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Contents

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Research Paper: The Effect of Positive Social-Comparative Feedback on Learning a Throwing Skill in Adolescents with ADHD

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Abstract

The present study was designed to investigate the effects of positive social-comparative feedback on motor learning and self-efficacy of a throwing motor skill in individuals with ADHD. The subjects were 44 adolescents with ADHD in the age range of 15 to 18 years old and were randomly and equally divided into two groups: positive social-comparative feedback and control group. Motor task consisted of throwing bean bags with the non-dominant arm at a target on the ground. The participants completed the pretest (10 trials), an acquisition phase including 6 blocks of 10 trials, and a retention test consisting of 10 trials. The participants in the positive social comparison feedback group were informed that their throws on the previous block were, on average, better than the throws of the other participants in this group. Prior to pretest, each block, and before the retention test, all participants completed the self-efficacy scale. Dependent measures were throwing accuracy scores and self-efficacy. Independent t-test and analysis of variance (ANOVA) with repeated measures were employed to analyze the data. Positive social comparison feedback group throwed the bean bags significantly better in the acquisition phase and the retention test compared to the control group. In addition, positive social comparison feedback group reported significantly higher self-efficacy scores in the acquisition phase and the retention test in comparison to the control group. Our findings indicated that enhanced expectancies benefited individuals with ADHD to enhance their performance and learn a novel motor skill.

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1. Introduction

In the literature, a number of cognitive strategies are theoretically and practically employed for teaching new motor skills to novices. These are included but no limited to action observation (Baniasad et al, 2022; Mokhtari et al., 2007; Ghorbani & Bund, 2014; Ghorbani et al. 2020), motor imagery (Afsanepourak et al. 2012), self-talk (Baniasad et al., 2022), and attentional focus (Ghorbani et al., 2020; Baniasadi., 2018, 2019). However, a recent theory, i.e., the OPTIMAL (optimizing performance through intrinsic motivation and attention for learning) theory (Wulf & Lewthwaite, 2016), emphasized on motivational and attentional variables in the optimal performance and learning of motor skills and proposed that there are three influential variables which can be sued to enhance performance and learning of new motor skills. These are consisted of a) enhancing expectancies for future performance, b) supporting learners' autonomy and (c) promoting an external focus of attention (Wulf & Lewthwaite, 2016). In the present study, we focused on the effects of enhancing expectancies on motor performance and leaning. Based on the OPTIMAL theory, past performance achievements provide a basis for self-confidence or self-efficacy, and past positive outcomes provide positive expectations for future outcomes in similar situations (Wulf & Lewthwaite, 2016; Seyedi Asl et al. 2013). Effects of enhanced expectancies on performance and learning of new motor skills were investigated by previous studies in a variety of motor tasks and across a range of age groups (Abdoshahi et al. 2022, Avila et al., 2012; Chiviacowsky & Wulf, 2007; Chiviacowsky et al. 2009; Ghorbani & Bund, 2020; Lewthwaite, & Wulf, 2010;

Wulf et al. 2014, 2017). In addition, the OPTIMAL theory postulated that au enhanced expectancies are associated with increasing the sense of self-efficacy in the performers. Self-efficacy is a construct referring to one's belief in one's ability to succeed in particular situations or to perform a given duty (Bandura, 1977; Dana et al., 2017). Nevertheless, the enhanced expectancies have got less considerations in the attention deficit hyperactivity disorder (ADHD) population. Hence, the effects of enhanced expectancies on the performance of learning of new motor skills in individuals with ADHD have rarely been examined. ADHD is a common neurodevelopment disorders among children that can persist into adolescence and adulthood. It is associated with an ongoing pattern of inattention, hyperactivity, and/or impulsivity. Symptoms of ADHD can interfere with daily activities and relationships. It is also associated with a high rate of psychiatric problems such as mood and anxiety disorders, and cigarette and substance use disorders (Dana et al., 2018; Eskandarnejad et al., 2015; Farhangnia et al., 2020). Some previous evidence indicates that people with ADHD often have challenges with learning novel motor skills. Thus, due to the lack of research data on the use of enhanced expectancies in enhancing the motor performance and learning of people with ADHD, it seems necessary to investigate whether enhanced expectancies can be generalized for individuals with ADHD. Hence, this study was designed to investigate the effects of enhanced expectancies (i.e., in the form of positive social-comparative feedback) on motor performance and learning of a throwing skill in adolescents with ADHD. In the literature, Ávila, et al. (2012) found that the

positive social-comparative feedback resulted in greater throwing accuracy and higher perceived competence in comparison to the control group. Additionally, Chiviacowsky, Harter, Gonçalves and Cardozo (2019) showed that positive temporal-comparative feedback led to better motor performance and perceived competence relative to the control group. The above-mentioned findings reveal that positive social-comparative feedback affects the performance of motor skills and highlight the important motivational role of feedback in motor performance. However, to the best of our knowledge, no single study has investigated the effects of enhanced expectancies in form of positive social-comparative feedback on motor performance and learning in individuals with ADHD. To fill the gap the present study was designed to investigate the effects of positive social-comparative feedback on motor learning and self-efficacy of a throwing motor skill in individuals with ADHD. In the present study, it was hypothesized that positive social-comparative feedback would lead to greater motor performance and learning as well as higher self-efficacy than control condition among adolescents with ADHD.

2. Method

The present study used a causal-comparative design. The subjects of this study were 44 adolescents with ADHD in the age range of 15 to 18 years and were randomly and equally divided into two groups: positive social-comparative feedback and control.

Motor task: Motor task in the present study included to throw beanbags with the non-dominant arm at a target on the ground.

At the center of the target, there was a circle with a radius of 10 cm. The distance between the participant and the center of the target was three meters. Around the center of the target there were concentric circles with radiuses of 20, 30, 40, 50, 60, 70, 80, 90, and 100 cm. These circles were used to determine the accuracy of the throws. If the beanbag landed in the center of the target, then the score was 100. If it landed in one of the other circles, then the score was 90, 80, 70, 60, 50, 40, 30, 20, or 10 points, respectively. Finally, if it landed outside the circle, then a score of 0 was recorded.

Procedure: Participants were tested individually on two consecutive days. Prior to data collection, participants were given general information about the experimental procedure and asked to complete a questionnaire regarding information such as age, laterality, and previous experiences with motor task. Finally, participants were given brief instructions about the beanbag throwing task, which consisted of holding the beanbag with the non-dominant hand and throwing it at the target. To perform the protocol, the participants first executed the pretest, including 10 trials. During the acquisition phase, participants performed 6 blocks of 10 trials each, and one day later, they completed the retention test, consisting of 10 trials each without knowledge of result (KR). The participants were allowed to look at the target before each block, but during the pretest, practice, and retention phases they were prevented from viewing the outcomes by wearing opaque swimming goggles. To add enhanced expectancies in the protocol, the subjects in the positive social comparison feedback group were informed that they would receive feedback about their performance

relative to other subjects in this group at the end of each training block. The feedback informed them that their throws on the previous block were, on average, better than the throws of the other subjects in this group. Subjects in the control group did not receive any feedback. The participants were given six seconds to execute each throw. Time was measured with a digital chronometer. Prior to pretest, each block, and before the retention test, all participants completed the self-efficacy scale, in which they were asked to rate how confident they were, on a scale ranging from 10 (*not confident*) to 100 (*absolutely confident*), that they would be able to throw the beanbag at a target (i.e., a score of 100) on one of the following trials.

Data analysis: In the present study, the dependent variable included throw accuracy and self-efficacy in pre-test, acquisition phase, and retention test. Independent t test was used to analyze the research variables in pre-test and retention test. Analysis of variance (ANOVA) with repeated measures was used to analyze the data in the acquisition phase. The level of statistical significance was used at P <0.05.

3. Results

Figure 1 presents the accuracy scores across the pretest, acquisition phase, and the retention test.
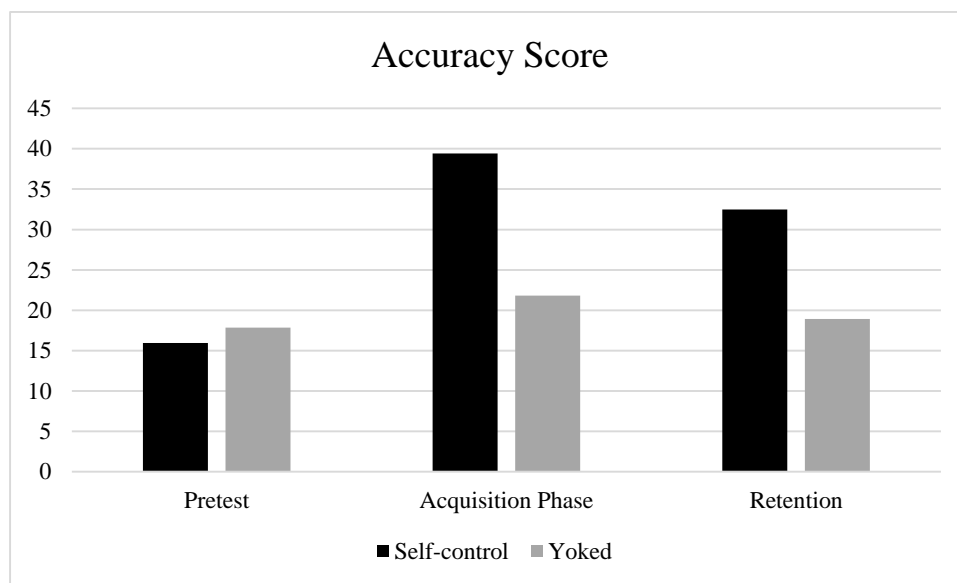
Figure 1. Accuracy scores across the pretest, acquisition phase, and the retention test.

The analysis of the pretest showed no significant differences between groups, $t = 0.55$, $p = 0.67$. This shows that both groups had identical condition before engaging in the protocol. During the acquisition phase, the performances of both groups improved significantly, $F = 7.26$, $p = 0.000$, $\eta^2 = 0.16$. Moreover, positive social comparison feedback group performed significantly better than control group, $F = 8.82$, $p =$ 0.000, $\eta^2 = 0.26$. Finally, the data from the retention test indicated that positive social comparison feedback group performed significantly better than control group, $t = 8.18$, $p = 0.000$.

Figure 2 shows the self-efficacy scores across the pretest, acquisition phase and the retention test.
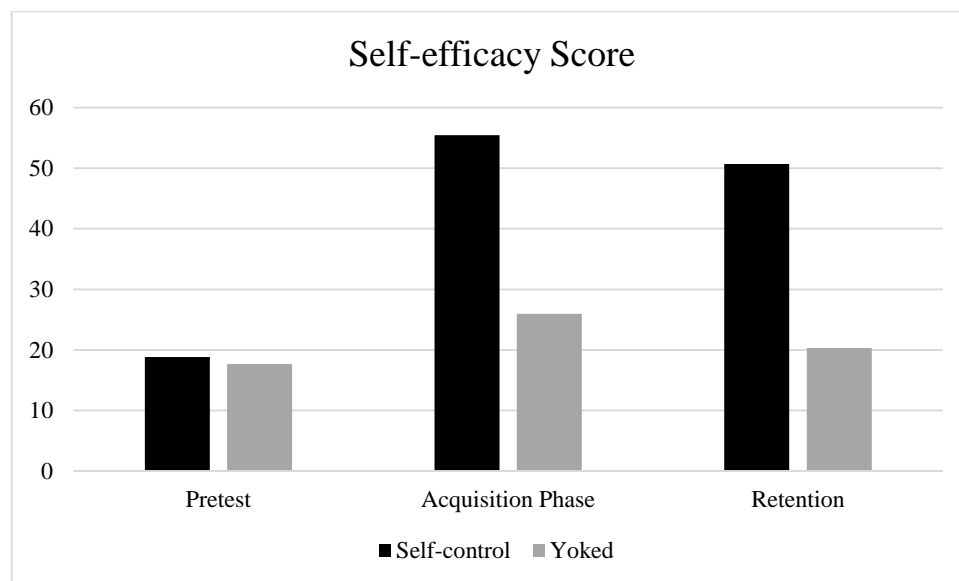
Figure 2. Self-efficacy scores across the pretest, acquisition phase and the retention test.

The analysis of the pretest showed no significant differences between groups, $t = 0.61$, $p = 0.62$. This shows that both groups had identical condition before engaging in the protocol. During the acquisition phase, the self-efficacy scores of both groups improved significantly, $F = 4.48$, $p = 0.000$, $\eta^2 = 0.09$. Moreover, positive social comparison feedback group reported significantly higher scores than control group, $F = 8.69$, $p = 0.000$, $\eta^2 = 0.26$. Finally, the data from the retention test indicated that positive social comparison feedback group reported significantly higher scores than control group, $t = 10.18$, $p = 0.000$.

4. Discussion

The enhanced expectancies, as a motivational factor in the OPTIMAL theory of motor learning, have got less considerations in the attention deficit hyperactivity disorder (ADHD) population. To fill the gap, the present study was designed to investigate the effects of positive social-comparative feedback on motor learning and self-efficacy of a throwing motor skill in individuals with ADHD. In the present study, it was hypothesized that positive social-comparative feedback would lead to greater motor performance and learning as well as higher self-efficacy than control condition among adolescents with ADHD. As hypothesized, our findings showed that positive social-comparative feedback resulted in significantly higher throwing accuracy scores in the training practice and the retention phase than the control group. That is, exposing individuals with ADHD to positive feedback led to higher motor performance and learning in comparison to control group. These findings support our hypothesis and are in line with those of previous studies on healthy individuals (Avila, et al., 2012; Chiviacowsky & Wulf, 2007; Chiviacowsky et al. 2009; Ghorbani & Bund, 2020; Lewthwaite, & Wulf, 2010; Wulf et al. 2014, 2017) indicating that enhanced expectancies were clearly useful for enhancing motor performance and learning in individuals with ADHD. Feedback frequency may effect on motor

learning in children with special needs (Kordi et al. 2017), so its frequency should be considered in optimized level.

Another interesting finding in the present study was that positive social-comparative feedback resulted in higher levels of self-efficacy in comparison to control condition, as the participants in the positive social-comparative feedback group reported significantly higher self-efficacy scores in the acquisition phase, and retention test compared with the control group. Based on these findings, it can be stated that prediction of the OPTIMAL theory regarding the enhanced expectancies can be generalized to individuals with ADHD (Wulf & Lewthwaite, 2016). These findings are also in line with the results of previous studies (Avila, et al., 2012; Ghorbani & Bund, 2020; Lewthwaite, & Wulf, 2010; Wulf et al. 2014, 2017). Our study clearly shows that enhanced expectancies results in increased motivation during training phase and it also stayed high in the retention phase, while that is not happened for yoked group. Wulf & Lewthwaite, (2016) proposed that enhanced expectancies optimize motor performance and learning by making dopamine available for memory consolidation and neural pathway development and contribute to efficient goal-action coupling by preparing the motor system for task execution.

5. Conclusion

Finally, our results can have practical implications, too. For example, due to the positive effects of enhanced expectancies for increasing motivation and motor learning, it can be employed as a useful strategy for teaching new motor skills to

novices with ADHD. Based on the OPTIMAL theory, enhanced intrinsic motivation and motor learning can be expected for individuals who were given positive feedbacks regarding their performances.

