Using the Preventive Model in Social Work to Increase Awareness Among Secondary School Students of the Dangers of Digital Games

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Abstract

The aim of this study was to determine the effectiveness of using the preventive model in social work to increase awareness among secondary school students of the dangers of digital games. The study was applied to a sample of 20 students in secondary schools in Qena, who were randomly assigned. The study followed a semi-experimental approach based on one experimental group. Students were asked to complete the ‘digital game dangers’ scale (pre-test). Then the program of professional intervention was applied using the preventive model in social work. The intervention lasted for 12 weeks, after which students completed the measures again (post-test). The presentation of the results indicated that there are differences of statistical significance in favor of the post-test. The results suggest that using the preventive model in social work is an effective method of increasing awareness among secondary school students of the dangers of digital games.

Key words: the preventive model; secondary school students; social work; digital games.

Introduction

A digital game is a game that employs electronics to create an interactive system with which a player can play it (Wikipedia, 2019). It is a commercial and technological commodity which, although enjoyable, affects the individual and society in a variety of ways (Al-Ghamdi, 2006, p.41). With rapid technological growth, digital games have begun to spread widely, appearing inside every home, and occupying the time of many students (Al-Hindawi, 2018, p.34). For example, the game "Pubg" is in need of continuous play, and the game “Blue Whale” entrusts its participants with a number of unusual tasks, up to as many as fifty tasks.

In spite of the educational importance of digital games, their use still poses many risks for students (Spinks, et al, 2006, p.44). Digital games are responding to the seemingly unlimited desire of secondary school students to explore and control the outside world through occupying a prominent place within each digital gaming
group to which he belongs, and serving his constant quest to be the main engine and the dominant actor in every game played (Al-Sghiri, 2013, p.305).

The proliferation of mobile phones and tablets has led to the clear emergence of the role of digital games in the lives of students. The rush of students towards using digital games carries a lot of positives, but the excessive use of those games can negatively affect students’ intellectual and psychological development (Mansour, 2010, p.22). In most digital games we find many types and configurations of guns, pistols, daggers and swords (Sawalha, et al, 2016, p.180).

Digital games lead to the spread of mental illnesses associated with loneliness, isolation and depression, as well as the spread of violence and crime, the facilitation of criminal activities, and the promotion of drugs and acts of terrorism (Younis, 2017, p.77). They may also lead to murders, suicides, and encourage defiance of the law, theft, destruction of buildings, and the spread of a culture of gun use (Abdulaziz, 2011, p.630). Spending many hours using digital games causes head, wrist, neck, and back pain (Mitchell, & Savill, 2004, p.7) meaning students cannot benefit from other activities essential to their physical, social, intellectual, and emotional development (Mansour, 2010, p.30). Social problems such as shyness or introversion may occur (Brandtzæg, & Heim, 2009, p.72).

Dwaidi’s study (2015) summarized some of the dangers of digital games as follows: psychiatric diseases such as fear and phobia, restless sleep, poor self-esteem, anxiety, aggressive behavior, hatred of others, impaired thinking, confusion between reality and imagination, poor relationship with family members, and friends, lack of exercise, nervous tension, pain in the hands, visual impairment, isolation from family, colleagues and the surrounding community. Al-Kaabi’s study (2013) confirmed that digital games can carry destructive negative values that promote ideas, words and customs that are contrary to the customs and traditions of society, and contribute to the formation of a distorted culture. Gallagher & Michale's study (2011) concluded that the practice of digital games leads to social problems such as social isolation; a student who spends many hours playing digital games without contact with others makes him a non-social student. Anderson, Gentile, & Buckley's study (2007) confirmed that digital games may promote negative ethics and ideas that contribute to social separation from others, causing the student to become associated with unconventional values and ethics.
that separate him from society, producing a selfish person who only thinks of satisfying his own desires.

