملخّص

هدفت هذه الدراسة التعرف إلى أثر تصميم برنامج في التلفاز الأردني قائم على نظرية "تريز" في تنمية الوعي بالأمن الوطني لدى طلبة الجامعات الأردنية، ولتحقيق اهداف الدراسة تم اختيار عينة عشوائية عنقودية بلغت (1006) طلاب في مرحلة البكالوريوس للعام الدراسي(2020-2019) موزعين على الأقاليم الثلاثة: الوسط، والشمال، والجنوب في ست جامعات حكومية وخاصة. ومن خلال المنهج التجريبي أظهرت نتائج الدراسة أن للبرنامج التلفازي الأثر الكبير في رفع مستوى الوعي بالأمن الوطني بكافة أبعاده السياسية والاقتصادية والاجتماعية والعسكرية والجيوسياسية والأمن السيبراني. كما إن مستوى الوعي بالأمن الوطني لدى طلاب الجامعات الأردنية كان متوسطا قبل حضور البرنامج التلفازي وقد أصبح مرتفعا بعد حضور البرنامج التلفازي، وإن مستوى الوعي بالأمن الوطني بالأبعاد السياسي، والاقتصادي، والعسكري، والاجتماعي، كان متقارباً بين الجنسين، في حين كان مستوى الوعي بالأمن الوطني الجيوسياسي والسيبراني عند الطالبات أعلى منه عند الطلاب الذكور. كما اثبتت الدراسة انه لا يوجد اختلاف معنوي في مستوى الوعي بالأمن الوطني بجميع أبعاده باختلاف تخصص الطالب ودراسته بالكليات العلمية أم الأدبية. كما كانت درجة الوعي بالأمن الوطني بجميع أبعاده متقاربة لدى جميع الطلاب باختلاف المستوى الدراسي.

الكلمات الدالة: البرنامج التلفازي،نظرية تيريز TRIZ، الأمن الوطني، الوعي.

Introduction:

The media is the backbone of life in our contemporary reality, especially after the wide and large spread of mass communication means in all its forms. If we consider what is confirmed by the sociologist and media that no change can be made in society without the employment of various forms of media, which is one of the most important, effective instruments in addressing people and mobilizing public opinion in a positive and effective manner according to the required change in society, especially the change based on making an impact on thought, as well as behavioral and moral values where the innate human preparations and the possibility of psychological and social formation reflect the movements of political, economic and social societies locally, regionally and internationally, and indicates the progress or backwardness of these societies. However, it is not considered a maker of governmental policies, or emanating from civil and private activities, rather, it affects negatively and positively (Al-Hawamdeh, 2009; Alsawalqa & Rawashdeh, 2020).

The prominent role of media is well known by the recipient in strengthening national security in political regimens by adopting a responsible national media policy aimed at raising citizen awareness, activating collective control, and immunizing youth if national security is to be established (Al-Taie, 2019)through the awareness and frankness it provides because the relationship between the media and national security is a complementary integrative one, and the contradiction of any of them to the other is nothing but harm and damage to the interests of the state (Hillat, 2008).

The television is still the most important ancient and modern medium with direct effect in presenting the media message and directing society as it directly outreaches all components of society. The media material broadcasted by television may positively or negatively affect the interest of its members and their lifestyle (Al-Shahwan, 2017).

The concept of national security changes according to the changes of age or its developments, surrounding circumstances, and according to the different means and strategies to achieve it. The national security experts presented it in various definitions, some of which included all its dimensions, and others were limited to some of them. Some of them were defined in one dimension only. In spite of the different concepts of national security, the essence of the national security theory lies in protecting the interest of the state. Peterson defined it as "The collective perception of a sense of security (Devost, 1995), where the awareness of security reduces the feeling of fear of the young people (Brberet& Fisher, 2009).

The national role of the media has become more required in raising awareness of national security in light of the tremendous developments in the field of the information and media revolution. From this perspective, the present study sought to design a program in the Jordanian Television based on the theory of innovative solution to problems "TRIZ" and to identify the program's effect on raising awareness of national security among Jordanian university students.

The study problem:

The challenges experienced by Jordan due to its geopolitical location and its surrounding of a politically charged regionmake the national security a central issue in which the media, specifically television, plays an active role in the process of educating and raising the awareness of the public about its importance and the need to strengthen it. The (USA Today) newspaper published a report in which it indicated that more than (90%) of the community members rely on television and radio as important sources of information and news, which gives this information extreme important to raise awareness of national security, especially that (90%) of the TV viewers watch what is broadcasted by the television in order to know and understand what is discussed and applied on the ground (Peltier, 2005). Therefore, it is necessary to adopt a responsible national media policy aiming at raising citizen awareness, activating collective control and immunizing youth to stabilize the national security (Al-Taie, 2019). Therefore, the study problem lies in answering the following question: What is the impact of designing a program in the Jordanian Television based on "TRIZ" theory in raising awareness of national security among Jordanian university students?

Importance of the study

First: The Theoretical Importance: The present study is a genuine unique study from other media studies in using TRIZ theory in designing content and building its instrument. The importance of the theoretical study also lies in

comprehensive clarification of the impact of the Jordanian Television programs in raising awareness of national security and providing scientific connotations on the Television policy in spreading national security in society.

Second: The Applied Importance: The present study presents a model for a television program based in its design in preparation, implementation and arrangement of its content based on the principles of TRIZ theory, as well as in addressing and treating its content represented by the concept of comprehensive national security, its dimensions and fields, directly and explicitly unlike the other television programs with the aim of raising awareness of national security among Jordanian university students which gave the present study the scientific scoop as well. The scientific results of this study are also of great importance to various media organizations about the methods of Jordanian media in spreading awareness of national security in Jordanian society.