Conflict of interest
The Authors declare that there is no conflict of interest with any organization.

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Research Paper: Socio-political Perfectionism: A Cross-cultural Study

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Abstract

The present study, as interdisciplinary research between sociology and psychology, aimed to construct a scale for socio-political perfectionism and to compare perfectionism among the 18 to 35-year-old Iranian students living in Iran (155 participants) and those residing in Germany and Canada (105 participants). Regarding this, the sample (360 people) was selected through convenience sampling; the data were also collected online using Google Drive. Additionally, positive and negative perfectionism scale and attitude measurement questions about the severity of social issues, as well as the scale of socio-political perfectionism, were used as the instruments. The scale related to socio-political perfectionism was obtained through using the factor analysis, with a 12-item factor, applied in the present study for the first time. The validity and reliability of the scale were also determined as optimum. The results were explained by psychological and sociological researches and through applying theories by representing the effectiveness of cultural differences in the socio-political perfectionism.

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1. Introduction

Researchers are still interested in perfectionism field after the decades of scientific study in this regard. According to Hewitt and Flett (1991), possessing unrealistic standards, as well as the motivations of perfectionism are its important characteristics. Perfectionist standards could lead to positive and negative consequences (Smith et al., 2016). The study of Curran and Hill (2019) show that there is evidence that perfectionism is on the rise; studies investigating perfectionism compiled between 1986 and 2015 clearly demonstrate that young people are more likely to be perfectionists than their predecessors (Livazović & Kuzmanović, 2022).

Until now, various perfectionism scales have been constructed, which can be generally categorized into perfectionism dimensions and fields. For example, its dimensions include two (Terry-Short et al., 1995), three (Hewitt & Flett, 1991), six (Frost et al., 1990), and eight (Hill et al., 2016), and fields are sports (Dunn et al., 2006), religion (Besharat, 2019), physical appearance (Yang & Stoeber, 2012), educational (Malik & Ghayas, 2016), and alike. Obviously, some perfectionists get high score in one or more fields, while they obtain average or even low score in some others. Thus there are some fields such as socio-political perfectionism, which have been highlighted insufficiently. Based on socially-prescribed perfectionism subscale provided by Hewitt and Flett (1991), an individual believes that others expect him or her to be perfect, while the perfectionistic expectations of an individual from society and social structures is considered as socio-political perfectionism in the present study.

Curran and Hill (2019) mention that the correlations and consequences of perfectionism are evaluated well, while its formation and growth is less highlighted by researchers. In addition, most of the conducted studies have focused on individual factors, especially initial family environment and parental performance and no research has assessed cultural changes, as well as the effect of perfectionism levels over the time (Curran & Hill, 2019). Further, they argue that their study has been the first research in this regard and it is considered as the model of mutual constitution (Markus & Kitayama, 2010) as its theoretical basis for the possibility of the cultural changes affecting perfectionism. According to Markus and Kitayama (2010), the cultural values dominating society are reflected in the norms of civic and social institutions such as family, educational, religious, economic, and political institutions all the times, and the institutions shape the attitudes, values, beliefs, and personality of the individuals.

Studies in Western cultures have shown that perfectionism is conceptualized by two-factor higher-order model including perfectionistic strivings and perfectionistic concerns. However, little is known about the construct of perfectionism in Eastern societies. Thus Moloodi et al. (2021) examine the two-factor higher-order model of perfectionism in Iranian general and clinical samples. The two-factor higher-order model of perfectionism presents adequate fit with data for females from the general population and clinical sample. Data for males are only available from the general population, and the model illustrates adequate fit with the data first after removing the Rumination scale of the perfectionistic concerns. The

perfectionistic strivings dimension shows no or negative association with depression, anxiety, and stress symptoms, but perfectionistic concerns dimension demonstrates positive correlation with these indices in all the participants for both males and females (Moloodi et al., 2021).

The present study is theoretically based on the opinion of Markus and Kitayama (1991, 2010), along with citing some sociological theories related to idealism.

The word *perfectionism* is less used in sociological literature and the closest concept to it in the social sciences is idealism. There are many common boundaries between the sociological theories relating to idealism and perfectionism, despite their differences. However, some researchers including Arneson (2000) and Wall (1998) apply perfectionism in the texts of social sciences such as philosophy and sociology.

The main source of idealism in social sciences is derived from Plato who believed in the existence of material world from the unreal shadows of ideas behind them (as cited in Harris M. & Creek, 1999). Plato believed that human is social and socialized, while his/her life, governments, and nature are the facts placed in a cave and world of forms contains their truth. Accordingly, he tried to create a utopia under the leadership of a philosopher, which was named as philosopher world (Popper, 1963).

Unlike realists, idealists fail to communicate fact credibly and positively for a long time, some of which even deny reality definitively. The priority of the mind over object is axial proposition in this regard. In fact, how the mind of recognizer

identifies the world of nature or human-made political and social institutions is considered as the center of this philosophy, in which mind is prioritized over objective as already mentioned. In other words, mind can recognize external world and even predict and explain the future behavior of humans (Uebersax, 2013). Kant, one of the main experts in idealistic thoughts, based his political philosophy on the philosophy of ethics. Considering the nature of the government as ethical as well as his prescribed method regarding government issues and requirements are originated from his ethical foundation of affaires.

In politics, idealism is defined as confabulation and idealist beliefs that politics should be a function of the ultimate end of human aspirations and ideals. Additionally, it is based on the hypothesis derived from the 18th century enlightenment tradition upon which environmental conditions shape human behavior, their variation can be a basis for changing the behavior, and human being can achieve perfection or possesses at least improvement and progress of talent. Reforming human always is possible in the framework of the insight and idealism which is fundamentally based on the possibility of adapting politics and ethical standards (Allison, 2004).

Along with all available sociological theories with idealistic perspective which are basically rooted in Greek philosopher's expressions, Popper (1963), an Austrian-British philosopher, wrote a book entitled *The open society and its enemies* in which several main philosophers in the history such as Plato, Aristotle, Hegel, and Marx are criticized and introduced as the founders of a closed society. In addition, he

(1963) believes that they lead to solidity and hallucinating society members by presenting some examples of utopia.

The idea of socio-political perfectionism was arisen since some individuals in Iranian society were not satisfied with small and gradual changes at all and wanted rapid and significant variations constantly. The political attitudes of these individuals were different and even contradictory, which resulted in doubling the problems. The present social-psychology study, as an interdisciplinary research between sociology and psychology, sought to construct and validate a scale for socio-political perfectionism and compare perfectionism between the Iranian students residing in Iran, as well as those living in the West.

2. Method

2.1 Sample

The population included 18-35-year-old Iranian students residing in Iran, Germany, and Canada. In addition, the sample consisted of 360 individuals (67% women and 33% men) which were selected by using convenience sampling and divided into residents in Iran (150), Germany (50), and Canada (55). Due to the insignificant difference between the mean and standard deviation (Levene's test) of variables in Germany and Canada groups, they were merged and 105 students living in Germany and Canada were considered as a group residing in the West. Further, the link related to the questionnaires designed in Google Derive was placed in the virtual social networks of students, along with the explanation of their general objective, and those having inclusion criteria were invited to complete the questionnaire. The data

were collected during the peak of coronavirus outbreak in April 2020 and analyzed using SPSS 15. The research ethical code of the study complies with EE/99, 3, 02, 13299.

2.2 Instrument

The scale of socio-political perfectionism, as well as positive and negative perfectionism scale (Terry-Short et al., 1995) and an Attitude Measurement Question regarding the severity of social issues in the society of their residence were applied as the instruments in the present study.

Positive and Negative Perfectionism Scale consists of 40 items and possesses desirable validity and reliability in Iranian society. Besharat (2005) conducted an investigation of the relationship between perfectionism and self-esteem in pre-college students among 212 Iranian students in 2003 and reported the Cronbach's alpha coefficient of the Positive and Negative Perfectionism Scale as 0.90 and 0.78, respectively. Additionally, he determined the correlation of individuals' scores as 0.86 based on the re-test with four-week time interval, by representing the appropriate reliability of the scale. Further, scale validity was obtained as desirable by calculating the correlation coefficient between the micro-scales of the test and those of General Health Questionnaire (GHQ) and Cooper Smith's Self-esteem Inventory (SEI) (Besharat, 2005).

2.2.1 Socio-political perfectionism scale

For the first time, his scale was used in the present study and its psychometric features were computed. In addition, exploratory factor analysis with principle component method was adopted to evaluate its validity. Regarding the scale, 17 initial items were

prepared based on the perfectionism characteristics and available perfectionism scales generalized to social issues. For example, one of the items in perfectionism scale (Hill et al., 2016) as "I believed that everything should be placed in its place" was generalized as "I believed that everything should exactly be in its place in the society". Further, some items were created from political and social structures by considering the possession of the standards related to perfectionism.

Furthermore, the content of the items is based on the hypothesis that some individuals expect excellence and perfection in the field of socio-political issues as they insist on achieving strict standards and all-or-none thinking in the personal aspects of their life. As shown in table 1, the initial scale is presented to the participants, and the data were collected and analyzed through factor analysis with principle component method.

Table 1

Factor loading of the items related to socio-political perfectionism

Items in the order of larger factor loading	Factor loading
11. I believed that everything should exactly be in its place in the society.	0.74
10. The country should be administered by completely specialized and perfect individuals.	0.72
15. I feel satisfaction only with implementing justice in the society completely.	0.69
18. I feel satisfied with the society when all officials are trustworthy.	0.64
12. Law and order should exactly be enforced in the society.	0.63
4. The society should reform in all aspects.	0.60
17. I feel satisfaction with the society when all individuals are trustworthy.	0.58
3. The disorder and lawlessness in the society annoy me severely.	0.55
7. I am not satisfied with anything less than a healthy and ideal society.	0.52
14. All offenders should be dealt with completely based on the law.	0.52
5. I feel satisfaction only when fundamental changes occur in a relatively small period.	0.52
16. The society is desirable only when everything can be fully predicted and future can be accurately Planned.	0.46
2. I think a small or moderate improvement in social problems is useless.	0.31
6. I think no difference is observed if social situation gets worse than the current one.	0.27
13. I think gradual positive changes in the society are the best occurrence.	-0.20
8. I think we will never reach a desired society.	0.16
9. Respecting social ethics and law by me and other individuals plays no role in reforming society.	0.14
Eigenvalue	4.64
Explained variance percentage	27.32

Table 1 summarized the factor loading of items, by indicating the maximum factor loading in the following items "I believed that everything should exactly be in its place in the society", "The country should be administered by completely specialized and perfect individuals", and "I feel satisfaction only with implementing justice in the society completely ", respectively. Considering 12 items having factor loading above 0.40, the minimum was obtained as 0.46 in "The society is desirable only when everything can be fully predicted and future can be accurately planned".

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test were respectively determined as 0.84 and 1379.99, which were significant at $p < 0.001$. According to the researcher, one-factor state was obtained as the best, while more than one factor was suggested based on the Scree plot. In fact, one-factor state was the most appropriate one in the present study although attaining political and social factors were expected. Since 0.40 was considered as the minimum factor loading accepted for items, five items were eliminated among 17 ones entered into analysis, and finally a 12-item scale was considered.

In addition, the correlation between socio-political perfectionism as well as positive perfectionism and negative one were determined as 0.44 and 0.16, respectively ($p < 0.001$). In other words, the individuals with more positive perfectionism possess higher socio-political perfectionism. Further, scale validity can be considered as moderate in spite of failing to achieve high correlation coefficient, especially with negative

perfectionism. Moreover, the reliability of 12-item scale for socio-political perfectionism was calculated using Cronbach's alpha (0.83).

2.2.2 Attitude measurement question about the severity of social issues

An attitude measurement question was designed regarding the severity of social issues in the society where they live (Iran, Canada, and Germany) as "How the current situation of the society (the country of residence) is with respect to the severity of social problems in your opinion"? The question included five choices (0, 25, 50, 75, and 100) upon which higher scores represent the higher severity of problems. Based on the pilot assessment, individuals understood the objective of the question completely and its face validity was confirmed by three experts in the psychology and social sciences.

3. Results

Based on Table 2, no difference is observed between individual perfectionism (positive and negative) among the Iranian students living in Iran and those residing in the West, while their socio-political perfectionism, as well as attitude toward the severity of social issues is different. Kolmogorov-Smirnov normality test for distributing data was conducted on three variables, which represents the normality of positive ($p = 0.08$) and negative perfectionism ($p = 0.20$) and the lack of normality in socio-political one ($p < 0.05$). Thus Mann-Whitney U test (nonparametric) was applied along with the multivariable analysis of variance (MANOVA) (Table 2), leading to similar results.

Table 2

Comparing the mean of Positive, Negative, and Socio-political perfectionism among the Iranian students residing in Iran and those living in Germany and Canada

Scale	Iran		Germany and Canada		F	Sig.	Eta	Power
	M	SD	M	SD				
Positive perfectionism	81.30	10.96	80.47	10.31	0.75	0.387	0.003	0.14
Negative perfectionism	62.45	11.17	61.11	12.66	0.72	0.396	0.003	0.14
Socio-political perfectionism	48.67	6.74	4.49	6.5	82.78	0.0001	0.26	1

According to Table 2, MANOVA indicated a significant difference between two groups. Pillai's trace, Wilks Lambda, Hotelling's trace, and Roy's largest root were significant at p<0.001. The results also presented a significant difference which was observed between socio-political perfectionism (p<0.0001) among two groups (Table 2). Meanwhile, their positive perfectionism (p=0.38), as well as negative one (p=0.39) were not significantly different. In other words, no difference was seen between the positive and negative perfectionism (individual) related to Iranian students residing in Iran and those in the West. Nevertheless, there was a significant difference between their perfectionism in the field of socio-political issues in their country of residence. Those living in Iran achieved a higher socio-political perfectionism.

Table 3 illustrates the results of attitudes toward severity of social problems. How is the current situation of the society (their country of residence) with respect to the severity of social problems in your opinion"? (Give a score between 0 to 100)

Table 3

Percentage of the severity of social problems according to the Iranian students living in Iran, Germany, and Canada

Severity of social problems (higher scores indicate more severe problems)	Iran	Germany and Canada
	%	%
0	1.9	8.2
25	1.9	61.2
50	20	20
75	52.3	10.6
100	23.9	0
Total	100	100

The students residing in Iran believed that the severity of social problems was significantly high (p<0.001, χ^2=135) (Table 3). Comparing the frequency of distribution of the number of students in two groups demonstrated that the severity of problems

was significantly perceived more in Iran. It is worth noting that social problems were described in the explanation provided in the questionnaire description as bribe, embezzlement, fraud, shirk, overcharge, hoarding, ethnic discrimination, severe ethnic prejudice, weak work ethic, law escaping, falsity, and favoritism, as well as lacking meritocracy and traffic regulation observance, and the like.

4. Discussion

In the psychological texts, experimental studies explained the concept *self* in the form of a cultural product during the recent decades (Markus & Kitayama, 1991; Shweder & Bourne, 1984). The presence of numerous behavioral differences in various cultures and structures reflect that intellectual, emotional, and behavioral patterns are affected by cultural, social, and political structures, instead of being a mere psychological flow (Markus & Kitayama, 2010).