Hassan's study (2015) concluded that most digital games rely on excitement to terrorize and kill others, destroy their property and abuse them unlawfully, as students learn methods of committing crime, developing their skills in violence and aggression, and condoning the consecration of terrorism. Therefore, digital games could create a terrorist because of the scenes of violence and aggression which influence a student’s behavior when facing real-life problems (Zeyoudi, 2015, p.16). Salem's study (2015) concluded that digital games cause the negative effects of exclusion from social activities and lack of physical exercise. Al-Mawla's study (2012) confirmed that there are health, behavioral and cultural risks of digital games. Ibrahim's study (2016) summarized some of the damage caused by digital games: encouraging violence, wasting time, changing appearance, not sleeping enough, gaining weight, being unable to stand up properly, joint pain, vitamin (D) deficiency, and obesity.

Secondary education is an important stage in the lives of students due to the characteristics of their age, namely adolescence, which affect their personality and interaction with others (Abdelmaguid, 1999, p.16).

Therefore, secondary school students receive special attention by virtue of their position on the educational ladder. This requires creating a sound social environment in which they can unleash their potential, develop their skills, and satisfy their needs and preferences (El-Meligy & Mansour, 2005, p.53).

Students in this stage of development show several noticeable changes; a change in the length, weight, width and proportions of body organs, preceded by mental, emotional and social development, which may expose students to problems of maladaptation (Abdelzaher, 2019, p55). They are characterized by maturity in abilities, mental development, maturity of thought, culture, growth of innovative thinking, and criticism through the belief in unknown new ideas in problem solving (Mohamed, 2011, p.80). Students tend to have personal contact and peer participation in various activities (Fathy, 2019, p.29).

Adolescence is characterized by instability; students show feelings of anger, revolution and rebellion towards sources of authority that prevent them from aspiring to independence, and a
tendency towards isolation and a sense of non-acceptance from society (Najib, 2019, p.67). Students are keen on ethical behavior and can judge and evaluate behavior in terms of right or wrong, depending on the situation in which it occurs, because of their flexibility of thinking (Abdel Wahab, 2013, p.38).

The preventive model of social work is a modern model in the practice of social work and is used before the problem occurs to prevent it from appearing or avoiding it by helping individuals, groups, communities and organizations to anticipate problems (Mahmoud, 1996, p.15). Preventive social work takes care of healthy people before taking care of patients through a range of measures taken to minimize personal and social problems, and minimize social behavior with the aim of preventing problems for individuals, groups and communities (Rashwan, 2007, p.156).

Social work as a profession, like other professions, is interested in contributing towards therapeutic and preventive efforts to face the risks of digital games, whether at the therapeutic or preventive level or at the level of individuals, groups or communities who face the effects of the problem.

The elements of the preventive model of social work can be determined as follows (Mahmoud, et al. 2005, p.107):

a) Unity of work, consisting of individuals in general, and people at high risk.

b) Different life situations, such as situations of distress, anxiety, tension, stress, crisis and problems.

c) Community institutions, whether governmental or non-governmental, that can play a direct or indirect role to prevent problems in human society, whether health, social or educational.

d) Social workers working in professional institutions, where the preventive model of social work is practiced.

e) Professional relationships that connect clients with an institution and the social worker in order to achieve the process of assistance.

f) Surrounding environment that represents all of the above, in addition to the natural environment in all its contents.

The most important assumptions of practice in the framework of the preventive model are (Abdo, & Hussein, 2006, p.1348):

a) The individual as the axis of change.

b) Setting goals.

c) Contracting.

d) Group as a means of change.

e) Interference with the social environment.
Due to the importance of the preventive model, several studies have been conducted that used the model to deal with various problems such as: Morsi's study (2007) which aimed to determine the role of university student welfare settings in the prevention of drug taking, from the viewpoint of the generalist practice of social work. Wagid's study (2012) aimed to test the effectiveness of a professional intervention program, from the perspective of the generalist practice of social work, to protect illegitimate children from social risk. Ahmed's study (2013) aimed to develop a proposed concept, from the perspective of the preventive approach to social work, to develop the attitudes of children in accommodation institutions, towards vocational rehabilitation programs. Rifai's study (2015) used a preventive rehabilitation approach in social work to reduce student attacks on school property.

In light of the above theoretical views and previous studies, it becomes clear to us that the dangers to secondary school students using digital games are increasing, and that social work should have an active role in reducing it through the preparation of professional intervention programs to raise awareness and prevent such dangers. The problem of the study can be stated as follows: investigating the effectiveness of using the preventive model in social work to increase awareness among secondary school students of the dangers of digital games.