Study Objectives:

1. Designand produce TV program based on TRIZ theory to raise awareness of national security among Jordanian university students.

2. Identify the impact of the program design based on TRIZ theory in raising awareness of national security among Jordanian university students.

Study Hypotheses:

H1: There are statistically significant differences at the level of significance (a≤0.05) in the level of awareness of national security attributed to the TV program.

H2: There are no statistically significant differences at the level of significance (a≤0.05) in the level of awareness of national security attributed to the gender.

H3: There are no statistically significant differences at the level of significance (a≤0.05) in the level of awareness of national security attributed to the place of residence.

H4: There are no statistically significant differences at the level of significance (a≤0.05) in the level of awareness of national security attributed to the academic specialization.

Literature Review

The television is one of the most important factors in shaping public opinion through the programs it offers in support of individuals' attitudes towards and preservation of national identity by gathering, presenting, interpreting the information and linking it to their interests. Television programs based on a national media strategy also contribute to building a solid wall of national identity by refining the national media scene and transmitting mobilization messages that strengthen the living reality and push it towards a positive one, as well as stabilizing the elements of strength and build convictions and trends among citizens. The television has a very important and influential role in deepening, preserving and enhancing the national identity through its targeted programs that support the national identity, which is the backbone of national security (Hawatmeh, 2014, Nasrallah, 2014).

When talking about the role of television in spreading national security, some studies confirm the existence of a close relationship between them, especially in times of crisis. Hussein (1998) found that governments need enhanced media support to highlight their clear and ethical position. Therefore, the media's potential as a multiplier and a weapon of war must be realized. Failure to recognize the enemy's dealings with the media and confront it may lead to an unprecedented military and national failure which indicates that decisions are no longer based on events but on how the events are presented. Thus, the clear answer is that in the contemporary technological age, the media will continue to be an instrument for effectively pursuing national interests. Mheirat (2015) found that the most important programmatic patterns followed in Jordanian Television in conveying the concept of national security were the newscasts, and that the most important issues related to national security presented by the Jordanian Television from the viewpoint of viewers are youth issues. This was confirmed by Al-Nuaimi (2013) as he found that the newscasts, investigations and news reports

are among the most watched and most concerned types of programs on television to increase political awareness of issues of concern to society.

Some studies found that local media has a role in strengthening the national loyalty of university students (Abu Fouda, 2006) where the local media in Gaza broadcasts national values among university students in Palestinian universities which leads to university students' compliance with the national values transmitted by educational media, especially on national occasions in order to limit the partisanship that is getting more and more exaggerated in the Palestinian society and the importance of the student frameworks to pay attention by giving the media more attention to the important issues and topics related to public order and the rule of law, protecting public property, as well as supporting national products.

The media represents the Fourth Estate in the democratic societies and it has strong and overlapping relations with the three powers (legislative, executive, and judicial). The media has a monitoring role that helps leaders to confront corruption, follow-up the implementation of development-related strategies and plans, support the sense of patriotism and loyalty, and support the national security. However, the government does not give the media its true position as a fourth estate, rather, it controls it, while it must liberate it, lift censorship and provide financial and moral support for it in order to facilitate its duties to serve the national security (Al-Battoush, 2004).

Design and production of a television program

Qasi defines television production: "It is a creative process aimed at transforming ideas (from an idea) into a group of images and sounds, and putting them in an interesting artistic form with the aim of communicating them to the viewers and influencing them" (2019, 11).He also believes that this creative process brings together many experiences in the disciplines of management, planning, accounting, marketing, scientific research, and technical professions such as audio engineering, photography, lighting, decoration, fashion, makeup, acting and digital effects. The talk shows are among the most important forms of shows that interest viewers. This is confirmed by what Al-Smadi (2020) found in his study on Jordanian journalists that the most important reasons that lead journalists to rely on political talk shows in Ro'ya and Al-Mamlaka channels are that they seeks to educate citizens about various local political issues, and they emphasize the speech of strengthening community unity within its political frameworks.

As for the main technical team entrusted with designing and implementing any television program, and producing it through its stages, with the help of other technicians who are no less important than them, he indicated their names and tasks (Al-Rajbi, 2014, 9) as follows:

Technical producer: Some channels describe the producer as the program creator and presenter who usually produces the whole program and follows it up through all its stages. He is the one who supervises the production process, and manages it from choosing an idea for implementation, communicating with the work team, up to the marketing.

Program creator: He is the one who formulates the script for the episodes and prepares their content after extensive research. Therefore, he must enjoy high writing skills and be able to generate ideas and formulate them within a suitable framework for television.

Broadcaster (presenter): He is the one who presents the program, conducts interviews during the television episode. He is characterized by a distinguished presence as evidenced by his broad culture, acceptability of look and sound, and his ability to dialogue.

Director: He is the one who administers the television program and implements it completely within his vision. His directives and decisions remain the window in any work. He has everything that qualifies him for that in terms of competence and experience in the field.

The process of TV production goes through three stages mentioned by (Al-Shamimri, 2010, 227-229), as follows:

The first stage: The pre-production (preparation) stage, which includes identifying the thought, prepare and develop an action plan, write the script: and then develop a complete visualization of the program's with all its elements, including script, sound, image, effect, stunt and scene.

The second stage: The production (implementation) stage: Preparation of the shooting sites, preparation of decoration, and defining the shooting staff within the framework of the program's identity, then implement the shooting process.

The third stage: Post-production, which includes: video editing, indexing, classifying and selecting, executing the montage, recording the commentary text, sound effects and soundtracks, then mixing the sound and using graphics such as writing the names of the speakers followed by the transcription process. It is noted that each of these elements has its own artistic and creative rules, and a distinct performance language that makes the difference between one director and another, and one program and another.