Based on the results of the present study, the students living in Iran experienced higher socio-political perfectionism compared to those residing in Germany and Canada, which can be discussed according to different perspectives. In addition, the present study underlined that existing and dominating the attitude of perfectionism in the general structure of a society can create perfectionist characters with different individual, political, and social attitudes, and vice versa. For example, putting emphasis on the role of the government as a powerful ethical and fully-fledged responsible institution in creating a utopia has been considered as the most important political principles of idealism school based on the philosophical perspectives of Kant

and his followers (Allison, 2004). Accordingly, the main question raised is that whether socio-political perfectionism in the individuals belonging to the societies where government becomes a strong force such as Iran is highlighted or not? In fact, actor's behavior and structure undergo a reciprocating cycle in such society. In the society in which government as an ethical institution expects ideal performance from actors and leads them to have idealistic characters constantly, individuals equally demand ideal social and political expectations from the government with an idealistic perspective. It seems that the structure is a general mirror and actor's behavior as well as its reflection. Considering the mutual constitution model, individuals and socio-cultural structures are the complement and reflector of each other, not separated. That is to say, the individuals are shaped by the structure of their society form their structures in a dynamic and reciprocal cycle (Shweder, 2003).

According to Curran and Hill (2017), revising the model provided by Hewitt et al. (2017) could lead to a result upon which the features such as socio-economic changes, competition, and materialism, as well as the variation in the meaning of identity and self, improvement in the value of individualism, and an increase in the importance of comparing socio-economic bases result in increasing individual's tendency to reconstruct his identity under the banner of the culture. As expected, self-oriented perfectionism in the societies emphasizing competition, individualism, and meritocracy is compared to the other dimensions of perfectionism such as socially prescribed and other-oriented more (Sherry et al., 2015). Although the study of Moloodi et al. (2021) indicated that there

were similarities and differences between the perfectionism of Western societies and Iran, it seemed that this difference was small in individual dimensions and larger in socio-political dimensions.

Furthermore, the result of the study represented a significant higher severity of problems according to the students' resident in Iran. In other words, a larger number of the students in Iran expressed social problems more compared to those residing in the West, the analysis of which requires to understand the meaning of anomie as the root of the most social abnormalities, problems, and harms. The word anomie is known by Durkheim in the social sciences literature, which is described as a social condition in which the norms generalized and accepted by the society become weak or inefficient, leading to social crisis and disintegration. The incidence of social problems and harms could be unavoidable under these conditions (Coser & Rosenberg, 1969). Merton (1968) believed that anomie condition would occur since cultural value system determines the objectives of success for all individuals in the society, while the social organization and class structure of the society fail to provide accessibility to the objective for all. Additionally, the gap caused by putting emphasis on the goals of monetary success and material prosperity extensively resulted in considering the technical and social instrument designed to obtain desirable results as the main concern. Then, materialists emerge from within an idealistic orientation paradoxically. Under the conditions, the individuals with more limited access to the legal instruments for achieving objectives moved toward the nonconformity methods of individual adaptation. In this regard,

Merton (1968) recognized conformity, innovation, ritualism, retreatism and rebellion which referred to individual attempt to get rid of the governing standards and build a new social order as the five methods selected by society members under social anomie condition. The lack of the predictability of behavior, as well as belief in mysticism and luck was considered as the other consequence of anomie condition according to Merton (1968 as cited in Seeman, 1959). Many examples are available in the current society of Iran, which are consistent with Merton theory (Faizollahi et al., 2018; Rafipoor, 2008).

The result could be justified by stress and chronic stressors in psychology, along with its sociological explanations. The presence of severe and chronic stressors leading to pathological reactions (Craiovan, 2014; Wu et al., 2020). Thus decrease in the tolerance and patience leading in gradual changes in society members especially youths was expected. Based on the studies regarding the relationship between stress and perfectionism, stress was the consequence of perfectionism, while its opposite as chronic stress exacerbated perfectionism at least in some fields, which seems it has not been assessed so far.

Moreover, the criticism of Popper on Plato's idealistic theory and effect of idealistic attitude on forming a defective social structure and designing *social engineering* perspective are to be mentioned. Social engineering believes that human possesses sovereign on his/ her destiny, and can affect or change human history based on his objectives. However, Popper (1963) mentioned that ambition was the fundamental feature of Plato's perfect

regime, and Plato did his best to reconstruct ancient aristocratic systems and developed idealism. Further, Popper (1963) named Plato's plan on politics as *nowhere* engineering in which moving individual harmoniously without contradiction toward objective led to his more reasonable operation, which was in opposition to the social engineering called as reasonable method (piecemeal engineering) by Popper. Regarding Popper's piecemeal engineering, politician knew that perfectionism was far away if it was achievable fundamentally, and the regular struggle against affliction, injustices and war was more likely to be approved and supported by a large number of individuals rather than the struggle for achieving an ideal. Consequently, it is hoped that applying piecemeal method can result in overcoming the biggest practical problem in each type of reasonable political reform, resorting reason instead of violating and following emotions, and actualizing democratic methods. In addition, Popper (1963) pointed out that aestheticism and radicalism inevitably led us to leave reason and believe in a replacement with hoping for political miracles, and turn the earth into hell for human unlike which was expected.

The present study focused on the negative aspects of socio-political perfectionism and further research can respond to the question that whether socio-political perfectionism possessed positive and negative dimension similar to the individual one.

5. Conclusion

Finally, the following results were obtained in the present study. The developed scale for socio-political perfectionism was considered as an appropriate instrument for measuring the construct. In addition, the socio-political perfectionism related to the

students residing in Iran was more similar to those living in Germany and Canada, while no difference was observed in their individual (positive and negative) perfectionism. Further, the individuals residing in Iran reported a significantly greater severity of social problems compared to those residing in the West. In other words, the gap between current situation and expectations in Iran was higher than that of West.

In general, the limitations of the study included relatively small sample size, convenience sampling and young sample. Finally, replicating the study in different cultures and evaluating the relationship between the construct and other variables such as demographic ones are suggested by the study.

Conflict of interest

The Authors declare that there is no conflict of interest with any organization. Also, this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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Journal of Modern Psychology

Research Paper: Comparison of Mental Health in Students with Problematic Use of Mobile Phones and Normal Students

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Abstract

The mobile phone has caused extensive changes in human' life; however, it sometimes causes problems as well. It seems that people using mobile phones in a problematic way are vulnerable to psychological damage. According to the existing research, the purpose of this study was to compare the general health of students using of mobile phones problematically and normal users. In this cross-sectional study, the population were all students of Ardebil universities in the academic year 2013, out of which 116 were chosen using convenience sampling method. For collecting data, the Cell-Phone Over-Use Scale (COS) and General Health Questionnaire (GHQ) were used. Data were analyzed using SPSS16 software. There was a positive and significant relationship between problematic use of mobile phones and general health ($p<0.01$). Moreover, there was a significant difference between two groups of problematic users and normal users of mobile phones in terms of general health ($p<0.01$). According to the results, students with problematic use of mobile phones had a lower general health level. Therefore, interventions to improve their health and reduce their problematic use of mobile phones should be considered.

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1. Introduction

Nowadays, the mobile phone can be considered to be one of the most basic components of human life; is very difficult to imagine the world without it. The number of mobile phone users in the world has grown surprisingly high. For example, according to the Minister of Communications and Information Technology (2011 as cited in Bakhsipoor, 2017) the number of mobile phone numbers in the country reached 89 million, which represents a 130% penetration rate of it. These statistics are a source of concern because the use of this device has a problematic effect. For instance, the use of mobile phones reduces sperm quality in men (Agarwal et al., 2008) and increases the risk of detecting a cancerous tumor in the head (Hardell et al., 2006; Khurana et al., 2009). In addition to physical damage, mobile phones also cause many psychological damages. As an example, in female students, there is a significant relationship between mobile phones use and academic failure. With increasing use of mobile phones, emotional communication with the family decreases. An increase in receiving useless and unethical information causes the tendency to use mobile phones to increase. With an increasing fashion, the tendency of students to the use mobile phones is also increasing (Babran & Akhavan Tabatabaee, 2011). Correspondingly, the young people's tendency to use the internet and mobile phones is effective in changing individual identity, group identity, family values, cultural values and religious values (Noobakhsh et al., 2009). It can be said that this change can be positive or negative, but it seems to have more negative effects.

Therefore, all factors being considered, it is necessary to recognize the people who use this device problematically and extremely.

The problematic use of mobile phone can be considered to be one of the forms of technology-dependent addiction (Yen et al., 2009). Technology-dependent addiction can also be considered to be a subset of behavioral addictions (Young & De Abreu, 2010). One type of technology related addiction is the Internet addiction defined as a kind of Internet use that can cause psychological, social, educational or occupational problems in a person's life (Shayegh et al., 2009). In some texts, it is referred to as mobile phone obsessive-compulsive disorder (OCD), in which some people use cell phones to call others excessively (Sadock et al., 2003). In general, the problematic use of mobile phones is a situation in which the use of mobile phones is extreme and causes a lot of mental activity (rumination) (Jenaro et al., 2007). Certain factors may play a role in this kind of problematic mobile use. For example, research has found that impulsiveness can predict the amount of mobile phone use (Naderi & Haghshenas, 2009). Although enough research has not yet been done to identify the underlying causes of problematic mobile phones use, it may be the result of factors such as dependent personality characteristics of shyness, depression and low self-esteem (Yang & Tung, 2007), or loneliness (Morahan-Martin & Schumacher, 2003) which would result in Internet addiction in these cases. The problematic use of mobile phones can be associated with problems for people. It should be noted that

there is a positive relationship between problematic use of mobile phone and aggression, smoking, insomnia, suicidal tendencies and low self-esteem (Yang et al., 2010). In Yen et al's (2009) study, it is found that adolescents who have each of the symptoms of pathologic use of mobile phones are more likely to report at least one aspect of functional disorder. Thomée et al (2011) find in a one-year follow up high mobile phones use is associated with sleep disturbances as well as depression symptoms in men and women. There is also a positive and significant relationship between the subscales and the general score of general health and excessive use of mobile phones (Yassiminejad et al., 2012). Therefore, it seems that people who use mobile phones problematically are more prone to mental health problems; however, since there are few researches to compare mental health in problematic users of mobile phones with other people, the purpose of this research is to investigate this issue.

2. Method

2.1. Population, sample and research design

In this cross-sectional study, the population consisted of all students of Ardebil universities in the academic year 2013 among which 116 were selected using convenience sampling method to select them to complete the research questionnaires.

2.2. Research Tools

Cell-Phone Over-Use Scale (COS): This questionnaire was developed by Jenaro et al. (2007). This questionnaire has 23 items, with a six-option Likert scale and without a sub-scale. Participants with scores above 75 were identified as overly users and below 25 as low

users. Considering Iran's population, scholars obtained the reliability of the test through Cronbach's alpha and the test-retest reliability of the scale of r=0.714. Besides, their results showed that 21 questions of the questionnaire had a desirable validity and, in this study, the 21-question version was used (Golmohammadian & Yassimnejad, 2011).

General Health Questionnaire (GHQ): This questionnaire was developed by Goldberg (1972), and is the most widely used tool for detecting non-psychotic psychiatric issues (Abaspour et al., 2014). The main advantage of GHQ is that it is easy for a performer as it is short and objective. There are several versions of the GHQ available: There is its 60-item version and the shorter ones (containing 30, 28 and 12 items). The 28-item version of this tool (GHQ-28) was developed by Goldberg and Hiller (1979 as cited in Molina et al., 2006). This questionnaire has a four-option Likert scale. Finally, a general score and four sub-scales were obtained (Physical symptoms, anxiety and insomnia, social dysfunction as well as depression). In a study on 80 psychiatric patients and 80 normal individuals, the criterion validity coefficient was 0.78, the split-half reliability coefficient was 0.90 and Cronbach's alpha value was 0.97 (Ebrahimi et al., 2007).

2.3. Data analysis

After collecting the completed questionnaires, the data were analyzed using descriptive statistics (mean and standard deviation) as well as inferential statistical methods of independent t-test. The software SPSS16 was run to conduct the data analysis.

3. Results

The sample consisted of 42 male students (36.2%) and 74 female students (63.8%) among which, 86 participants (74.1%) were undergraduate students and 30 (25.9%) postgraduate ones. Correspondingly, the mean age of the subjects was 21.98 with a standard deviation of 3.62. The mean score of participants on the Cell-Phone Over-Use Scale was 48.48 with a standard deviation of 18.22.

Pearson correlation coefficient was used to investigate the relationship between problematic use of mobile phones and general health (Table 1).

Table 1

The relationship between problematic use of mobile phone and general health

Variable	Problematic use of mobile phone
	R
Physical symptoms	-0.110
Anxiety and insomnia	0.493**
Social dysfunction	0.366**
Depression	0.420**
General health	0.409**

P<0.01 **　　　P<0.05 *

The results in table 1 presented a significant and positive correlation between the problematic use of mobile phones and general health total score (r=0.409, p<0.01). Moreover, there was a positive and significant correlation between subscales of anxiety, insomnia, social dysfunction as well as depression of GHQ and problematic use of mobile phones (p<0.01). However, the relationship between physical symptoms and problematic use of mobile phones was not significant. In order to compare the mental health in two groups of problematic users of mobile phones and ordinary user, an independent t-test was run (Table 2).

Table 2

Comparison of mental health in two groups of normal and problematic users of mobile phones

Variable		Mean	SD	T
Physical symptoms	Ordinary user	8.41	3.99	0.87
	Problematic user	9.55	5.07	
Anxiety and insomnia	Ordinary user	4.97	3.69	3.10**
	Problematic user	10.38	5.64	
Social dysfunction	Ordinary user	7.51	3.06	4.11**
	Problematic user	11.45	2.66	
Depression	Ordinary user	3.89	3.92	4.59**
	Problematic user	9.82	5.30	
General health	Ordinary user	24.83	10.91	4.47**
	Problematic user	41.18	16.47	

P<0.01 **　　　P<0.05 *

As seen in the table 2, compared to normal users of mobile phones, problematic users of mobile phone had a higher score in the total score of general health (p <0.01) and general health subscales including depression (p<0.01), social dysfunction (p<0.01) and anxiety and insomnia (p<0.01); this means that they had lower mental health. There was no significant difference between the two groups in the physical symptoms' subscale.

4. Discussion

Mobile phones that have recently entered the lives of humans can cause problems for people if it is used extremely and in troublesome ways.

The first finding of this study was that there was a positive and significant correlation between problematic use of mobile phones and general health including its three subscales. This finding is consistent with existing research in this area. Beranuy et al.(2009) found that psychological distress was associated with the non-adaptive use of the Internet and mobile phones. Yassiminejad et al. (2012) also highlighted a significant positive relationship between overuse of mobile phones and general health.

Additionally, the results of this study revealed that there was a significant difference between the general health of the two groups of normal users and problematic users of mobile phones. People who used cell phones in a problematic way suffered higher levels of anxiety and insomnia, with more social dysfunction, they may develop depression. These results have been repeated in other studies. In a study on 595 adolescents, people who were extreme cell phone users reported more depression and interpersonal anxiety as well as less self-esteem (Ha et al., 2008). There was a positive correlation between problematic use of mobile phones and insomnia (Yang et al., 2010). In a one-year follow up, extreme use of mobile phone has been associated with sleep disturbances and depression symptoms in men and women (Thomée et al., 2011).