Study Objectives:

The main objective of this study is to identify the effectiveness of using the preventive model in social work to increase awareness among secondary school students of the dangers of digital games.

Study Hypotheses:

The main hypothesis is determined as follows: There are statistically significant differences between the mean degrees of the students before and after the application of the professional intervention program using the preventive model in social work, on the digital game dangers scale as a whole.

Sub hypotheses:

1- There are statistically significant differences between the mean degrees of the students, before and after the application of the professional intervention program using the preventive model in social work, on the social dangers dimension of digital games.

2- There are statistically significant differences between the mean degrees of the students, before and after the application of the
professional intervention program using the preventive model in social work, on the academic dangers dimension of digital games.

3- There are statistically significant differences between the mean degrees of the students, before and after the application of the professional intervention program using the preventive model in social work, on the behavioral dangers dimension of digital games.

4- There are statistically significant differences between the mean degrees of the students, before and after the application of the professional intervention program using the preventive model in social work, on the health dangers dimension of digital games.

The researcher defined the operational concepts of the study as follows:

**Digital games:** Operationally defined as diverse electronics that make up interactive games, whether via smart phone or tablet, which cause social, behavioral, academic and health dangers for students.

**Awareness of the dangers of digital games:** The concept of awareness refers to the totality of ideas, knowledge, and culture that the individual represents that causes him to behave in a certain way, and also refers to the responses that a person makes in a specific situation (Madkour, 1975, p. 644). Awareness is also defined as mental awareness or is that part of the mind that mediates between the environment, feelings, and thoughts (The Oxford dictionary of philosophy, 1966. p. 76). Increasing awareness of the dangers of digital games is also a process of building, developing positive attitudes, concepts, values and behaviors among secondary school students, which has a positive impact on the protection and preservation of society.

The concept of awareness of the dangers of digital games is practically defined in the current study by the set of ideas, perceptions and knowledge of secondary school students and the outcome of their interaction with their environment and their impact and influence on them, which ultimately reflects on their awareness and understanding of dangers social, behavioral, health and academy of digital games and what is measured by the scale prepared for that.

**The preventive model:** The concept of the preventive model is operationally determined in the present study by the total procedures taken to increase the awareness among high school students of the dangers of digital games, before the expected problems occur from practice of these games. These procedures are used within the professional intervention program used by the researcher.
Methodology:

The current study is a semi-experimental study that aims to identify the effectiveness of the preventive model in social work in increasing awareness among secondary school students of the dangers of digital games. The study followed an experimental approach based on one experimental group. Following data collection, appropriate statistical analysis was carried out.

Sample:

The study population included secondary school students in Qena. A sample consisting of (20) students was selected randomly. The sample was selected according to the following criteria: written approvals from the study participants, users of digital games, a low degree on the digital game dangers scale, and cooperation with the researcher in implementing the study.

Tools:

The digital game dangers scale has four dimensions as shown: social dangers which contains (8) items, academic dangers which contains (8) items, behavioral dangers which contains (8) items, and health dangers which contains (8) items. In total the digital game dangers scale for secondary school students contained (32) items. It used the five-level Likert’s scale, and included the following options: strongly agree=5; agree=4; neutral=3; disagree=2; and strongly disagree=1.

Reliability and Validity of the Scale:

Face validity: the researcher presented the scale to (10) reviewers, who are specialists in social work and experts in digital games. They examined the digital game dangers scale and expressed their opinions on the stability of the scale items that contributed to the aims of the study. The researcher made all the modifications suggested. Approval was given to 85% of the items.

Internal Consistency: the scale was applied in its final form to a sample of (15) students. The correlation coefficients were calculated by the index to which they belong. The correlation coefficients between the scale dimensions and the scale as a whole were calculated, the following table illustrates this.