It is noted that the present study followed the aforementioned steps in designing a television program entitled (Your Security Your Homeland) through which they followed the methodology of TRIZ theory in its steps in solving the problems they faced in designing and producing the TV program which explains that the program is based on TRIZ theory.

National Security

Al-Shaqha (2004) sees that security is "the contentment of the human being with the absence of physical threats and the guarantee of his rights, his freedom from the restrictions that prevent him from meeting his spiritual and moral needs, and his feeling of social and economic justice"; being a necessary human need for the society members, so their stability if they feel fear and dread, and their need for it as their need for shelter, food, water and clothing; The best evidence on this is the saying of Allah Almighty, associating the food "He Who provides them with food against hunger, and with security against fear (of danger)." [Quraysh: 4]. because the need for security is urgent and one of the highest human needs; Allah Almighty made it a reward for those who believed in Him, as in the Almighty's saying: "It is those who believe and confuse not their beliefs with wrong - that are (truly) in security, for they are on (right) guidance."[The Cattle - Al-Anaam: 82]. People assurance of their religion, honor, and moneyraises their thinking about the transcendence of their society and the renaissance of their nation.

The national security cannot be achieved at its highest levels except in case of a comprehensive and integrated integration of the basic needs of the state and its citizens such as the state's need for adequate defense capacity to ward off internal and external strategic threats, and the citizens' need for internal security and stability and their need together for comprehensive and sustainable growth and development (Mohammad, 2013)

The concept of national security is based on an analysis of threats facing the state internally and externally. It includes all the principles and strategic priorities to confront those threats which are taken into account when developing plans for policies, regulatory legislation and procedures related to national security to be able to analyze threats related to developments in the international security environment, international terrorism trends and cybersecurity (Baldwin, 1997).

Al-Qabaa (2004) emphasizes the pillars of the concept of national security which is its main component, represented by a legitimate authority, a geographic location with a strategic position, a military and security capacity of various dimensions, a demographic factor, solid social cohesion, societal and economic development, and progress in aspects of cultural and scientific life. The study of Kazan et al. (2018) indicated that young people are aware of the conceptual implications related to the concept of community security in its various forms where their greatest concern is the social security, followed by cultural, environmental, political, and finally economic security.

It should be noted that there are clear components upon which national security is based (Al-Shahrani, 2006) through the following:

Faith: It is the basic drive of the individual in his space. The more his faith increases; loving the homeland increased in his heart, which ensures the realization of the comprehensive concept of national security.

Economy: It is the state's ability to provide for the needs of society in a way ensuring support for its political and military capacity.

Society: It means meeting the basic needs of society in light of the interdependence between its components, achievement of social justice, and the availability of loyalty and solidarity aspects.

Policy: The movements of state personnel and the persons affiliated with the state are of the most important effects in

the national security where the national security force is more reinforced when these movements are positively directed to solving the problems of the state and settling conflicts.

Military force: This force is one of the most important manifestations of state power and resilience. It has a responsibility to protect it from internal dangers and external threats which imposes security and stability in it.

In the context of achieving and strengthening community security and as a result of the growing threats to national security in all their forms and sources; the state's security apparatus is no longer the only one responsible for maintaining the security of society. Rather, all state institutions have become involved in taking the responsibility as the role of the security system expanded to include everything affecting the citizen's security, comfort, stability and well-being (Al-Minshawi, 2005).

Since the individual is the one intended in development, economy and health processes in both peace and war situations, raising the individual has become an urgent necessity to achieve societal security as it is a "controlling force for the behavior of individuals that helps them adapt to their social environment and reduces their deviation and supports their values and positive trends as it is ainstrument to ensure the stability of society and preserve its cultural identity (Al-Sultan, 2008).

We conclude that national security represents the actions and measures taken by the state to confront existing or potential threats and dangers. The relationship between the concepts of security and threat is a relationship of mutual effect. In interpreting the concept of security, the sources of the threat must be identified, as sensing the danger or threat requires the need to take measures that necessarily lead to achieving security, so it is natural for the security measures to live up the size of the actual risks or threats (Bani Melhem, 2016).

The national security of the Hashemite Kingdom of Jordan is a very important requirement associated with freedom and economic well-being. Jordan has been linked to many issues of the region according to multiple geopolitical and historical factors which put burden on it reflected on its internal political, social and security affairs. Despite the different dimensions of national security between countries, there arecommonalities between them regarding national security in its general form. These dimensions are either source of strength or weakness for national security and each of them has a degree of influence on the other. The dimensions of national security are as follow (Bani Melhem, 2016; Tashtoush, 2012):

1. The political dimension: It is an essential element concerned with how to organize and manage the state's powers and resources, internally and externally.

2. The economic dimension: It is no less important than the political dimension. It is axiomsthat the state's economic power gives political weight, and it is the basic and vital pillar of military power, and both of them are important reinforcers of the state's political power.

3. The military dimension: It is one of the most effective dimensions of national security, and its weakness constitutes a weakness for the state and weaken its national security. The state supports this dimension through the policy of international alliances in accordance with its national goals. So the role of the political dimension supporting other dimensions of national security becomes clear.

4. The social dimension: This dimension plays a major role in national security as an effective national security force. It is concerned with achieving the stability of society and the cohesion of its national texture by taking care of the citizens and their proper preparation.

5. The geopolitical dimension: This dimension is based on two important issues represented by the facts of the region, and the discovery of potential collision points with others, meaning that it is concerned with the exploitation of geographical facts such as the size of the state, its geographical importance and its relations with neighboring countries from a political point of view in strengthening national security.