In explaining these findings, it can be said that people who used mobile phones, could ignore their sleep schedule, stay away from their daily work, isolate themselves from friends as well as other people around them, and even develop a kind of Internet addiction through mobile phones, and the total of these factors can endanger the general health of these people. However, on the other hand, it could be possible that extreme use of mobile phones would result from some personality and psychological features of individuals. For example, personality characteristics of dependence, shyness, depression and low self-esteem (Yang & Tung, 2007) are involved in tendency to Internet addiction and those who feel lonely (Morahan-Martin & Schumacher, 2003), may be more likely to get addicted to Internet.

5. Conclusion

Although the generalization of online addiction related to the extreme use of mobile phones should be treated with caution, if these factors also apply to the tendency to pathologic use of mobile phones, it can be concluded that perhaps in some cases, the mental health and social functions of individuals would result in problematic use of the cell phone. Considering the knowledge

in this field, a causal conclusion can't be made, and this issue should be considered in future researches.

Nevertheless, in the present study, there was not a significant relationship between the problematic use of mobile phone and the subscale of the physical symptoms of the general health questionnaire. On the other hand, there was not a significant difference between the subscale of the physical symptoms of the General Health Questionnaire in two groups of ordinary and problematic users of mobile phones, contradicting the above findings. This finding could indicate that the psychological effects of use of mobile phones are greater than physical effects although it is possible in the long term to cause severe physical problems, such as cancerous tumors in the brain (Khurana et al., 2009). Therefore, paying attention to psychological problems associated with excessive use of mobile phones in students seems necessary.

Considering the sample of this study which was limited to students in Ardebil and the small sample size, it is suggested that this research could be conducted with more sample groups and in other geographical and cultural environments.

Acknowledgement

Conflict of interest

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Research Paper: Predicting Self-efficacy, Creativity, and Social Skills based on the Components of Addiction to Online Game

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Abstract

The present study was conducted to investigate the relationship between addiction to online games and self-efficacy, creativity, as well as social skills. The population of the present study included all female students of high schools in Rudsar who were studying in the academic year 2020-2021out of which, 150 students were selected using convenience sampling. The data collection tools included an online gaming addiction inventory, student efficacy scale (MJSES), Creativity Questionnaire (CT) and The Matson Evaluation of Social Skills with Youngsters (MESSY) .In this study, Pearson's correlation coefficient and multiple regression, as well as SPSS-22 software used to analyze the data. The results of the analysis revealed that the components of addiction to online games (academic and occupational performance problems and social and mood problems) could predict 48.8% of the variance of self-efficacy, 43.3% of the variance of creativity, and 27.4% of the variance of students' social skills (p<0.05). Therefore, the results of this study showed the importance of paying attention to addiction to online games in students; besides, its prevention can be related to higher self-efficacy, creativity and social skills, positive psychological variables.

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1. Introduction:

Online games are types of internet games that have gained popularity due to an increase in familiarity of people with the internet, especially the young, the increase in internet speed, and the availability of high-speed and wireless connections (Kuss et al., 2013). Addiction to online games refers to excessive and compulsive use of video games that causes emotional and social difficulties, despite these problems, the user is unable to control this excessive use (Li & Wang, 2013). As a result, the addicted person is also mentally occupied and wants to play even if access to the game is not available (Griffiths, 2009).

Online games are played by more than 700 million people worldwide. Moreover, the World Health Organization has announced that it will recognize online gaming disorder as a disease since experts agree that these games can be addictive. As defined by the World Health Organization, this type of addiction is a behavior pattern related to digital or video games characterized by a lack of willpower and a high preference for gaming compared to other activities, so much so that the game takes precedence over other interests of the person (Wallenius et al., 2009).

As defined by the definition of addiction to online games, it can be affected by several variables, especially in the lives of students who are most likely to be the type of audience for these games. Self-efficacy is one of the most important variables in the life of the students. According to Bandura's (1986) beliefs regarding self-efficacy, views affect people's thinking patterns and emotional reactions; as a result of these effects, self-efficacy beliefs are, therefore, strong predictors of performance level; Based on these reasons, Bandura (1986)

discusses that self-efficacy beliefs play a key role in people's lives. People with a high score in self-efficacy focus their attention on the task and show more effort, but people with low scores are anxious about dealing with activities resulting in experiencing difficulty in finding solutions (Bandura, 1986). He also suggests that self-efficacy is a constructive ability by which human cognitive, social, emotional, and behavioral skills are effectively organized to achieve different goals. Moreover, knowledge, skills, and previous achievements of people do not predict their future performance rather, a person's belief about his abilities to perform actions affects how he performs them in a particular way; that is to say, the effort of a person to perform an action, persistence in continuing it, and on creating appropriate motivations are all affected by his or her beliefs (Bandura & Pastroly, 1998 as cited in Hasheminejad & Man zari Tavakoli, 2013).

In other words, self-efficacy refers to someone's belief about his ability to perform certain behavior that will lead to certain results (Ister, 2020). Chung et al.'s (2020) study reveal that the more people are addicted to online games, the lower their self-efficacy will be. Self-efficacy and addiction to online games have not been studied a lot. Several studies have examined types of self-efficacy and internet addiction. For example, Odasi (2011, 2013) explains in her study that there is a negative relationship between Internet addiction and academic self-efficacy. Additionally, Hamidi et al.'s (2018) study highlight a negative relationship between internet addiction and self-efficacy in student-athletes. Correspondingly, a negative relationship between Internet addiction and social self-efficacy was seen in Rahmati

and Keramati's (2017) study. Keshavarz et al.'s (2016) study demonstrate that users with Internet addiction have lower self-efficacy than non-users.

Another variable related to students is the concept of creativity in them, which can be influenced by students' addiction to online games. Creativity is one of the fundamental and productive characteristics of human beings, which has an effective role in the growth and development of the individual and human civilization, and is the foundation of inventions and scientific and artistic achievements. Creativity has been defined in various ways, each of which expresses a special point of view (Soleimani et al., 2017). From a psychological point of view, creativity means to create something from another thing in a unique way. Psychologically, creativity means creating something out of something else in a unique way. Creativity is the use of mental abilities to create a new thought or concept (Rahmani Zahed et al., 2018). To date, few studies have been undertaken to investigate the relationship between online game addiction and creativity.

On the other hand, the findings of Fallah Tafti et al.'s (2020) study expressed that there is no significant relationship between extreme interest in computer games and the emergence of creativity and entrepreneurial intention. However, studies indicate the connection between internet addiction and creativity. For example, Darab and Bani Bostan (2018) conduct a study aiming at investigating the relationship between Internet addiction and creativity of female students. The findings reveal a significant relationship between Internet addiction and creativity.

According to the definition of addiction to online games, one of the variables that can influence the students is their social skills. Social skills and objective behaviors are definable and specific, which lead to positive social consequences in social situations. Inadequacies related to social outcomes include lack of sensitivity towards others and poor perception of social situations, which ultimately lead to unacceptable behavior patterns and make social acceptance difficult (Parsi et al., 2018). The subject of students' social skills is a part of their socialization, and socialization is a process in which norms, skills, motivations, perceptions and behavior are formed.

Social skills can be defined as skills necessary to adapt to social needs and maintain satisfactory interpersonal relationships, which enables a person to have favorable relationships with others and avoid unreasonable social reactions (Nazari & Vesal, 2016). Besides, deficits in social skills are associated with a wide range of psychological disorders and problems such as depression, apathy, negative self-concept, anxiety, personality disorders and even severe mental illnesses (Viscosi-Lova & Prasko, 2012). Buran and Harre (2000) in their study in New Zealand conclude that the more time young people spend on the Internet, the less time they spend in their social environment. Moreover, Zamani et al. (2010) suggest in their research that there is a statistically significant difference between the social skills of students who are addicted to computer games and normal students in general. Accordingly, Hamidi et al. (2018) and Raiisi et al.'s (2021) research show a negative relationship between Internet addiction and social skills. Mohammadi et

al.'s study (2016) reveal that there is a negative relationship between social health and playing computer games. In addition, Almalki and Aldajani's research (2021) show there is a negative relationship between video game addiction and social connection.

Besides, considering the widespread use of virtual space at the time of the current research, which coincided with the epidemic outbreak of COVID-19, and on the other hand, due to the high prevalence of addiction to online games among students, it seems necessary to predict the harms related to it. The background of the research has shown the relationship between the variables of self-efficacy, creativity and social skills of students with their addiction to the Internet, but there are not many researches about the addiction to online games in the background of the research and there is a research gap in this field. Therefore, this research aims to predict students' self-efficacy, creativity, and social skills based on the components of online game addiction.

2. Method:
2.1. Research design
The current research design is correlational. Furthermore, the statistical population of the current research is all-female students studying in the second secondary level of Rudsar in the academic year 2019-2020. Additionally, regarding the number of samples, it can be said that according to Green's rule (1991), the minimum sample volume is K+104 participants, where K is the number of previous variables. Since the predictor variable of the current research, that is, addiction to online games, has two components, namely social and mood problems as well as academic and

occupational problems; as K=2 and N=104+2=106, the required sample size was 106 participants. Considering the fact that some of the questionnaires might be distorted, from the population, 150 participants were selected using convenience sampling method.

2.2. Research tools
Online Gaming Addiction Inventory
This questionnaire was created by Whang and Chang (2002) through making changes to Yang's Internet Addiction Questionnaire (1996), with twenty items which was scored based on a five-point Likert scale (rarely = 1, occasionally = 2, frequently = 3, often = 4, always = 5). A person's score in addiction to online games is obtained from the sum of the scores of all items. The range of scores obtained from this questionnaire is between 20-100 and the higher score indicates a greater desire to play online games. Scores between 20-49 represent average online game users who sometimes spend a lot of time playing. However, in the use of the collision control game; Scores between 50-79 specify people who sometimes have problems playing the game; Scores between 80-100 indicate people whose excessive use of the game has caused serious problems in their lives. Whang and Chang (2002) reported a Cronbach's alpha coefficient of 0.9 for this tool. In Iran, Zandi Payam et al. (2016) standardized this questionnaire. In their research, Cronbach's alpha coefficient was 0.95 for this questionnaire. In order to verify construct validity, factor analysis using principal component analysis with varimax rotation suggested two social factors, namely mood problems and problems in academic and occupational performance, respectively. These two

factors explained 57% of the total variance. The results of the independent samples t-test showed that there was a significant difference in the average scores of the online game addiction questionnaire between the two groups of people addicted and non-addicted to online games. Moreover, in order to check the convergent validity, in their research, online gaming addiction questionnaire and Young's Internet addiction questionnaire were administered simultaneously, and the correlation coefficient was 0.7; finally, the research indicated the good psychometric properties of this questionnaire.

The value of Cronbach's alpha coefficient in this research in the online game addiction questionnaire was estimated at 0.812

Student Efficacy Scale (MJSES): This questionnaire was created by Jinks and Morgan (1999), and this tool has 30 questions and 3 subscales: talent, effort and context. Scoring is on a 4-point Likert scale. That is, totally agree gets a score of 4 and totally disagree gets a score of 1. Some questions are reversely scored. In their research, the reliability coefficient of the whole test was 0.83 and for the subscales of talent the coefficient was 0.78, texture was 0.70 and effort was 0.66.

In this study, the Cronbach coefficient of self-efficacy was estimated at 857.

Creativity Questionnaire (CT): This questionnaire was created by Abedi (1993) based on Torrance's creativity theory. This test has 60 questions with three options, which consists of four sub-tests: fluidity, development, initiative, flexibility. The scoring of this test is in the form of a three-point Likert scale, in which the first option has zero points, the second option has one point, and the third option has two points. Higher scores indicate more creativity. In the study of Daemi and Moghimi Barfoaroosh (2004), the test-retest reliability coefficient was obtained in the following subscales of fluidity as 0.023, extension as 0.444, initiative as 0.614, and flexibility as 0.595.

In this study, Cronbach's alpha coefficient was 0.893

The Matson Evaluation of Social Skills with Youngsters (MESSY)
This questionnaire was created by Matson et al. (1983) to measure the social skills of people aged 4 to 18 years. This questionnaire has 56 questions and 5 subscales of appropriate social skills, antisocial behavior, aggressiveness, impulsiveness, superiority, high self-confidence, and relationship with peers. The scoring method was based on a 5-point Likert scale (1, completely disagree; 2, disagree; 3, I have no opinion; 4, agree; 5, completely agree). Higher scores indicate more social skills. In Shamsi Houjqan et al.'s research (2020), the reliability for appropriate social skills, antisocial behavior, aggression/impulsive behavior, high self-confidence, relationship with peers and for the entire questionnaire were 0.89, 0.70, 83. 0, 0.79, 0.73 and 0.90 were obtained.

In this research, Cronbach's alpha coefficient for social skills is estimated at 0.844

2.3. Data collection
First, the questions of the 4 questionnaires were made online. Then permission was obtained from the education department of Rudsar to go to schools. Afterward three-second of secondary girls' schools in Rudsar were approached, and with the

cooperation of the principals of those schools, the link of the questionnaire was placed in the WhatsApp groups of the second secondary girls' students of those schools. At the beginning of the questionnaire, the optionality of answering to the questions and the confidentiality of the information were mentioned and the time required to complete the questionnaire was sufficiently explained. Among all, 162 people completed the questionnaires, out of which 12 questionnaires were distorted and 150 questionnaires were included in the statistical analysis. Pearson's correlation coefficient test and multiple regression were used for the statistical analysis of the data. The statistical software used in this research was SPSS-22.

4. Results

The age of most of the participants in the research was 17 years (27.33%) and the least frequent ones were 19 years olds (9.33%). 42 participants (28%) were in the first grade, 56 (37.33%) in the second grade, 43 (28.67%) in the third grade, and 9 (6%) did not specify the educational level . Table 1 shows the descriptive indices of the research variables.

Table 1

Central indices, dispersion and distribution of the research variables

Component	Mean	Standard Deviation	Variance	Skewness	Kurtosis
Social skills					
Appropriate Social Skills	3.91	0.772	0.596	-1.187	-0.988
Antisocial behaviors	1.88	1.049	1.100	1.082	-0.117
Aggressiveness and Impulsive Behavior	2.11	0.954	0.910	0.877	-0.452
Superiority	2.66	0.877	0.770	0.213	-0.527
Relationship with Peers	2.74	0.735	0.541	0.440	-0.250
Social Skills	2.80	0.585	0.342	0.972	0.764
Addiction to Online Game					
Social and Mood Problems	1.97	0.826	0.683	0.860	0.179
Academic and Occupational Problems	2.22	0.720	0.518	0.973	0.552
Addiction to Online Game	2.10	0.743	0.552	0.929	0.489
Self_efficacy					
Talent	2.99	0.499	0.249	-0.550	-0.524
Context	2.77	0.448	0.200	-0.499	-0.460
Effort	2.80	0.521	0.271	-0.762	-1.228
Self_efficacy	2.87	0.430	0.185	-0.612	-0.380
Creativity					
Fluidity	1.25	0.342	0.117	-0.425	-0.308
Flexibility	1.26	0.420	0.176	-0.574	-0.410
Initiative	1.17	0.410	0.168	-0.360	-0.314
Development of Details	1.31	0.425	0.181	-0.710	-0.239
Creativity	1.25	0.359	0.129	-0.624	-0.388

The normality of the research variables was checked using the Kolmogorov-Smirnov test and all indicators had a normal distribution.