Table (1): The correlation coefficients between every item and the dimension to which it belongs

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Pearson Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>the social dangers of digital games</td>
<td>0.873**</td>
</tr>
<tr>
<td>the academic dangers of digital games</td>
<td>0.817**</td>
</tr>
<tr>
<td>the behavioral dangers of digital games</td>
<td>0.854**</td>
</tr>
<tr>
<td>the health dangers of digital games</td>
<td>0.855**</td>
</tr>
<tr>
<td>Total</td>
<td>0.849**</td>
</tr>
</tbody>
</table>
Table (1) shows that all the scale dimensions relate to each other and correlate with the whole degree of the scale, with a statistically significant correlation at a significant level of (0.01). They achieve a good level of confidence in the tool and reliability of the results, so the researcher can rely on it in the current study.

Scale Reliability:

Table (2): Reliability of the digital game dangers scale using the Spearman Brown correction and the Alpha Cronbach Coefficient.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>The Spearman-Brown</th>
<th>Alpha Cronbach Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>the social dangers of digital games</td>
<td>0.826**</td>
<td>0.891**</td>
</tr>
<tr>
<td>the academic dangers of digital games</td>
<td>0.836**</td>
<td>0.902**</td>
</tr>
<tr>
<td>the behavioral dangers of digital games</td>
<td>0.801**</td>
<td>0.890**</td>
</tr>
<tr>
<td>the health dangers of digital games</td>
<td>0.863**</td>
<td>0.911**</td>
</tr>
<tr>
<td>digital game dangers</td>
<td>0.883**</td>
<td>0.923**</td>
</tr>
</tbody>
</table>

Table (2) shows that most of the coefficients of the digital game dangers scale have a high degree of reliability. This is an indication of the scale’s validity and applicability.

Professional intervention using the preventive model in social work to increase awareness among secondary school students of the dangers of digital games

1) The professional intervention program was applied to the students of the experimental group for a period of 12 weeks (data was collected in 2019), through application of methods and techniques for the preventive model in social work.

2) The preventive model strategies used in the program: persuasion, clarification and explanation, cognitive reconstruction, confrontation, behavior modification, guidance and counseling, building relationships, communication building, reinforcement.

3) The preventive model techniques used in the program: explanation, clarification, brainstorming, group discussion, persuasion, rephrasing, role play, cooperation.

4) The professional roles used in the intervention program: assistant, mediator, educator, expositor, evaluator, enabler, data collector and analyst, consultant, rectifier.

5) The professional skills used in the intervention program: interviewing, listening, observation, facilitating dialogue and discussion, decision-making, building professional relationships, communication.

6) Phases of professional intervention in the preventive model:
In the present study, the researcher relied on the views of Lewayne, D., Steven, P., Betty, J. which divided the phases of professional intervention in the preventive model into:

a) Publishing of information about the problem to be prevented (digital game dangers): This information is published in order to clarify the problem and achieve a correct understanding of the dangers of digital games as a starting point for the study sample.

b) Make the information personal and linked to daily situations experienced by the targeted individuals (secondary school students): Achieved by having the information talk about students as part of their daily lives, and talking about the dangers of digital games as they understand them from their personal point of view. Here, the researcher teaches students how to turn information into a personal decision not to play digital games until a negative attitude towards them is developed. Their decision is firstly individual which then becomes a collective decision not to play these games.

c) Acquisition of preventive skills: through the transformation of information and trends formed into preventive behavior aimed at avoiding anticipated student problems.

d) Evaluate the results: Practical application of the preventive action to deal with the dangers of digital games, in the framework of the preventive model, in order to help students to protect themselves and their colleagues from the dangers of digital games.

Results of the Study:

Results related to the Hypotheses of the study:

Table (3) shows the differences between the mean degrees of the students, before and after the application of the professional intervention program, on the digital game dangers scale as a whole, and its sub-dimensions, using the T-Test.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Before intervention</th>
<th>After intervention</th>
<th>T</th>
<th>Sig (p.value)</th>
<th>modified gain ratio (blake)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=20</td>
<td>N=20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>S.D</td>
<td>M</td>
<td>S.D</td>
<td></td>
</tr>
<tr>
<td>the social dangers of digital games</td>
<td>10.60</td>
<td>1.56</td>
<td>36.40</td>
<td>1.31</td>
<td>55.13</td>
</tr>
<tr>
<td>The academic dangers of digital games</td>
<td>10.90</td>
<td>2.918</td>
<td>36.50</td>
<td>1.469</td>
<td>32.02</td>
</tr>
<tr>
<td>the behavioral dangers of digital games</td>
<td>10.60</td>
<td>3.13</td>
<td>36.40</td>
<td>1.14</td>
<td>33.81</td>
</tr>
<tr>
<td>the health dangers of digital games</td>
<td>9.45</td>
<td>1.31</td>
<td>38.55</td>
<td>0.60</td>
<td>89.91</td>
</tr>
<tr>
<td>digital game dangers</td>
<td>41.55</td>
<td>6.27</td>
<td>147.85</td>
<td>2.41</td>
<td>71.72</td>
</tr>
</tbody>
</table>
The results of the previous table show the following:

That there were statistically significant differences between the pre-test and post-test on the digital game dangers scale, where the value of T-Test was (71.72), statistically significant at (0.01). These differences were higher in the post-measure, where the mean of the pre-measure was (41.55), while the mean of post-measure was (147.85). Blake's modified gain was (1.56), indicating the effectiveness of the professional intervention program using the preventive model of social work to increase awareness among secondary school students of the dangers of digital games. Thus, this proves the validity of the main hypothesis of the study "There are statistically significant differences between the mean degrees of the students, before and after the application of the professional intervention program using the preventive model in social work, on the digital game dangers scale as a whole."

That there were statistically significant differences between the pre-test and post-test on the social dangers dimension of digital games, where the value of T-Test was (55.13), statistically significant at (0.01). These differences were higher in the post-measure, where the mean of the pre-measure was (10.60), while the mean of post-measure was (36.40). Blake's modified gain was (1.52), indicating the effectiveness of the professional intervention program using the preventive model of social work to increase awareness among secondary school students of the social dangers of digital games. Thus, this proves the validity of the first sub-hypothesis of the study "There are statistically significant differences between the mean degrees of the students, before and after the application of the professional intervention program using the preventive model in social work, on the social dangers dimension of digital games."

That there were statistically significant differences between the pre-test and post-test on the academic dangers dimension of digital games, where the value of T-Test was (32.02), statistically significant at (0.01). These differences were higher in the post-measure, where the mean of the pre-measure was (10.90), while the mean of post-measure was (36.50). Blake's modified gain was (1.52), indicating the effectiveness of the professional intervention program using the preventive model of social work to increase awareness among secondary school students of the academic dangers of digital games. Thus, this proves the validity of the second sub-hypothesis of the study "There are statistically significant differences between the mean degrees of the students, before and after the application of the professional intervention program using the preventive model in social work, on the academic dangers dimension of digital games."
degrees of the students, before and after the application of the professional intervention program using the preventive model in social work, on the academic dangers dimension of digital games."

That there were statistically significant differences between the pre-test and post-test on the behavioral dangers dimension of digital games, where the value of T-Test was (33.81), statistically significant at (0.01). These differences were higher in the post-measure, where the mean of the pre-measure was (10.60), while the mean of post-measure was (36.40). Blake's modified gain was (1.52), indicating the effectiveness of the professional intervention program using the preventive model of social work in increase awareness among secondary school students of the behavioral dangers of digital games. Thus this proves the validity of the third sub-hypothesis of the study "There are statistically significant differences between the mean degrees of the students, before and after the application of the professional intervention program using the preventive model in social work, on the behavioral dangers dimension of digital games."

That there were statistically significant differences between the pre-test and post-test on the health dangers dimension of digital games, where the value of T-Test was (89.91), statistically significant at (0.01). These differences were higher in the post-measure, where the mean of the pre-measure was (9.45), while the mean of post-measure was (38.55). Blake's modified gain was (1.68), indicating the effectiveness of the professional intervention program using the preventive model of social work to increase awareness among secondary school students of the health dangers of digital games. Thus, this proves the validity of the fourth sub-hypothesis of the study "There are statistically significant differences between the mean degrees of the students, before and after the application of the professional intervention program using the preventive model in social work, on the health dangers dimension of digital games."