6. The cyber dimension: This term constitutes a controversy in its definition among researchers in that it is not limited to one connotation and it cannot be defined in a few words. Some think that it is "information technology security" and "electronic information security" that includes network security, applications, information, and operational security to obtain permission to have access to information (Lekota& Coetzee, 2019). However, we tend to the definition of the cybersecurity Company Kaspersky "The practice of defending computers, servers, mobile devices, electronic systems, networks and data

from malicious attacks." (2014, Kaspersky & Furnell; Jones et al. 2019).

It is not possible to achieve national security at its highest levels except in the case of the integration of the basic needs of the state and its citizens in a comprehensive and integrated manner such as the state's need for adequate defense capacity to ward off internal and external strategic threats and the citizens' need for internal security and stability, and their need together for comprehensive sustainable growth and development (Mohammad, 2013).

Study Theories

The researchers relied on two theories, the cultural cultivation theory, and TRIZ theory (to design the program).

Cultural cultivation theory

Many media theories have specifically addressed the impact of media and television on the public. The theoretical approaches have varied, and this diversity is due to the different historical stage in which these theories were established or the period during which the studies on which they based was conducted. So some theories may be compatible with other studies and theories that may not serve. As the study focuses on the impact of the TV program, Your Security Your Homeland, on shaping national awareness among Jordanian university students, we decided to rely on the theory of cultural cultivation to interpret the study hypotheses.

Where the theory assumes that the recipient is affected by the content of the media and its targeted messages to form meanings, beliefs and symbolic images of the individual. The theory also suggests that the individual's repeated exposure to a communication means such as television, for example, for long and regular periods, develops his belief that the world he watches is an image of the social world in which he lives. (Sari, 2016, 118).

Researcher George Gerbner studies on the influence of the media are the theoretical basis from which the theory of cultural cultivation was advanced. Gerbner believes that the media provide the public with many means that affect their vision and perceptions of events, issues and people in the world around them, thus contributing to cultivating a stereotyped mental image and thus providing a new mental image about social facts transmitted between them, meaning that the viewers believe that what they watch on the TV is a true and honest picture of their real world.

The theory was associated with television more than other popular media as the images and events presented by this medium affect the viewers' perception of their real world (Al-Bishr, 2014, 119).

TRIZ Theory (for program designing)

TRIZ term came from "*Theory of Inventive Problem Solving*", and it helps overcome personal mental inertia. It is an elaborated way to deal with problems. TRIZ has become today a general, interdisciplinary methodology applied worldwide in theoretical and applied creative practices such as engineering, design, management, and education. The Russian scientist Henry Alshuller concluded the fact that all applied systems developed in accordance to objective and predictable models, which represented TRIZ theory resulted in a set of principles that can be used as instruments to solve problems (Bowyer, 2008) where he defined (39) criterion represented with the forty creative principles explaining the matrix of contradictions (Kunst & Clapp, 2002). Thus, this theory was based on a knowledge base related to general instruments for solving problems as well as employing the accumulated knowledge about its existence. (Abu Jado, 2005). It was used in the fields of science, engineering and technology, and it was soon used in other educationaland psychological fields (Badawi and Jad Al-Mawla, 2013).Numerous studies have recently emerged confirming the role of social media in creativity and developing future plans for companies (Kaushik, 2018; Ko et al., 2017; Stamatopoulos, Karakoglou, &Gogolou, 2017) where many companies use social media as an effective instrument in improving their competitiveness by adopting five general characteristics of TRIZ in order to search for innovations concerned with problem solving: change, increase, decrease, stability and measurement (Ko et al., 2018 Boraty`ska) -Sala, 2017).

TRIZ theory basic concepts and principles

Abu Jadoand Nofal (2007) refer to the basic concepts included in TRIZ theory which are the same principles on which

the design and production of the television program was based on where it relied on (12) creative principles out of forty reached by the author of this theory (Henry Alshuller) and they were employed in the stages of designing and producing the program after being studied with the main work team assigned by the TV Programs Department, and directing them to adopt and use them. These principles were chosen by researchers for their ease of understanding and applicability in the preparation and implementation of the Television Program "Your Security Your Homeland". These principles are:

First: Inventive Principles: Alshuller came out with forty creative principles that were repeatedly used to reach creative solutions to problems in patent models, employing the skill of problem generalization to determine the principle that could be employed in solving problems. The present study used (12) principles to solve problems faced the team when designing and producing the TV program. These principles are (Marsh, 2004; Abu Jado, 2004; Obeidat& Abu Al-Sameed, 2007;Ghabayen, 2008):

1. Segmentation principle: It is used to solve problems by dividing the system into parts, or by designing dividable thing, or increasing the degree of its fragmentation or division, if the system is already divided.

2. Use cheap replacement events principle: It refers to the use of cheap things that are used for relatively short periods of time instead of expensive things that can be used for relatively long periods of time.

3. The combining / merging principle: The essence of this principle is the temporal or spatial merging of systems that perform parallel or converging operations.

4. Separation / Extraction principle: problems can be solved by using this principle by identifying and maintaining well-functioning components, identifying non-working components and disposition thereof.

5. LocalQuality principle: This principle of problem solving is based on improving the quality of performance in the various parts of the system by changing its regular internal and external environment and transforming it into irregular, and providing the best conditions for the effectiveness of the different parts of the system to perform other useful functions.

6. The inversion principle: This principle is used to confront problems by turning the processes or procedures used upside down and performing procedures different from those usually used in solving the problem.

7. Cushioninadvance principle: This principle refers to the mechanisms used to deal with problems before they arise in order to compensate the relative decline in the system reliability.

8. Universality principle: This principle includes dispensing with subsystems by strengthening the system's ability to perform several functions.