Table 2 illustrates the correlation matrix of the research variables.

Table 2

The Correlation Matrix of the Research Variables

Variables	Self_Efficacy	Creativity	Social Skills	Addiction to Online Game	Social and Mood Problems	Academic and Occupational Problems
Self_Efficacy	1					
Creativity	0.633**	1				
Social Skills	0.469**	0.434**	1			
Addiction to Online Game	-0.644**	-0.658**	-0.523**	1		
Social and Mood Problems	-0.670**	-0.637**	-0.503**	0.966**	1	
Academic and Occupational Problems	-0.633**	-0.626**	-0.503**	0.955**	0.846**	1

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in table 2, addiction to online games and its components have a negative correlation with self-efficacy, creativity, and, social skills ($P \leq 0.05$).

To predict students' self-efficacy based on the components of game addiction, multiple regression test was used, and its results are tabulated in table 3.

Table 3

The results of multiple regression analysis for predicting self-efficacy based on components of online game addiction

Predictor variable	B	SE	Beta	T	Sig	Tolerance	VIF
Fixed value	3.681	0.088		41.698	0.001		
Social and Mood Problems	-0.130	0.061	-0.250	-2.124	0.035	0.285	3.512
Academic and Occupational Problems	-0.252	0.070	-0.421	-3.572	0.001	0.285	3.512

R=0.647 R^2=0.418   F=52.867   P=<0.05

Based on table 3, the significance level of the components of addiction to online games was less than 0.05, which means that they were effective on students' self-efficacy. Moreover, due to the negative values of β, the components of online game addiction had a negative effect on students' addiction had a negative effect on students'

self-efficacy. As seen in Table 3, 41.8% of the variance of self-efficacy was explained through the components of addiction to online games. According to the column of β coefficients, it is clear that the component of "academic and occupational performance problems" with a coefficient

of β=- as 0.421 ranked the first in terms of effectiveness, and the component of "social and mood problems" with a coefficient of β=-0.250 was the second in terms of effectiveness.

The results of the multiple regression test to predict the creativity variable are revealed in Table 4.

Table 4

The results of multiple regression analysis for predicting creativity based on components of online game addiction

Predictor variable	B	SE	Beta	T	Sig	Tolerance	VIF
Fixed value	1.910	0.073	1.910	26.221	0.001		
Social and Mood Problems	-0.165	0.051	-0.380	-3.260	0.001	0.285	3.512
Academic and Occupational Problems	-0.152	0.058	-0.305	-2.618	0.010	0.285	3.512

R=0.658   R^2=0.433 F=56.42   P=≤0.05

Table 4 illustrated that the significance level of the components of addiction to online games was less than 0.05, which means that the components of addiction to online games are effective on students' creativity. Furthermore, due to the negative β values, the components of online game addiction had a negative effect on students' creativity.

According to the column of β coefficients, it was clear that the component of "social and mood problems" with a coefficient of β = -0.380 ranked the first in terms of effectiveness, and the component of "academic and occupational performance problems" was the second in terms of effectiveness with a coefficient of β = -0.305. Besides, the components of online game addiction could predict 43.3% of the variance of creativity in students.

Table 5 shows the results of multiple variance analysis for predicting the variable of life skills.

Table 5

The results of multiple regression analysis for predicting social skills based on components of online game addiction

Predictor variable	B	SE	Beta	T	Sig	Tolerance	VIF
Fixed value	3.673			27.405	0.001		
Social and Mood Problems	-0.194		-0.274	-2.080	0.039	0.285	3.512
Academic and Occupational Problems	-0.041		-0.271	-2.057	0.041	0.285	3.512

R=0.523   R^2=0.274   F=27.742 P=≤0.05

The significance level of the components of addiction to online games was less than 0.05, which means that they were effective on the social skills of students (table 5). Additionally, due to the negative β values, the components of online game addiction had a negative effect on students' social skills. According to the column of β coefficients, it was clear that the component of "social and mood problems" with a coefficient of β = -0.274 ranked the first in terms of effectiveness, and the component of "academic and occupational performance problems" was the second in terms of effectiveness with a coefficient of β = -0.271. In addition, the results of table 5 indicated that 27.4% of the variance of the life skills variable was explained by the components of online game addiction.

4. Discussion

The present research was carried out with the title of predicting self-efficacy, creativity and social skills based on the components of addiction to online games. The results showed that there was a relationship between the components of addiction to online games and self-efficacy; moreover, the components of addiction to online games could predict self-efficacy in students. The results of the present research are in line with the researches in this field (Hamidi et al., 2018; Rahmati & Keramati, 2017; Keshavarz et al., 2016; Odaci, 2011, 2013; Chung et al, 2020). In the explanation of this finding, it could be said that nowadays, due to educational and academic issues, especially at the time of conducting the current research, when the COVID-19 epidemic broke out, students were more connected with virtual space, and the Internet and virtual space had become part of the educational needs of students. Furthermore, on the other hand, the participants of the present study were second secondary female students who, due to being in the teenage period, had less communication and closeness with their parents and were reluctant to be monitored by their parents. As a result, parental supervision over the use of virtual space could be reduced at this age. Students' excessive use of virtual space and its attractiveness and many capabilities of this space and with a variety of computer games and less parental supervision would provide a platform for students' addiction to computer games. Consequently, students would be more and more involved in this problem; additionally, one of the signs and consequences of addiction to online games could be a drop in social and academic performance of students. The lower the academic and professional performance of students, the lower self-confidence and self-efficacy they experience. On the other hand, the isolation caused by the addiction to online games causes a decrease in receiving social support from others, and this could be related to the decreased self-efficacy in students.

In addition, the results showed that there was a relationship between the components of addiction to online games and creativity, and the components of addiction to online games predicted creativity in students. The current research is in line with the results of research related to this field (Darab & Bani Bostan, 2017, 2018). In explaining this finding, it can be said that students' addiction to online games could mean their dependence on the game and inability to control it, which causes disturbances in the natural cycle of life and academic, occupational, and social performance. Not having access to the Internet and online

games, students, addicted to online games, become mentally busy and want to play. These students are irritable, aggressive and anxious. Furthermore, when they are forced to stop playing online games, they show behavioral disorders. On the contrary, when we look at the definition of creativity, we see that addiction to online games is in contradiction with the components of creativity. To display creative behavior, the development and evolution of four skills are necessary. 1) the ability to think divergently and create very different solutions and consider a wide range of dimensions and different angles of a problem 2) to have extensive information and useful experience in the field of creativity, 3) the ability to communicate with others in order to exchange experiences and information and 4) the ability to analyze critically since the individuals, in the formation of creativity, comes to many solutions, which requires the power of judgment and accurate criticism to choose the correct solutions and discard other solutions (Jorfi & Manzari, 2020). Among other things, the only solution in his mind would be having access to online games. On the other hand, these students spend all their time playing and their level of knowledge and information acquisition decreases. Similarly, addiction to online games causes loneliness and fewer social relations among students; whereas, having strong social relations is important in the emergence of creativity. Therefore, it is possible to explain the negative impact of addiction to online games on creativity in students

Furthermore, the results revealed that there was a relationship between the components of online game addiction and the social skills of students. The results of this study are in line with the results of other studies in this field (Zamani et al., 2010; Raiisi et al.2021; Mohammadi et al., 2016; Almalki & Aldajani, 2021). In explaining this finding, it can be said that students who were addicted to online games spent most of their time behind the computer or on their mobile phones and in virtual space, and if they did not have access to the Internet, they would experience behavioral symptoms, and as a result, to relieve their anxiety and tension most of them got involved themselves in virtual space and games. Even their social interactions would take place only in virtual space and with virtual game competitors. Even students communicate with their classmates more in virtual space and through online games and talk to each other through games. This type of interaction in virtual space deprives students of the social skills necessary to live in real life. As a result, it can be seen that the students are together in a physical environment, but they do not have the skills to establish real interactions, and they sit together and interact with each other with phones and games. On the contrary, students addicted to online games could be inattentive, aggressive, moody and excuse-making, disorganized and self-centered, while having social skills means that people manage their social environment effectively. Social skills require characteristics such as social sensitivity, role-playing, social insight, social understanding, moral judgment, social relationships; however, addiction to online games conflict with their mood resulting in social and academic problems destroying the opportunity to develop the mentioned abilities in students.

5. Conclusion:

In this research, like other research there were limitations. The generalization of the results of the present study was limited to female students in the second year of high school in Rudsar. Moreover, the data collection tool was only a questionnaire.

The results of the present study illustrated that addiction to online games in students could cause academic, occupational, social, and emotional problems associated with them predicting lower self-efficacy, creativity, and social skills in students. Therefore, it is suggested that students' families be given more information about online games so that they know the rules and restrictions of using online games. It is important that to advise families with children and teenagers addicted to online games on how to behave toward children and teenagers and provide education and books on the advantages and disadvantages of online games to students so that they can respect limits of online gaming. Therefore, the addiction to it could be prevented through reading about this issue.

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Research Paper: Comparison of the Effectiveness of Face-to-face and Internet-based Cognitive Behavioral Therapy on Cognitive Distortions and Emotion Regulation in Adolescents with Social Anxiety Disorder

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Abstract

People with social anxiety face barriers to treatment under the pretext of avoiding interaction and the discomfort of self-disclosure. Using remote health services may be an alternative, but there has been no strong research evidence on the effectiveness of Internet-based methods in dealing with social anxiety. Therefore, this study aimed to compare the effectiveness of face-to-face and Internet-based Cognitive Behavioral Therapy on cognitive distortions and emotion regulation in adolescents with social anxiety disorder. The present study was a field experiment. A total of 51 adolescents with social anxiety were selected by cluster sampling method and randomly assigned to three face-to-face, Internet-based, and control therapy groups. Three groups were interviewed at the beginning and the end of the study and completed the social anxiety disorder screening questionnaire (SASA), cognitive distortion questionnaire (CDQ) and emotion regulation questionnaire (ERQ). The two experimental groups underwent therapeutic intervention during ten weekly sessions. The results of ANKOVA analysis showed that both forms of intervention effectively reduced cognitive distortions, improved emotion regulation, and reduced symptoms of social anxiety. Moreover, the results of MANKOVA analysis revealed that in the components of the need to please others and repression, face-to-face intervention was only effective. None of the intervention methods affected the two components of success and perfectionism significantly. In general, in all variables, the impact of the face-to-face intervention was greater than the Internet-based intervention. These results can support the use of Internet-based Cognitive Behavioral Therapy for adolescents with social anxiety disorder who, due to some circumstances, are unable to benefit from face-to-face treatment.

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1. Introduction

Social Anxiety Disorder (SAD) is one of the most common types of anxiety disorders and is recognized as the third major mental health problem globally (Davis et al., 2014). According to the DSM-5, social anxiety disorder is characterized by severe avoidance or distress in social situations and, on the other hand, by a significant and persistent fear of negative social evaluation (American Psychiatric Association, 2013) that includes academic achievement, job performance, and quality, significantly reducing social relationships (Beidel et al., 2021). People with this disorder are isolated in society and have difficulty building friendship and close relationship with others (Voncken et al., 2021). In these individuals, paying more attention to negative and threatening information and focusing more on oneself (Tolbert & Pinquart, 2015) cause physiological arousal and make an individual avoids social situations (American Psychiatric Association, 2013).

The average age of onset of social anxiety disorder in the United States is 13 years old, and 75% of people with this disorder are between 8 and 15 years of age. The onset of the occurrence of this disorder can be early childhood or after a stressful or embarrassing experience. The 12-month prevalence of social anxiety disorder is reported to be about 7% (American Psychiatric Association, 2013). In Iran, the prevalence of this disorder is reported to be between 3 to 10% (Qalandari, 2015; Ghazanfari & Nadri, 2019). Correspondingly, according to epidemiological studies of cultures, the lifetime prevalence of social anxiety disorder is 13% (Hoffart & Johnson, 2020), which is reported to be 5.67% in women

and 4.20% in men (Barnett et al., 2021). Therefore, women show more anxiety symptoms than men (Asher et al., 2017) and have a lower level of psychosocial function than men (Barnett et al., 2021). In general, among anxiety disorders, social anxiety disorder accounts for about 9% of all young people's psychological issues (Beidel et al., 2021).

Various factors can play a role in developing social anxiety disorder. These include biological factors, mood, social skills deficits, social cognition and information processing, parenting, negative life events, and adverse social experiences (Rapee & Spence, 2004). One of the factors involved in social anxiety is cognitive distortions. Cognitive distortions are thoughts, beliefs, and natural ways of thinking that cause us to have a wrong view of reality (Beck, 1963). In order to protect the previous false beliefs, they act to eliminate, generalize or distort internal and external stimuli (Schluter et al., 2019). Cognitive distortions are seen in relatively all mental disorders and even in healthy individuals (Beck et al., 1979). In social anxiety disorder, various types of cognitive distortions such as catastrophizing, overgeneralization, and mental filtering have been observed. In fact, the main characteristic of people with social anxiety disorder is a strong tendency to show themselves as incapacitated. Thus, they have flawed judgments and inefficient beliefs about their behavior and that of others (Clark et al., 1995).

This way of interpreting and distorting experiences leads to cognitive distortions (Beck, 2005). People who have negative expectations and beliefs about themselves and those around them pay close attention to the negative side of events and look to

the future with a negative outlook. As a result, these negative perceptions lead to poor performance and reduce a person's motivation to interact in the community drastically (Tolbert & Pinquart, 2015). It is also observed that patients with social anxiety disorder are more likely to cause catastrophic adverse events than other patients with other anxiety disorders (Huppert et al., 2007). In general, fear of evaluation in people with social anxiety disorder and cognitive distortions distort information in a way that exacerbates and perpetuates the disorder, SAD Cognitive-Behavioral Model (Heimberg et al., 1997; Heimberg et al., 2010).

Another influential factor in social anxiety disorder is emotion regulation. Emotion regulation is a process that controls a person's emotions and how they are expressed (Gross, 1998). In fact, emotion regulation is the process of initiating, maintaining, modifying, or changing the expression, intensity, or continuity of inner feelings and emotions involved in socio-psychological-physical functions in pursuit of goals (Thompson, 1994). Emotion regulation problems are seen in people with emotional distress and traumatic experiences and various mental disorders (Blasczyk-Schiep et al., 2019; Henschel et al., 2019; Uhl et al., 2019), including social anxiety disorder (Goodman et al., 2021).

The inflexibility of emotion regulation predisposes people to emotional disorders (Coifman & Summers, 2019; Hofmann et al., 2012). In social anxiety disorder, as an emotional disorder, there is a lack of flexibility in emotion regulation (Goodman et al., 2021) which manifests itself in great concern about social evaluation and rejection (Moscovitch et al., 2013;

Moscovitch, 2009). People with social anxiety also spend great amount energy managing their emotions to avoid adverse social consequences, characterized by over-reliance on avoidance and alternative methods (Kashdan et al., 2011). Based on whatever said, these people value controlling their emotions for fear of rejection and prefer to avoid distressing emotions and limit emotional expressions (Goodman & Kashdan, 2021; Kashdan et al., 2011).