Discussion

The current study aimed to test the effectiveness of using a preventive model in social work to increase awareness among secondary school students of the dangers of digital games. The study sample included one experimental group to which the digital game dangers scale was applied before and after the professional intervention. They will be discussed in view of the study results.
The results show that there were statistically significant differences between the mean degrees of the experimental group in the pre-test and post-test on the digital game dangers scale in favor of the post-test. This means that the preventive model in social work is effective in increasing awareness among secondary school students of the dangers of digital games. Therefore, the main hypothesis of the study is substantiated.

The results also show that there were statistically significant differences between the mean degrees of the experimental group in the pre-test and post-test on the different dimensions of the scale (social, behavioral, academic and health dimensions) in favor of the post-test. So, the sub hypotheses are substantiated. This means the preventive model in social work has helped to increase awareness among secondary school students of the social, behavioral, academic and health dangers of digital games.

The researcher used strategies and techniques of the preventive model in social work. They included strategies of persuasion, clarification and explanation, cognitive reconstruction, confrontation, behavior modification, guidance and counseling, building relationships, communication building, and reinforcement, and techniques of explanation, clarification, brainstorming, group discussion, persuasion, rephrase, role playing, cooperation.

The results of this study agree with the results of some previous studies aimed at testing the effectiveness of using the preventive model of social work with different categories. Alneef's study (2017), Younes's study (2017), and Salem's study (2015) showed that the effects of digital games reduce students' ability to engage in social activities and their ability to perform duties, they turn away from physical exercise and neglect to develop friendships and social relations as a result of prolonged use of digital games.

This agrees with the results of Al-Yacob's study (2009), and Abdel Azeez’s study (2011) which showed that there is a relationship between digital games and violence, and that these digital games have a role in the development of violent behavior in students.

It also agrees with the results of Ahmed's study (2016), and Kouider's study (2012) which found that there is a negative impact of the excessive use of digital games on the cognitive performance of children, and that digital games reduce family bonding within the home, and lead to learning difficulties for students.
This agrees with the results of Hassan & Hassoun's study (2018) that concluded that digital games lead to distracted students, headache, fatigue, cramps in the neck muscles, pain in the shoulders and back, and poor vision.

The results of the current study agree with the results of Mishri's study (2017), which confirmed the existence of a relationship between the use of digital games and a low level of academic achievement. It encourages the growth of violent behavior among adolescents, since many of these games are characterized by violence and those who practice them have the desire to try to apply what they have seen in the games.

Among the disadvantages of digital games is the fact that they lead to poor academic achievement in students who practice them continuously, because they play long hours into the night and wake up late for school, or even miss school, and are unable to listen well to the teacher and may even fall asleep in class. Students’ ability for good academic achievement is disrupted.

It also agrees with the results of Fouad's study (2017), which proved that digital games lead to lack of sleep, loss of appetite, hearing problems, recurrent headaches, laziness, spinal problems, back pain, inability to think, and loss of concentration during classes.

It can be concluded that this study’s results differ from the results of previous studies. The current study has verified the effectiveness of using the preventive model in social work to increase awareness among secondary school students of the dangers of digital games, while previous studies used the preventive model in professional practice with different clients, and with different issues and problems.

**Study Limitations:**

The researcher found some difficulties in this study, including: administrative procedures to accept the application of the study in the educational departments affiliated with students. Lack of knowledge, skills and experience of social workers in schools that the professional intervention program has been implemented in. The lack of adequate financial and technical resources to apply the professional intervention program to a larger number of students.
References


Alneef, S. N. (2017). Electronic games and their consequences on, educational values for intermediate students. master thesis, Qassim University, Faculty of Education.


Dwaidi, A. M. (2008). The impact of the use of computer games and educational programs on the achievement and the growth of creative thinking among first grade students in the reading and writing course in Medina. Journal of the Arab Gulf message, No. 92, King Abdulaziz University, Faculty of Education in Medina.


Ibrahim, N. S. (2016). The advantages and disadvantage of the digital games played by children aged (3-6 years) from the viewpoints of mothers and kindergarten teachers. master thesis, Middle East University, Faculty of Educational Sciences.

Kouider, M. (2012). The behavioral impact due to practicing this kind of electronic games upon Algerian children at primary school in Algiers, master thesis, Algiers University, Faculty of Political Science and Information.