9. The periodic action principle: It includes taking periodical or intermittent actions instead of continuous actions. While these actions are intermittent, the amount of intermittent work or its repetition rate is changed. It could be benefited from the work suspension or break periods in performing other works.

10. Prior-action principle: It is based on implementing the required changes in the system, partially or in whole, before the need arises to do so, and arrange things in advance as they can be used in the most appropriate situations for an optimal investment of time.

11. Dynamicity principle: This principle in solving problems includes changing the external environment of the thing or the processes it performs by improving its properties to create better work conditions, or dividing the thing into parts to become able to move and transforming inelastic objects or processes to be adjustable or moveable.

12. The feedback principle: This principle includes providing feedback to improve processes or actions. If they are already available, their amount or impact can be changed.

Second: Contradiction: It means that reaching a positive solution to a problem in any system or part of it leads to the existence of another problem. Here, we must solve the problem creatively by improving the system or part thereof without negatively affecting the system as a whole or any of its parts. By identifying the contradiction resulting from this solution which allows us to remove it or reduce its impact on the system although the contradictions are an inevitable consequence of the system development. (Abu Jado, 2005; Kotait, 2011).

Third: Final Ideal Solution: It is one of the most important concepts on which the theory was built as it guides the individual appropriately to solve the problem and pushes him to the creative solution. The idealism implies that the characteristics of the system are at their best, and at the same time get rid of all its negatives (Abu Jado 2005, Ashour 2015). It also helps in establishing the direction of evolution of a system under improvement and discovering the natural phenomena holding a system's evolution back, and identifying and utilizing the resources which are available, with minimal additional expenses. (Belski et al. 2013).

Fourth Resources: The process of identifying the sources is of great importance for Alshullerto effectively move to the idealism. These resources are related to various aspects of the system, and achieving ideal solutions mainly depends on their availability (Rawlinson, 2002):

1. Place resources: They include occupation of places related to the system, arrangement and use of things.
2. The resources of the functions performed by the system and their positive and negative impacts.
3. The resources of the time specified for the completion of the work and the best investment thereof.
4. Field resources: They include the energy used to operate a certain system.
5. Data resources.

Ezzat and Ismail (2014) developed methodological steps to apply the principles of TRIZ theory in problem solving, namely: defining and clarifying the problem, clarifying the contradiction in the problem, choosing the appropriate creative principle to solve the problem, presenting the solution to the problem as finding a solution in a specific field leads to the occurrence of a problem in another area. This feature is one of the most important features of TRIZ theory, and finally the application of the solution.

Study Methodology

This study applied the experimental approach as an approach based on comparison in studying the phenomenon where it highlights the similarities and differences between two or more phenomena. Through that, the researchers rely on a set of steps in order to reach the scientific fact related to the studied phenomenon relying on collecting data from the field in order to test hypotheses related to the impact on the two groups. The first group represented the control group which did not attend the television programepisodes, while the second group represented the experimental group that attended the episodes.

Research population and sample

The study population consists all undergraduate students in Jordanian public and private universities for the academic year (2020-2021)with a total number of 279600 students. A random cluster sample included (n=1006) students distributed in six public and private universities;University of Jordan, Yarmouk University, Mutah University, Irbid National University, Zarqa University, and Aqaba University of Technology, which are the oldest public and private universities in each region (Center, North, and South). A total number of 1200 questionnaires were sent to students' emails; 120 in each university with a response rate of 83.8%.The students were selected according to lists obtained from Admission and Registration departments in the selected universities.The first cluster represented the North, Central and South regions, and the second cluster represented private and public universities (Table 1), while the third cluster represented the colleges, and the fourth cluster represented the academic levels, and the fifth cluster represented the students who were drawn by the method of regular random sampling from the professors'lists for the classroom divisions. After that, the sample was distributed into two layers, the first was not exposed to the television program and the second was exposed to the thirteen episodes that were created by using TRIZ theory. The sample consisted of about (31.4%) males, (68.6%) of females, and only (2%) of students are affiliated to parties. The percentage of the sample members whose families reside in the city was (56%), and those who live in the countryside were (44%).

Table 1: Demographic characteristics of the study sample

University	Number	Percentage
Public	932	92.6
Private	74	7.4
Collage specialization	**Number**	**Percentage**
Humanitarian collages	560	55.7
Scientific collages	446	44.3
Academic level	**Number**	**Percentage**
First	510	50.7
Second	253	25.1
Third	116	11.5
Fourth	127	12.7
Watching level	**Number**	**Percentage**
Did not watch	503	50.0
Watched	503	50.0
Sex	**Number**	**Percentage**
Male	316	31.4
Female	690	68.6
Are you affiliated to a certain party	**Number**	**Percentage**
No	985	97.9
Yes	21	2.1
Place of residence	**Number**	**Percentage**
Village	441	43.8
City	565	56.2
Total	**1006**	**100.0**

Study instruments

A.   The TV program: It was designed based on "TRIZ" theory in raising awareness of national security among Jordanian university students. The design and production of the television program took a period of 6 consecutive months under the direct supervision of the major research as he works in Jordanian TV - TV Programs Department. It began with the issuance of an official assignment letter by the Director of the TV Programs Department to the program's team and ended by providing (the technical producer and director) with (15-20) thirteen episodes of the initial version of the program's episodes"Your Security Your Homeland". They were presented to the peer reviewer and the substantive and technical supervisory committees at Jordan TV to ensure its validity and suitability for presentation. The program was produced by the program's main team according to the principles of TRIZ theory to address the problems they encountered during the production of the program. To watch episodes of the TV episodes, please visit the link:

https://www.youtube.com/watch?v=XsiyJEXrHL8

Principles and steps of designing the TV program "Your Security Your Homeland"

The researchers in this study designed a television program based on the principles of TRIZ theory to raise awareness of national security among Jordanian university students. To build the program, a specialized major technical team from Jordanian television was used as they were empowered with the principles of TRIZ theory which aim - in general - to develop the ability of creative thinking in the problems facing the individual. They also enable individuals to use different and varied techniques to solve problems, and develop their skills in sensing and formulating problems in an understandable manner, generating ideas and presenting original alternatives in problem solving by providing them with appropriate strategies that

enable them to do so (Kotait, 2011).