Due to the relatively high prevalence of social anxiety disorder, several effective pharmacological and psychotherapeutic interventions have been proposed for its treatment (Bandelow & Michaelis, 2015; Bandelow et al., 2015). Among these interventions, Cognitive Behavioral Therapy can be mentioned (CBT). CBT, like pharmacotherapy, is a first-line treatment for a variety of anxiety disorders (Hofmann et al., 2012) and has specifically been proposed as a standard treatment for social anxiety disorder (Barkowski et al., 2016; Wersebe et al., 2013). CBT models have proven that avoidance plays a key role in developing and maintaining social anxiety (Hofmann, 2007; Clark, 2005; Clark et al., 1995; Heimberg et al., 1997) and coping techniques can target this behavioral, cognitive, and emotional avoidance (Clark, 2005). These techniques force the patient to repeatedly approach the stimuli he or she fears and become accustomed to or tolerate fear reactions (Eckman & Shean, 1997). However, research has shown that only 35% of people with social anxiety disorder are treated (Ruscio et al., 2008), and many sufferers remain untreated or seek treatment late (Kasper, 2006).

Treatment of people with a social anxiety disorder is hampered by their reluctance to socialize and their reluctance to self-disclose (Griffiths, 2013). For this reason, using remote mental health services can be an alternative. One of these services is Internet-based Cognitive Behavioral Therapy (iCBT). It has been proposed that the most commonly used method for treating anxiety disorders, with benefits such as cost-effectiveness is iCBT (Musiat & Tarrier, 2014; Apolinário-Hagen et al., 2010; Craske et al., 2009) which is accessed remotely (Mojtabaei et al., 2011). Research evidence shows that the usefulness of this treatment is promising, so adherence to iCBT is similar to face-to-face CBT (Van Ballegooijen et al., 2014). Nevertheless, there is still no strong and sufficient research evidence concerning the effectiveness of these methods compared to their traditional and face-to-face form especially in social anxiety disorder (Griffiths, 2013; Andrews et al., 2010; Craske et al., 2009). In general, due to the high prevalence of social anxiety disorder, especially in adolescents and the increase in its negative consequences for individuals and society, the lack of public access to face-to-face treatment services and the lack of sufficient evidence concerning the effectiveness of Internet-based treatment, research in this area is important and necessary.Therefore, this study aimed to compare the effectiveness of traditional and Internet-based Cognitive Behavioral Therapy on cognitive distortions and emotion regulation in adolescents with social anxiety disorder.

2. Methods

2.1. Participants

The present study was a field experiment, and in its implementation, a multi-group pretest-post-test design with a control group was used. The population of this study included all female students in the first and second year of high school in Boroujerd in the academic year of 2021-2022. Fifty-one adolescent female students were selected and divided into three groups, namely face-to-face CBT intervention, online CBT intervention, and Controls which were randomly assigned by using a multi-stage cluster sampling method for choosing girls among schools in the city using social anxiety disorder screening questionnaire and structured clinical interview based on DSM-5 criteria. The criteria for selecting individuals among the students were being over 12 years old, being at first and second secondary school, not having other physical or mental illness, not taking medication or undergoing psychotherapy, and granting consent. Finally, according to the number of subjects, the pre-and post-test data of 47 subjects were analyzed and compared in three groups.

2.2. Materials

Adolescent Social Anxiety Disorder Questionnaire (SASA)

The SASA (Levpušček & Videc, 2008) consists of 28 items that measure adolescents' concerns, fears, and avoidant behaviors in social situations. Items are scored on a 5-point Likert scale (very low = 1 to very high = 5) with a minimum score of 28 and a maximum score of 140. Higher scores indicate symptoms of social anxiety. In the present study, a cut-off score of 96 was considered for initial screening. This questionnaire has two components: cognitive dimension and behavioral dimension. The validity and reliability of this questionnaire was confirmed in various studies (Xu et al., 2012). The confirmatory

factor analysis results illustrated that the two-factor structure fits well with the data. The alpha coefficients for the cognitive, behavioral, and overall scores of social anxiety subscales were reported to be 0.84, 0.68, and 0.83, respectively (Khodai et al., 2011). In the present study, Cronbach's alpha coefficient of this questionnaire was 0.91.

SCID-5-CV, Structured Clinical Interview for DSM-5

For a better and definitive diagnosis and rejection of other psychiatric disorders, a structured clinical interview for psychiatric disorders was used in the DSM-5, including a variety of disorders, consisting of social anxiety disorder. For most diagnoses, the level of agreement (kappa) above 0.70 was reported (Osório et al., 2019).

Cognitive Distortion Questionnaire (CDQ)

The 40-item CDQ (Beck & Wissman, 1978) is based on Beck's cognitive theory of depression. Items are scored on a 5-point Likert scale (strongly disagree = 1 to strongly agree = 5) with a minimum score of 40 and a maximum score of 200. Higher scores indicate cognitive distortion. This questionnaire has five subscales: the need to be approved, success, perfectionism, the need to please others, and the need to influence others. The internal reliability of this test was 0.9, and its reliability in 6 weeks' intervals was 0.73 (Rezaei, 2003). In the present study, Cronbach's alpha coefficient of this questionnaire was 0.88.

Emotional Regulation Questionnaire (ERQ)

ERQ (Gross & John, 2003) is designed in 10 items, including two re-evaluation components with six items and suppression with four items. Subjects on a 7-point Likert scale from strongly disagree (1) to strongly agree (7); the lowest score for completing this questionnaire is 10 and the highest score 70. Higher scores reveal a setting in which participants experience a higher excitement. The internal correlation was 0.79 for the reassessment component and 0.73 for the suppression component (Gross & John, 2003). Cronbach's alpha coefficient of this questionnaire was reported as 0.83 for the reassessment component and 0.79 for the suppression component (Bigdeli et al., 2013). In the present study, Cronbach's alpha coefficient of this questionnaire was 0.86.

2.3. Procedure

By observing ethical considerations and stating the objectives of the research and obtaining permission from Roshdieh Higher Education Institute, and receiving a letter of introduction from it, the researcher was referred to the General Department of Education of Boroujerd to conduct the present research. With the received permission, the research objectives were expressed to the management of the General Directorate of Education, information was obtained about the number of middle schools and high schools in Boroujerd. To form a cluster, three schools were randomly selected with the permission of the management and teachers considering the objectives of the research. By referring to the selected schools, the Social Anxiety Disorder Screening Questionnaire (SASA) was uploaded as an online file in the virtual classrooms of schools (Shaad Program) with a detailed explanation of the instructions. The completed questionnaires were displayed on the main site immediately after responding. After reviewing the preliminary results of the questionnaires (589 students), individuals with a score

higher than the cut-off score (85 people) were identified. These individuals were interviewed clinically structured according to DSM-5 criteria for reliability and accuracy of diagnosis. Then, according to the inclusion criteria and considering the probability of the participants' decline among the 57 diagnosed individuals, 51 students were selected; after ensuring their consent to participating in the study; as a participant, they were randomly assigned in three CBT interventions and control groups (17 people in each group). Pre-test data were collected from all three groups by explaining the instructions and ensuring confidentiality.

Regarding the location of the CBT intervention in person, the counseling room was set in one of the educational institutions in the city center, where everyone could attend quickly and easily, and the WhatsApp social media was used for the Internet-based intervention. Similarly, the considerations of ethics, confidentiality, and the right to leave the experiment for the experimental groups were fully explained. In order to prevent the participants from experiencing distress, giving prior notification, hiring special taxis for women for the CBT intervention group members to travel to the educational institution, applying provision of the Internet for the CBT intervention group members, and providing material and spiritual incentives were considered. However, there were two participants in the CBT intervention group, one participant in the iCBT intervention group, and one participant in the control group who dropped out. Finally, post-test data were collected from all three groups (n = 47). After collecting the post-test data, approximately 14 people, for the control

group to benefit from the treatment services, the full CBT Internet intervention was held.

2.4. Treatment

An integrated protocol based on two applied methods was used for the intervention program; that is, Cognitive Behavioral Therapy for social anxiety disorder (Hofmann & Otto, 2017) and Cognitive Behavioral Therapy for anxiety (Kendall & Hedtke, 2006) were employed. This protocol was similarly prepared in both face-to-face and Internet-based forms. The intervention protocol was presented in person and based on the Internet in 10 sessions of 1.5 hours per week for both experimental groups. In general, the regular schedule of each session was as follows: First, the current session began by reviewing the assignments of the previous session. Then the treatment steps were performed, and at the end, homework was presented. In Table 1, the general strategies of this intervention are similarly introduced in both face-to-face and online forms during the sessions.

In the present study, one week after the pre-test, Cognitive Behavioral Therapy intervention was performed both in person and online with the same protocol for both face-to-face and online experimental groups for ten sessions once a week, each session had 90 minutes treatment intervention, Cognitive Behavioral Therapy. However, the control group did not receive any intervention until post-test data collection. Post-test was performed in all three groups one week after the end of the treatment intervention. Cognitive Behavioral Therapy intervention, in person and online, were as independent variables and variables of cognitive distortions and emotion regulation were as dependent

variables. Age, physical illness, and pre-test values were considered to be control variables.

Table 1 *Therapeutic protocol*

sessions	Steps	Contents of sessions
1	Introducing and establishing a therapeutic relationship	In this session, the principles of confidentiality, the conceptualization of the disorder, the basis of Cognitive Behavioral Therapy, clients' goals of treatment, and creation of a scale of confrontation (list of fears and situations that cause it in order of intensity) were discussed.
2	Examining thoughts, emotions and behaviors	Explaining the relationship between thoughts, emotions, and behaviors in social anxiety disorder and recognize them.
3	Physical reaction to emotions	Explaining how to recognize emotions from the face and body; Implementing the first phase of the FEAR plan (identify the disorder's symptoms and learn how to deal with it).
4	Meditation	Appling relaxation technique with abdominal breathing training and focusing on body muscles was presented in the form of gradual muscle relaxation.
5	Listening to thoughts	Explaining mind reading and recognizing thinking traps; Implementing the second phase of the FEAR plan (identification of automatic negative thoughts and their adjustment).
6	Problem solving and rewards	Making a list of things to do and grading their ability to do them; Implementing the third and fourth stages of the FEAR plan (problem solving and countermeasures; review the results and reward yourself).
7	Exposure (First level)	Practicing an anxious social situation (low anxiety situation) based on scale exposure.
8	Exposure (second level)	Practicing an anxious social situation (moderate anxiety situation) based on scale exposure.
9	Exposure (Third level)	Practicing an anxious social situation (situation with more anxiety) based on scale exposure.
10	Real exposure and termination of treatment	Practicing an anxious social situation (real situation) in everyday life; Summarizing the progress and make the final decision to complete the treatment.

2.5. Data Analysis

SPSS software version 24 was run for statistical analysis. Mean, and standard deviation were used to report descriptive data indices. Univariate and Multivariate analyses of covariance were employed to examine the treatment effect. The accepted significance level was considered equal to 0.05 ($p \leq 0.05$).

3. Results

The participants' mean (and standard deviation) age was 14 (1.42) in the age range of 12 to 17 years. About 55% of

participants were the first child of the family. Most of them lived in a family of 4 to 5 people (.81). The education levels of their parents were mostly at primary or secondary school level (67%). Nevertheless, most participants' fathers were self-employed (74%), and their mothers were

housewives (100%).

Table 2 highlights the mean and standard deviation of the three groups in cognitive distortion, emotion regulation, social anxiety, and their components. (Table 2).

Table 2

Descriptive indices (n = 47)

Variables	Situation	fCBT	iCBT	CG
		M (S)	*M (S)*	*M (S)*
Cognitive Distortions	Pre-test	154.13 (10.35)	150.56 (9.32)	150.81 (9.01)
	Post-test	130.13 (8.52)	141.81 (8.44)	148.93 (6.16)
The need to be approved	Pre-test	32.46 (2.79)	31.25 (3.54)	31.50 (2.78)
	Post-test	24.40 (2.22)	28.56 (2.12)	31.25 (3.04)
Success	Pre-test	28.53 (5.42)	30.93 (5.28)	27.78 (5.65)
	Post-test	26.93 (3.71)	29.43 (5.22)	27.62 (3.72)
Perfectionism	Pre-test	28.73 (3.45)	29.43 (2.73)	30.50 (3.44)
	Post-test	27.86 (2.61)	28.81 (3.18)	29.93 (3.43)
The need to please others	Pre-test	31.53 (2.89)	28.18 (3.72)	29.56 (3.03)
	Post-test	25.60 (3.29)	26.87 (3.48)	29.37 (2.57)
The need to influence others	Pre-test	32.86 (4.50)	30.75 (2.67)	31.37 (4.41)
	Post-test	25.33 (3.84)	28.12 (2.89)	30.75 (3.51)
Emotion Regulation	Pre-test	37.33 (5.44)	37.18 (4.00)	37.68 (6.00)
	Post-test	49.80 (4.11)	43.75 (3.54)	39.87 (4.42)
Re-evaluation	Pre-test	21.60 (3.75)	20.78 (3.36)	22.00 (3.96)
	Post-test	30.06 (3.47)	26.31 (3.00)	23.68 (3.21)
Suppression	Pre-test	15.73 (2.60)	16.50 (2.36)	15.68 (3.43)
	Post-test	19.73 (1.79)	17.43 (1.82)	16.18 (2.40)
Social Anxiety	Pre-test	108.26 (5.86)	108.50 (4.93)	106.62 (6.43)
	Post-test	85.53 (7.86)	96.50 (4.83)	104.37 (7.64)
Cognitive dimension	Pre-test	57.06 (4.53)	55.75 (4.83)	56.37 (4.60)
	Post-test	45.86 (5.05)	49.56 (3.30)	54.78 (4.64)
Behavioral dimension	Pre-test	51.20 (3.91)	52.75 (4.41)	50.25 (3.69)
	Post-test	39.66 (5.56)	46.93 (3.94)	49.50 (5.09)

Note. fCBT = Face-to-face Group; iCBT = Internet-based Group; CG = Control Group

All of these variables had a normal distribution. To compare the effectiveness of face-to-face and Online Cognitive Behavioral Therapy on cognitive distortions, emotion regulation, and social anxiety, univariate analysis of covariance was hired to examine overall scores, and multivariate analysis of covariance was used to examine their components (with pre-test scores as covariates). The results of

ANCOVAs reported in Table 3 examine group differences in overall scores of cognitive distortions, emotion regulation, and social anxiety.

Table 3

ANCOVAs results

Variables	SS	Df	MS	F	η_p^2	OP
Cognitive Distortions	3522.189	2	1761.094	170.701***	0.888	1
Emotion Regulation	800.633	2	400.316	59.196***	0.734	1
Social Anxiety	3138.313	2	1569.157	68.663***	0.762	1

Note. SS = Sum of Squares; MS = Mean Square. η_p^2 = Partial Eta Squared; OP = Observed power.
*** $p <0.001$.

According to Table 3, the results showed that between the three groups in the overall score of cognitive distortions ($F= 170.701$; $p< 0.05$; $\eta_p^2=0.888$), emotion regulation ($F= 59.196$; $p<0.05$; $\eta_p^2= 0.734$) and social anxiety ($F= 68.6631$; $p< 0.05$; $\eta_p^2= 0.762$) there was a significant difference. Eta-squared revealed that the difference between the three groups in these variables was significant in total, and these differences were 0.888, 0.734, and 0.762, respectively. Each variable explained 88.8%, 73.4%, and 76.2% of the variance related to the difference between the three groups, respectively. This means that experimental conditions affected these variables (reducing cognitive distortions, increasing emotion regulation, and reducing social anxiety) and had significant therapeutic effects.

The results related to the credit indicators of MANCOVAs for the components of each of the variables indicated that the effect of the group on the composition of the components of cognitive distortions (*Wilks's lambda=* 0.095; $F= 15.702$, $p< 0.05$, $\eta_p^2= 0.692$, $OP=$ 1), components of emotion regulation (*Wilks's lambda=* 0.219; $F= 23.344$, $p< 0.05$, $\eta_p^2= 0.532$, $OP= 1$) and components of social anxiety (*Wilks's lambda=* 0.177; $F= 28.164$, $p< 0.05$, $\eta_p^2= 0.579$, $OP= 1$) were significant. Eta-squared revealed that the difference between the three groups was significant considering the components of each of the dependent variables and the amount of this difference; based on the Eta-squared, the components of cognitive distortion, emotion regulation, and social anxiety were 0.692, 0.532 and 0.579, respectively. That is, 69.2%, 53.2%, and 57.9% of the variance related to the difference between the three groups in the post-test components of cognitive distortions, emotion regulation, and social anxiety with statistical control of the pre-test were due to experimental conditions.

To examine the differences between groups in each of the components of cognitive distortion, emotion regulation, and social anxiety MANCOVAs was run the results of which is reported in Table 4. perfectionism.

Table 4.

MANCOVAs results

Variables	SS	df	MS	F	η_p^2	OP
The need to be approved	365.167	2	182.583	47.642***	0.709	1
Success	11.484	2	5.742	2.503	0.114	.472
Perfectionism	.419	2	.209	.099	0.005	.064
The need to please others	205.720	2	102.860	34.191***	0.637	1
The need to influence others	288.508	2	144.254	49.103***	0.716	1
Re-evaluation	342.889	2	171.444	38.312***	0.646	1
Suppression	105.152	2	52.576	39.594***	0.653	1
Cognitive dimension	658.591	2	329.295	23.954***	0.533	1
Behavioral dimension	930.326	2	465.163	88.935***	0.809	1

Note. SS = Sum of Squares; MS = Mean Square. η_p^2 = Partial Eta Squared; OP = Observed power.
*** *p <0.001.*

According to Table 4, there was a significant difference between the three groups in the 2-component of emotion regulation includes re-appraisal ($F= 38.312$; $p<0.05$; $\eta_p^2= 0.646$) and suppression ($F= 39.594$; $p< 0.05$; $\eta_p^2= 0.653$). Eta-squared demonstrated that the difference between the three groups in these two components were 0.646 and 0.653, respectively. Each component explained about 63.6% and 65.3% of the variance related to the differences between the three groups, respectively. That is to say, the experimental conditions were effective in improving these components (increasing re-appraisal and reducing repression). Additionally based on Table 4, there was a significant difference between the three groups in the 2-component of social anxiety, including the cognitive dimension ($F= 23.954$; $p< 0.05$; $\eta_p^2= 0.533$) and behavioral dimension ($F= 88.935$; $p< 0.05$; $\eta_p^2=0.809$). Eta-squared showed that the difference between the three groups in these two components were 533 and 0.809, respectively. Each component explained about 53.3% and 80.9% of the variance related to the differences between the three groups, respectively. In other words, experimental conditions effectively improved these components (reducing fear of negative evaluation and reducing stress and inhibition in social interaction). In order to investigate which one had the higher mean among the groups in the post-test after being modified by the Bonferroni test, the adjusted means are reported in Tables 5 and 6.

Table 5

Adjusted Means Difference results in Cognitive Distortions

Variables	Group (I)	Group (J)	MD (I-J)	Std. Error	95% CI	
					LB	UB
Cognitive Distortions	fCBT	iCBT	-14.300***	1.168	-17.210	-11.389
	fCBT	CG	-21.241***	1.166	-24.147	-18.336
	iCBT	CG	-6.942***	1.136	-9.771	-4.112
The need to be approved	fCBT	iCBT	-4.543***	0.845	-6.656	-2.430
	fCBT	CG	-7.463***	0.766	-9.379	-5.547
	iCBT	CG	-2.920**	0.760	-4.821	-1.019
Success	fCBT	iCBT	-1.023	0.652	-2.655	0.608
	fCBT	CG	-1.301	0.591	-2.781	0.179
	iCBT	CG	-0.278	0.587	-1.745	1.190
Perfectionism	fCBT	iCBT	-0.134	0.625	-1.698	1.430
	fCBT	CG	-0.252	0.567	-1.670	1.167
	iCBT	CG	-0.118	0.563	-1.525	1.290
The need to please others	fCBT	iCBT	-4.204***	0.747	-6.073	-2.336
	fCBT	CG	-5.533***	0.677	-7.228	-3.839
	iCBT	CG	-1.329	0.672	-3.010	0.352
The need to influence others	fCBT	iCBT	-4.408***	0.738	-6.254	-2.561
	fCBT	CG	-6.624***	0.669	-8.298	-4.949
	iCBT	CG	-2.216*	0.664	-3.877	-0.555

Note. fCBT = Face-to-face Group; iCBT = Internet-based Group; CG = Control Group; MD = Mean Difference; CI = Confidence Interval for Difference; LB = Lower Bound; UB = Upper Bound.

* p <0.05.   ** p <0.01.   *** p < 0.001.

According to Table 5, there was a significant difference between the three groups in the total score of cognitive distortions and the two components of the need to be approved and influence others. In other words, each of the face-to-face and online intervention methods was effective in reducing these components. However, the effect of the face-to-face intervention was greater than the online intervention. In the component of the need to please others, the face-to-face intervention was only effective, while online intervention had no significant effect. None of the intervention methods significantly affected the two components of success and perfectionism.

Table 6.

Adjusted Means Difference results in Emotion Regulation and Social Anxiety

Variables	Group (I)	Group (J)	MD (I-J)	Std. Error	95% CI LB	UB
Emotion Regulation	fCBT	iCBT	5.963***	0.935	3.634	8.291
	fCBT	CG	10.137***	0.935	7.808	12.466
	iCBT	CG	4.174***	0.920	1.882	6.466
Re-evaluation	fCBT	iCBT	3.085**	0.772	1.159	5.010
	fCBT	CG	6.655***	0.761	4.757	8.553
	iCBT	CG	3.570***	0.767	1.659	5.481
Suppression	fCBT	iCBT	2.806***	0.421	1.757	3.855
	fCBT	CG	3.498***	0.415	2.464	4.532
	iCBT	CG	0.693	0.418	-0.348	1.734
Social Anxiety	fCBT	iCBT	-10.764***	1.718	-15.045	-6.483
	fCBT	CG	-20.268***	1.730	-24.579	-15.958
	iCBT	CG	-9.504***	1.706	-13.755	-5.253
Cognitive dimension	fCBT	iCBT	-4.497*	1.356	-7.879	-1.115
	fCBT	CG	-9.292***	1.343	-12.641	-5.944
	iCBT	CG	-4.795*	1.356	-8.178	-1.413
Behavioral dimension	fCBT	iCBT	-5.937***	0.837	-8.024	-3.851
	fCBT	CG	-11.036***	0.828	-13.101	-8.970
	iCBT	CG	-5.098***	0.837	-7.185	-3.012

Note. fCBT = Face-to-face Group; iCBT = Internet-based Group; CG = Control Group; MD = Mean Difference; CI = Confidence Interval for Difference; LB = Lower Bound; UB = Upper Bound.

* p <0.05.　** p < 0.01.　*** p <0.001.

According to Table 6, there was a significant difference between the three groups in the total score of emotion regulation and only in its re-appraisal component. That is to say, each of the methods of face-to-face and Internet intervention was effective in reducing this component. Nevertheless, the effect of the face-to-face intervention was greater than the online intervention. The face-to-face intervention was only effective in the suppression component; whereas, online intervention had no significant effect. Correspondingly, there was a significant difference between the three groups in the total social anxiety score and its two components. In other words, each of the face-to-face and online intervention

methods was effective in reducing these two components. On the other hand, the effect of the face-to-face intervention was greater than the online intervention.

4. Discussion

This study aimed to compare the effectiveness of face-to-face and Internet-based Cognitive Behavioral Therapy on cognitive distortions and emotion regulation in adolescents with social anxiety disorder. In general, the results showed that both face-to-face and Internet-based forms of Cognitive Behavioral Therapy had a significant effect on reducing cognitive distortions, increasing emotion regulation, and reducing anxiety

symptoms in adolescents with social anxiety disorder. Accordingly, a significant difference was observed between the two groups of Cognitive Behavioral Therapy and the control group in the post-test of these variables. The size of the effect was also large. Therefore, Cognitive Behavioral Therapy seems to be effective in reducing cognitive distortions, increasing emotion regulation, and reducing the symptoms of social anxiety disorder in adolescents with this disorder. This substantiates previous findings in the literature (Rukmimi et al., 2021; Asbrand et al., 2019; McEvoy et al., 2018; Hearn et al., 2018). Khodaei et al. (2020) stressed that Cognitive Behavioral Therapy can reduce social anxiety. Therefore, it can be said that Cognitive Behavioral Therapy can reduce social anxiety. However, in all variables, the impact of the face-to-face intervention was greater than the Internet-based intervention. Our results share similarities with some previous findings (Nauphal et al., 2021; Peros et al., 2021; Kampmann et al., 2016). Seydavi (2018) expressed that Internet-based intervention can reduce social anxiety. Therefore, it can be said that Internet-based intervention can reduce social anxiety.

Based on the present study's results, adolescents in the two groups of face-to-face and Internet-based Cognitive Behavioral Therapy compared to adolescents in the control group revealed a significant decrease in scores after the cognitive distortion test. This concurs with the results of research by Kuru et al. (2017) and Morrison et al. (2015). Naderzadeh et al. (2019) expressed that Cognitive Behavioral Therapy could reduce cognitive distortions. Therefore, it can be said that Cognitive Behavioral Therapy can reduce

cognitive distortions. Based on the cognitive model of threat response (Beck et al., 1985), anxious individuals have defective cognitive processing when faced with potentially dangerous situations. They focus on the limited position dimensions, lost information, and distorted image creation. Their anxiety is maintained by these distortions and their poor evaluation of performance in various situations. They make systematic errors or cognitive distortions in the interpretation of their experiences. These cognitive distortions filter their minds and rarely challenge them, leading to psychological distress. Consequently, the need for approval, judgment, perfectionism, thinking all or nothing, without flaws, negative predictions are activated in them and, accordingly, they avoid establishing relationships with others and good performance in society, leading to social anxiety. In fact, the characteristic feature of these people is the fear of being seen and evaluated by others and not being approved. They think that if they are not perfect, others will think negatively about them and, therefore, predict negative consequences for their performance. Hence, cognitive information processing is important and vital, both from a causal point of view and in the maintenance and treatment of anxiety disorders. From a therapeutic point of view, learning the measures of identifying and improving defective thinking and behavior and learning to deal with the traps of thinking and controlling thoughts is important for having appropriate and adaptive relationships. It reduces cognitive distortions, improves interpersonal relationships, and promotes social relationships by removing mental filters

and generating confrontational thoughts (Naderzadeh et al., 2019).

Accordingly, it can be explained why in the present study, both face-to-face and Internet-based forms of Cognitive Behavioral Therapy were effective in reducing cognitive distortions in the two experimental groups compared to the control group and also, they were associated with fewer symptoms of social anxiety disorder. Adolescents in the two experimental groups learned through traditional Internet-based Cognitive Behavioral Therapy intervention to be sensitive to their thoughts on various situations and their behavioral and emotional consequences. They learned to monitor their spontaneous thoughts in their particular situation, identify defective thoughts, and consider other intellectual content by interpreting stimuli and social contexts properly. For example, when explaining something in the classroom, instead of thinking that everyone is aware that I am anxious and my voice is trembling, and I might be doing something wrong, consider thoughts like everyone might be anxious, and my friends are enjoying my explanation. In addition, they should pay attention to their traps, which can lead to signs of distortions, and try to identify and get rid of them. For example, they monitor their thoughts about which ones are traps of thought leading to an increase in anxiety and find that these thoughts prevent them from being in the community and consequently cause symptoms of social anxiety disorder.

Based on the present study results, adolescents in the two experimental groups showed a significant increase in the emotion regulation post-test scores compared to adolescents in the control

group. This is in good agreement with the results of research by Goodman et al. (2021), Hiekkaranta et al. (2021) and Dixon et al. (2019). Imani et al. (2018) highlighted that Cognitive Behavioral Therapy could increase emotion regulation. Therefore, it can be said that Cognitive Behavioral Therapy can increase emotion regulation. Considering the fact that Cognitive Behavioral Therapy is a therapy based on emotion control, awareness, and processing without distortion and efficient emotions and based on reducing cognitive errors, leading to problems in emotion regulation, can improve excitement regulation. Research revealed that there have been many cognitive errors in emotion regulation problems that lead to emotional problems in individuals. These errors include mind reading, prediction, catastrophe, selective abstraction, over-generalization and emotional reasoning (Imani, Al-Khalil & Shukri, 2018); moreover, controlling and modifying each of them through Cognitive Behavioral Therapy can have a significant effect on reducing and improving emotional regulation problems. In fact, dysfunctional attitudes and beliefs confuse people (Ellis, 1991) in a way that the more these dysfunctional attitudes and irrational beliefs of individuals, the more emotional turmoil it will cause (Smith & Houstonkent, 1983; Watson et al., 1998). Thus, identifying and modifying these attitudes and beliefs can effectively reduce confusion and increase emotional regulation. In general, cognitive reconstruction plays an important role in breaking the cycle of social anxiety and helps individuals change their dysfunctional negative beliefs through challenges between therapist and client during group sessions. It also reduces

clients' anticipated avoidance and anxiety. It increases their ability to reinforce others positively and think adaptively about their own experiences (Himberg & Beck, 2002).