Thirteen television episodes were created with different contents, namely: the concept of comprehensive national security, political and geopolitical security, economic security - the scourge of bribery, military security / Jordanian Armed Forces, military security / public security, social security, social security / youth, social security / late marriage age , social security / scourge of drugs, social security / Arabic language identity, social security, environmental security, social security, food security, and cyber security.

B.   **Study Questionnaire:** A questionnaire was developed to measure students'awareness of national security and its application before and after students attended the television program on the two study samples represented by Jordanian university students. The questionnaire included two parts:

1.   The social characteristics of the study sample (gender, party affiliation, place of residence).

2.   The paragraphs that measure the impact of designing a program at the Jordanian television based on "TRIZ" theory in raising students' awareness of the national security dimensions among Jordanian university students. The dimensions were as follows: The political dimension (8 paragraphs), the economic dimension (10 paragraphs), the military dimension (9 paragraphs), social dimension (11 paragraphs), the geopolitical dimension (6 paragraphs), and the cyber security dimension (7 paragraphs).

The statistical description of each statement of the questionnaire addresses the use of the arithmetic mean, the standard deviation, and the general estimation of trends according to the arithmetic mean. The

Five Likert Scale was used (5= strongly disagree – 1=strongly agree) where length of each period of the previous five dimensions is equal to 0.80 of the unit on the basis of the law of periods = distances between periods / number of periods (4/5) = 0.80, and therefore there is no bias in any of the previous estimates, rather, this gives fairness in estimating the public opinion. Based on the foregoing, the values of the arithmetic means concluded by the study will be dealt with as follows for the pentagonal grading: (3.67 –and above: high), (2.34-3.66: medium), (2.33 –and below: low) according to the following equation: highest value - the minimum value of answer alternatives divided by the number of levels, i.e. (5-1 / 3) = 4/3 = 1.33. This value is equal to the length of the intervals 1.33.

Instrument validity and reliability

To verify the validity of the TV program content and questionnaire, it were presented to a group of (5) viewers specialized inmedia, measurement, evaluation, sociology and psychology in Jordanian universities. The viewers were asked to verify the degree of validity of the thirteen television episodes and the questionnaire, the degree of relevance to the field it represents. As a result, 80% of viewers approved the television episodes, and the questionnaire too.

The scale paragraphs were analyzed and the correlation coefficient of each paragraph was calculated. All of them were statistically significant at a score of 0.01; The correlation coefficient represents the significance of reliability for each paragraph in the form of a correlation coefficient between each paragraph and the overall score on the one hand, and between each paragraph and each dimension and the overall score on the other hand. The reliability of the instrument used to measure the variables it contains was also tested using the Cronbach Alpha test where the result of the scale is statistically acceptable if the Cronbach alpha value is greater than (0.60) (Hair et al. 2006). Given data shown in Table No. (2), we find that Cronbach Alpha ranged for the dimensions of the study between (0.75 - 0.93), so the instrument of this study can be described as reliable, and the data obtained through it are suitable for measuring variables, and subject to a high degree of reliability.

It is evident from the results of the reliability analysis that the value of Cronbach Alpha coefficient was the lowest in the political dimension (0.75), and the highest in the cybersecurity (0.93), with an overall reliability rate = (0.91), which is a value higher than the accepted measures of stability (0.60), which confirms the stability and internal consistency of the study variables within the scale. To ensure the normal distribution of the data, the Skewness test and the Kurtosis test were performed. It was found that all the data of the study variables were normally distributed (Hair et al., 2006).

Table 2: Reliability coefficients of the study instrument and dimensions

The dimension	Reliability coefficient (Cronbach Alpha)	Number of paragraphs in the questionnaire
The political dimension	75%	8
The economic dimension	79%	10
The military dimension	80%	9
The social dimension	87%	11
The geopolitical dimension	80%	6
Cyber security	93%	7
All items of the study	91%	51

Results

To answer the first hypothesis: There are no statistically significant differences at the level of significance (α≤ 0.05) at the level of national security awareness attributed to the television program.

The results shown in Table 3 found that there were significant differences at the level of 1% significance for all dimensions of awareness of national security due to the TV program (t = -36.24) where the level of awareness of national security among students increased from the average (arithmetic mean = 3.32) before watching the TV program to a high level of national security (arithmetic mean = 3.91) after viewing. According to this result, the null hypothesis is rejected, which claims that: There are no statistically significant differences at the level of significance (α≤0.05) in the level of awareness of national security attributed to the television program, which indicates the importance of the television program in raising the level of national security among Jordanian university students .

Table 3: The arithmeticmean, standard deviation, and significance test of the level of national security awareness attributed to the TV program.

Watching Dimensions	was not exposed to TV shows			was exposed to TV shows			The significant difference test		
	Arithmetic mean	Standard Deviation	Level of awareness	Arithmetic mean	Standard Deviation	Level of awareness	Difference between two directions	T	Sig. (2-tailed
Political dimension	3.0934	.48589	Medium	3.6081	.51196	High	-0.515	-16.35	0.000
Economic dimension	3.2473	.49102	Medium	3.8537	.41045	High	-0.606	-21.25	0.000
Military dimension	3.3919	.48466	Medium	3.9739	.47251	High	-0.582	-19.28	0.000
Social dimension	3.2144	.46835	Medium	3.8417	.44662	High	-0.627	-21.74	0.000
Geopolitical dimension	3.3810	.56303	Medium	4.0046	.46261	High	-0.624	-19.19	0.000
Cyber security	3.6172	.61592	Medium	4.1954	.43642	High	-0.578	-17.18	0.000
Awareness of national security	3.3242	.27477	Medium	3.9129	.23916	High	-0.589	-36.24	0.000

To answer the second hypothesis: There are no statistically significant differences at the level of significance (α≤0.05) in the level of national security awareness attributed to gender.

To measure the level of significant difference statistically in the degree of awareness of national security for both male and female students in Jordanian universities according to their gender, the (t) test was used. The test concluded that there is significant difference at (α≤ 0.05) in the awareness of geopolitical and cyber national security for the benefit of female students (the arithmetic mean of geopolitical awareness = 3.72, the arithmetic mean of the cyber awareness = 3.94) compared to students (the arithmetic mean of geopolitical awareness = 3.61, and the arithmetic mean of cyber awareness = 3.82), while the level of awareness of national security for the rest of the other dimensions, namely: The political, economic, military, and social was close between the two genders, as it not established that there is statistically significant differences between the two genders regarding the degree of their awareness of national security. Therefore, the null hypothesis claiming that there are no statistically significant differences at the level of significance (α≤ 0.05) in the level of awareness of national security attributed to the student's gender is rejected.

As for the third hypothesis: There are no statistically significant differences at the level of significance (α≤ 0.05) in the level of awareness of national security attributed to the place of residence.

To measure the level of significant difference statistically in the degree of awareness of national security for both male and female students in Jordanian universities according to the difference in the place of residence. The (t) test was used. The test concluded that there are significant differences at (α≤ 0.05) in the awareness of political and military national security for the benefit of village residents (the arithmetic mean of political awareness = 3.41, the arithmetic mean of military awareness = 3.73) compared to city population (the arithmetic mean of political awareness = 3.30, and the arithmetic mean of military awareness = 3.64), while the level of awareness of national security for the rest of the other dimensions, namely: Theeconomic, social, geopolitical, and cyber was close between the inhabitants of villages and cities,as it not established that there is statistically significant differences between them regarding the degree of their awareness of national security attributed to the place of residence.

Finally, to answer the fourth hypothesis: There are no statistically significant differences at the level of significance (α≤ 0.05) in the level of awareness of national security attributed to the academic specialization.

To measure the level of significant difference statistically in the degree of awareness of national security for both male and female students in Jordanian universities according to the difference in academic specialization, the (t) test was used. The test concluded that there are no significant differences at (α≤ 0.05) in the level of awareness of national security in all its dimensions according to the difference in the student's specialization and study in scientific or literary colleges, as it is not established that there are statistically significant differences between them regarding their awareness of national security. Therefore, the null hypothesis claiming that there are statistically significant differences at the level of significance (α≤ 0.05) in the level of awareness of national security attributed to the academic specialization is rejected.

Discussion

The results of the study concluded that the television program has a significant impact in raising awareness of national security in all its political, economic, social, military, geopolitical and cybersecurity dimensions, and the level of awareness of national security among Jordanian university students was average before attending the TV program, and it became high after attending the TV program. This result is consistent with the results of Al-Smadi study (2020)which confirmed that the political talk shows in Roya and Almamlaka channels seek to educate citizens about various local political issues and it confirms the discourse of strengthening community unity within its political frameworks. In addition, the results of the study also agreed with the study of Mheirat (2015)) which proved that Jordanian television has a role in conveying the concept of national security to the viewer as the study showed that the most popular programmatic patterns applied in the Jordanian Television in conveying the concept of national security were (news bulletins), as well as Hussein's study (2008) which concluded the importance of the role of the media in national security where the media plays an important role in times of crisis at the national level, and the governments need enhanced media support to highlight their position in times of war and crisis. So, the potential of media as a multiplier and a weapon of war must be realized. Failure to recognize and respond to the enemy's dealings with the media may lead to an unprecedented military and national failure.

The study also showed that the level of awareness of national security in the political, economic, military and social dimensions was similar between the two genders, while the level of awareness of geopolitical and cyber national security among female students was higher than that of male students. In other words, the students'awareness of national security issues in general is equal between the two genders, with a slight difference that favors females with regard to geopolitical and cyber security. This could be attributed to the fact that females are more cautious in dealing with cyberspace depending on the nature of values, customs and traditions that impose stricter standards on females than males in order to preserve the privacy. This result is consistent with the conclusion of the Kazan and others (2018) study which showed that the level of students'awareness of the conceptual implications related to the concept of community security as stated in the national education course was medium with no statistically significant differences at the level of (α = 0.05) attributed to the gender effect. The level of awareness of national security was close between residents of villages and cities and those affiliated to a certain party or not. This may be attributed to the fact that both the city and the village are exposed to the same media and the Jordanian citizen is affected by the economic reality regardless of his social environment, whether it is rural or urban. This made the level of awareness of the national economic and social security close between students who live in villages and cities, while the level of awareness of the national political and military security among the villagers affiliated to a certain party was higher than that of the city-dwellers and those who are no affiliated to a certain party.

As for the high level of awareness of the military and political dimensions of students affiliated to political parties, it is an expected result especially the individuals affiliated to political parties often have certain principles, goals, and attitudes towards the political issues of society and thus exposing them to information about national security dimensions through the TV program affected their level of awareness in a way higher than other students. This result is in agreement with Al-Nuaimi (2013) study "The role of talk shows in the Jordanian television in political awareness of Jordanian university students." The study showed that the political content presented by political talk shows contributes to the development of students' knowledge and political information and provides them with different perspectives about domestic political issues.

The results of this study revealed that there was no significant difference in the level of awareness of national security in all its dimensions according to the student's specialization and study in scientific or literary colleges, and the degree of awareness of national security in all its dimensions was similar for all students according to the academic level. This indicates that the impact of the TV program (Your Security Your Homeland) in raising the level of students' awareness about the concept of national security was equal for all students, regardless of their specializations, background knowledge, or academic level. This result was contrary to the findings of Kazan et al (2018) study which aimed to reveal the level of awareness of university students about the conceptual contents related to the concept of community security as mentioned in the national education course. The study showed that there are statistically significant differences in the level of awareness related to the concept of political security in favor of the scientific colleges, and there are statistically significant differences attributed to the academic year in all topics of the concept of community security. This difference confirms that television programs have an influential role in raising students'awareness of the concept of national security regardless of their academic specializations, whether scientific or humanitarian, outweighing the impact that some academic courses seek to achieve like the national education course.

Regarding the results related to the TV program "Your Security Your Homeland" which was produced throughout its various stages using the TRIZ theory for innovative problem solving, the work team followed (12) of its principles in solving the problems they faced. They were as follows:

1.   Segmentation principle: It is used to solve problems by dividing the system into parts, or by designing dividable thing, or increasing the degree of its fragmentation or division, if the system is already divided.This principle was used in the preparation and implementation of the television program "Your Security Your Homeland" to divide the tasks and the editing operations.

2.   Use cheap replacement events principle: It refers to the use of cheap things that are used for relatively short periods of time instead of expensive things that can be used for relatively long periods of time.This principle was used in the

preparation and implementation of the TV program "Your Security Your Homeland" by using the equipment available in the Corporation.

3. The combining / merging principle: The essence of this principle is the temporal or spatial merging of systems that perform parallel or converging operations. This principle was used in the preparation and implementation of the TV program "Your Security Your Homeland".

4. Separation / Extraction principle: Problems can be solved by using this principle by identifying and maintaining well-functioning components, identifying non-working components and disposition thereof**.** This principle was used in the preparation of one of the TV program "Your Security Your Homeland" paragraphs and the program montage.

5. LocalQuality principle: This principle of problem solving is based on improving the quality of performance in the various parts of the system by changing its regular internal and external environment and transforming it into irregular, and providing the best conditions for the effectiveness of the different parts of the system to perform other useful functions**.**This principle was used in the implementation of the television program "Your Security Your Homeland" by providing a studio and decor appropriate to the idea of the program.

6. The inversion principle: This principle is used to confront problems by turning the processes or procedures used upside down and performing procedures different from those usually used in solving the problem**.**This principle was used in the preparation and implementation of the television program "Your Security Your Homeland" / Mechanism of preparing the televised reports.

7. Cushion in advance pprinciple: This principle refers to the mechanisms used to deal with problems before they arise in order to compensate the relative decline in the system reliability**.**This principle was used in the implementation of the television program "Your Security Your Homeland" by taking necessary precautions to follow the action plan.

8. Universality principle: This principle includes dispensing with subsystems by strengthening the system's ability to perform several functions**.**This principle was used in the preparation and implementation of the TV program "Your Security Your Homeland" by discussing the issue of national security in its entirety.

9. The periodic action principle: It includes taking periodical or intermittent actions instead of continuous actions. While these actions are intermittent, the amount of intermittent work or its repetition rate is changed. It could be benefited from the work suspension or break periods in performing other works**.**This principle was used in the preparation and implementation of the TV program "Your Security Your Homeland" in terms of organizing the work periods.

10. Prior-action principle: It is based on implementing the required changes in the system, partially or in whole, before the need arises to do so, and arrange things in advance as they can be used in the most appropriate situations for an optimal investment of time**.**This principle was used in the preparation and implementation of the TV program "Your Security Your Homeland" in terms of the pre-preparation and effective coordination.

11. Dynamicity principle: This principle in solving problems includes changing the external environment of the thing or the processes it performs by improving its properties to create better work conditions, or dividing the thing into parts to become able to move and transforming inelastic objects or processes to be adjustable or moveable**.**This principle was used in the preparation and implementation of the TV program "Your Security Your Homeland" in each stage.

12. The feedback principle: This principle includes providing feedback to improve processes or actions. If they are already available, their amount or impact can be changed.This principle was used in the preparation and implementation of the TV program "Your Security Your Homeland" by reviewing episodes in the editing process and evaluating specialists.

Recommendations

Through the results of the study, the following recommendations were made:

1. Developing radio and television programs in university stations in order to raise awareness of national security among young people.

2. Giving lectures and seminars for males at Jordanian universities about geopolitical and cyber security.

3. Giving lectures and seminars on political and military security in Jordanian cities for youth.

4.   Adding creative theories into program production in the Jordanian Television during the planning and implementation process for producing a television program.

5.   The need to increase Jordanian Television'sattention to the political programs that focus on the importance of political participation and party work to increase the awareness of society and the youth group in particular of the importance of party work and its positive impact on politics life.

6.   The need to increase the attention of the visual media in general, and Jordanian Television in particular, to programs directed at youth as they have a clear impact in raising their level of awareness and shaping their attitudes and behavior towards many national issues.

7.   Raising interest in the media content in order to raise awareness and gain advocacy to central issues in society due to its important impact on the recipient, especially the youth.

8.   Inviting the Faculties of Journalism and Media in Jordan to increase theoretical and practical attention to the national security issues in some of the TV specialization courses in order to create a generation capable of promoting national values with the programs it produces.

9.   Highlighting some of TRIZ theory principles when preparing daily and weekly programs in the Jordanian TV channels with the aim of reaching creative solutions to problems facing Jordanian society.

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