Based on the present study results, adolescents in the two experimental groups suggested a significant decrease in social anxiety post-test scores compared to adolescents in the control group. This finding is consistent with the results of research by Thurston et al. (2017), Hullu et al. (2017) and Bahari et al. (2020). Heydarianfard et al. (2015) revealed that Cognitive Behavioral Therapy can affect social anxiety. Therefore, it can be said that Cognitive Behavioral Therapy can reduce symptoms of social anxiety. In general, Cognitive Behavioral Therapy reduces social anxiety through cognitive and behavioral reconstruction. Cognitive reconstruction plays an important role in breaking the cycle of social anxiety (Himberg & Becker, 2002) and helps individuals change their dysfunctional negative beliefs through challenges between therapist and client during sessions. It also reduces clients' predictive avoidance and anxiety through behavioral reconstruction. It increases their ability to communicate effectively with others and think adaptively about their own experiences (Heydarian-Fard et al., 2015). On the other hand, Cognitive Behavioral Therapy can reduce social anxiety disorder by reducing cognitive distortions and increasing emotional regulation, as observed in the present study. Examining social anxiety components showed that adolescents in the two experimental groups had a significant decrease in scores compared to the control group in social anxiety cognitive and behavioral components. In these two components,

face-to-face and Internet-based intervention methods effectively reduced them. There was a significant difference between the two experimental groups and the control group in these two components. Since the cognitive component includes fear of negative evaluation, and the behavioral component includes stress and inhibition in dealing with others, both of which were considered during treatment sessions and addressed through cognitive and behavioral reconstruction. Therefore, Cognitive Behavioral Therapy was expected to be effective in improving these two components.

In comparing the two experimental groups, the results suggested that the face-to-face Cognitive Behavioral Therapy group was more effective than the Internet-based group in reducing cognitive distortions, increasing emotion regulation, and reducing social anxiety and its components. There was a significant difference between these two experimental groups in the post-test of these variables. The first line of problems of socially anxious people is the fear of being in the community and the weakness of social skills. Therefore, their presence in public is a kind of confrontation, and their absence is a kind of avoidance. Similarly, in the face-to-face group, people with a physical presence in the meetings were able to see and recognize the moods and emotional feedback of others' faces, followed by being aware of their emotions, recognizing them and establishing real communication with other members. However, the Internet-based group did not have these privileges. Alternatively, in face-to-face sessions, threatening stimuli, such as being in a group, were present in a real situation. The necessary measures were performed

frequently to secure the thoughts and related emotions. However, in online sessions, such stimuli were not objective, and the virtual model was less effective than the real model in reducing coercive behavior. Therefore, due to the main presence of people in the group and doing group exercises, it can be said that face-to-face meetings have reduced people's avoidance and, in turn, have reduced the symptoms of anxiety further.

5. Conclusions

Overall, the present study aimed to compare the effectiveness of traditional and Internet-based Cognitive Behavioral Therapy to expand and supplement previous works and increase the richness of the literature about Internet-based cognitive-behavioral intervention in social anxiety. The results revealed that both forms of cognitive-behavioral intervention effectively reduced cognitive distortions, increased self-regulation, and reduced social anxiety. Moreover, these results can be due to the reasons above, including cognitive and behavioral reconstruction by accepting and changing mental filters and applying confrontational thoughts, recognizing emotions correctly, and learning how to moderate them and deal with stressors. Therefore, traditional and Internet-based cognitive-behavioral interventions seem to have positive benefits for adolescents with social anxiety disorder. However, the face-to-face form was more effective than the Internet-based one, which could be due to the reasons mentioned above, especially the benefit of face-to-face exposure, participation in real social situations, participation in group discussions, and coping with fear in real life.

The limitation of the study included considering girls only and the lack of generalizability to other populations due to age, sex, education, and geographical boundaries among others. Additionally, the lack of additional facilities for holding Internet intervention sessions was one of the limitations of an Internet intervention. Generally speaking, this study should be repeated with larger and more controlled participants to re-evaluate the results. In addition, it is suggested that efforts be made with appropriate and continuous training in raising awareness about virtual meetings, increasing social self-efficacy, reducing rumination and social anxiety in individuals, and developing and implementing programs to reduce adolescent social anxiety. It created a more successful and healthy future for people, especially adolescents.

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Journal of Modern Psychology

Research Paper: Comparing the Effectiveness of Bowen Systematic and Solution-Focused Counseling on Reducing the Divorce Risk, Burnout and Marital Discord among Discordant Females

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Abstract

The purpose of this research is to study discordant females regarding the comparison of the effectiveness of Bowen systematic and solution-focused counseling on reducing the risk of divorce, burnout and marital discord. The reseach design is quasi-experimental employing multiple groups pretest-posttest. The participants consisted of all women attending in Justice Deperment of Ardabil for divorce in 2016. The participants included 45 discordant women (divorce applicants) who were selected through convenience sampling method and were assigned to three groups (two experimental groups and one control group). The marital burnout questionnaire, marital instability index (MII), and Beier-Sternberg discord questionnaire (DQ) were used for data collection. Bowen systematic counseling and solution-focused counselig were provided for experimental groups in 7 sessions of an hour and a half each. Whereas, the control group did not receive any intervention. The results of the analysis of variance and Duncan's post hoc test showed that solution-focused counseling was more effective than Bowen systematic method in reducing divorce risk, burnout, and marital discord (p < 0.05). These results can be a strong for applying the priority of solution-focused counseling method to reduce the risk of divorce, burnout and marital discord among discordant women, thereby preventing family breakdown; this method can also be used to prevent marital conflicts.

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1. Introduction

Family is an entity that offers its members a feeling of security and serenity. Marital life is based on a contract between man and woman to meet their needs and, consequently, accomplish all its functions including the spirit of cooperation, division of works, children's education as well as nature, and creating kindness and affection (Campbell, 2013). The entity of family has experienced various developments throughout the history and has seen different changes. One of the damages facing modern-day families is the breaking down and causing disorder in the family in the form of divorce; whereas, various studies show that the growing rate of divorce is a global problem (Gonzalez et al., 2009). In Iran, this growing divorce rate, particularly since 1996, has also attracted the attention of researchers and policymakers toward this social phenomenon increasingly. A phenomenon that according to researchers, will have many effects and consequences in an individual and social levels and will bring about many other disorders in the society (Sadeghi Fasaei & Isari, 2015). Results from studies conducted in recent years revealed that about 78 percent of the problems young couples are facing derive from their relationship issues (Blumer & Murphy, 2011). Previous research has identified two acts of distress and tension in marital relationships as explicit marital conflicts or disagreement, discouragement, indifference or in other word *burnout* (Herrington et al., 2008). Kayser (1996 as cited in Lievaart et al., 2017) defined marital burnout as the gradual loss of emotional attachment, which includes reduced care about the spouse, emotional alienation, and increased sense of discouragement and indifference toward the spouse, which includes three stages of frustration and disappointment, anger and hatred, and discouragement and indifference. People differ when they react to stimulating and conflicting situations (Lievaart et al., 2017).

Burnout in couples is a slow process, during which intimacy and love are gradually faded accompanied by a general sense of tiredness. By definition, burnout is a state of tiredness and physical, emotional, and mental exhaustion resulted from long-term conflicts in situations where people have many emotional and romantic demands. Such situations are usually appeared due to a great difference between expectations and reality, and the most important expectation is to find something that gives meaning to their life (Pines, 2003, 2004). Physical exhaustion or fatigue from burnout appears as chronic tiredness that does not recover with rest. Regarding the emotional exhaustion, people who suffer from burnout are always immersed in the thought that they have been emotionally perished and are constantly feeling resented and despondent toward themselves. The mental exhaustion caused by burnout is usually occurred as reduced self-esteem and negative attitudes toward the relationships, particularly relationships with their spouses (Lee et al., 2001).

Marital discord is another important variable in family studies. Marital adjustment is a situation in which the husband and wife receive a sense of happiness and satisfaction from each other, which is commonly created through mutual interest, caring for each other, acceptance, understanding each other, and meeting each other's needs including sexual need. Happily married couples who are satisfied with their marital life usually have a great

deal of agreement with each other, they are satisfied with the type and level of their relationships, they are contented with the type and quality of spending leisure time, and they resolve their financial issues well. On the other hand, discordance in the relationships of couples generates disorder in social relationships and leads to social deviance and the decline of cultural values among husbands and wives (Jonaidy et al., 2009). Researchers' attention to discordance and marital problems in people's lives is considered to be one of the main components of healthcare services (Snyder et al., 2006), and since family is the basis and foundation of personal and social life and the husband and wife are the main figures existing in the center of the family, any effort to protect their relationships against potential harms is necessary and valuable (Azadi et al., 2014).

Over the years, researchers sought to measure the validity and effectiveness of counseling patterns in the field of family and marriage counseling (Wood et al., 2005). Alternatively, growing efforts concerning mental health in the world in the early years of the twenty-first century highlights the importance of examining the effect of various counseling patterns. Indeed, the important question is that *which type of counseling is better?* (Bagarozzi & Sperry, 2004). Bowen systematic counseling is one of the common methods based on balancing between the two emotions of being together and being separated. In fact, the cornerstone of Bowen's theory is his idea about those forces that are within the family and seek unity and togetherness or, conversely, seek individuality. Since each family includes at least three generations (Goldenberg & Goldenberg, 2012) with a generational

function, each generation has also intergenerational function (previous generations breed the next generation), it is expected that when children leave their homes, they become mature and independent adults. Some people value individuality and regard it as a sign of growth as they get separated from their parents; whereas, some others wish they could get closer to their families (Nichols & Schwartz, 2014). Bowen (1978) assumes family as an emotional unit and a network of intertwined relationships. The threads of this intertwinement can be so firm and thick that permanently hamper the ability of a person to act freely and independently and she or he will always be imprisoned in this emotional world if she or he is always willing to compromise on his or her weak and unstable identity (Carey, 2005 as cited in Naeimi et al., 2014).

Solution-focused counseling is another effective counseling method. The solution-focused approach is a method in the field of family counseling and is categorized into the postmodern and new theories. This method not only ignores an individual's past, but also looks at the existing problems with lower attention and puts the main emphasis on available solutions. The solution-focused approach insists on this belief that focusing on the past and analyzing its problems is a long-term and useless process (Goldenberg & Goldenberg, 2012). In this therapy, it is assumed that advisees are not able to identify their best personal goals (Kok-Mun et al., 2012). This approach puts emphasis on individuals' deficits and disabilities rather than focuing on highlighting capabilities and accomplishments of people and creates supportive relationships in the treatment process (Davarniya et al., 2014).

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In the solution-focused therapy, slow detection of exceptions in advisees' life can induce hope and help them to see they are approaching to a better future (Pichot, 2007). Based on solution-focused perspective, change and transformation is an inevitable subject and constructive changes are possible; therefore, in this type of therapy instead of hard and unchangeable areas, the focus is on issues that are likely to be changed. For this reason, the solution-focused therapy has been known as hope counseling (Shakarami et al., 2013).

Some researches including Yektatalab et al (2017), Palombi (2016), Kim et al. (2015), Smith and Macduff (2017), Karkhane et al. (2015), Hashemi et al. (2014), Asadi (2014), Nilab (2014), have shown the effectiveness of Bowen systematic method; however, other researchers such as Hsu et al. (2017), Smith and Macduff (2017), Gong and Hsu (2017), Creswell et al. (2017), Lotfi and Motamedi (2016), Mahmudi et al. (2015), Shakarami et al. (2015) have illustrated the effectiveness of solution-focused counseling on various psychological and family variables.

According to various studies, currently the main subject in this research is that which one of counseling therapy methods (Bowen therapy or solution-focused) is more effective in reducing the risk of divorce, burnout and marital discord in discordant women of Ardabil in 2016?

2. Method

The research method is experimental with multiple group pretest-posttest design and a control group. The population included all discordant women who attended or being referred to the Justice Department of Ardabil in 2016, out of which 45 women were selected based on convenience sampling method and randomly assigned to three groups. One week prior to the implementation of counseling methods, the pre-test was conducted, then for the first group (15 women) the solution-focused counseling method (Zimmerman et al., 1997) in 7 sessions of 1.5 hours each; for the second group (15 women), Bowen systematic method (Goldenberg & Goldenberg, 2012) in 7 sessions of 1.5 hours each, was applied; however, the third group (15 women) did not receive any counseling. Finally, one week after the implementation of counseling methods, the post-test was administered.

2.1. Research tools

Marital Burnout Questionnaire: This 21-item questionnaire was developed by Pines (2004) and is a self-assessment tool comprised of three main components. The physical exhaustion includes tiredness, frailty feelings and having sleep disorders. The questions are scored in a 7-point Likert scale method from 1 = Never to 7 = Always (Pines, 2004). Navidi (2005) distributed the aforementioned questionnaire to a sample of 240 respondents and attained the reliability coefficient of 0.86, calculating Cronbach's alpha and correlation coefficient of -0.40 for the validity of this test using ENRICH marital satisfaction scale (1989). In addition, Panahi et al. (2017) in their research reported the Cronbach's alpha coefficient of 0.83 for the total score of the test and coefficients of 0.80, 0.83 and 0.85 for each subscales of physical exhaustion, emotional exhaustion and mental exhaustion respectively. Similarly, the reliability of the questionnaire in the present study was 0.82.

Marital Instability Index (Divorce Risk): Marital Instability Index (MII) questionnaire was developed by Edwards et al., (1987) to measure and evaluate marital instability, particularly for susceptibility to divorce. This questionnaire has 14 items. It is based on the presupposition that both aspects of cognition and behavior should be considered to assess instability and the presence of potential in couples for divorce. This tool was initially used for 2034 married men and women aged below 55 in 1980. The scoring method for each section is very easy according to its instruction, where the scores of the same sections are considered. This tool has a high internal consistency with a Cronbach's alpha of 0.93; it has a good predictive validity. The Marital Instability Index has a consistent validity and is positively correlated with marital problems; whereas, it shows a negative correlation with marital happiness and marital interaction (Edwards et al., 1987). Correspondingly, the reliability of the questionnaire in the present study was 0.91.

Beier-Sternberg Discord Questionnaire (DQ): The Beier-Sternberg Discord Questionnaire (DQ) (Beier & Sternberg, 1977) has 10 items that are designed to assess two aspects of a marital relationship, i.e., differences or conflicts and the degree of dissatisfaction alongside these differences. The items in Beier-Sternberg Discord Questionnaire were selected based on the background that studied the main sources of these marital conflicts. Primarily, each respondent gives a score to the issue that has provoked conflict in his or her marriage, then evaluates how much this conflict has made him or her dissatisfied. Items in this questionnaire are separately scored. However, this tool is able to independently analyze the aspects of marital relationships. This questionnaire was completed with the collaboration of newly married couples (who had formally expressed their consent). The couples were heterogeneously selected and contacted one year after their marriage. The results showed that conflicts after one year of marriage have a significant relationship with general post-marriage struggles. In scoring, each item is individually scored in a 7-point Likert scale; higher scores indicate more struggle and dissatisfaction (Ghamari Kiwi et al., 2015). This questionnaire has a degree of concurrent validity and there is a significant correlation between the degree of dissatisfaction and conflict. It should be noted that there is also a relationship between the scores of this tool and a wide range of intimate behaviors. For women, this tool has a capability to predict issues in later years of marital life (Beier & Sternberg, 1977). Similarly, the reliability of the questionnaire in the present study was 0.89.

2.2. Intervention methods

For the first experimental group, the Solution focused therapy was presented in 7 sessions of an hour and a half, and for the second experimental group, Bowen's systemic counseling therapy was presented in in 7 sessions of an hour and a half; the general strategies of these sessions are given in Tables 1 and 2.

Table 1

Summary of the solution-oriented counseling method program

Session	Titles and goals of counseling
1	Becoming familiar with members, making members familiar with the principles, goals and effects of the solution-oriented perspective, setting frameworks and expressing the general principles of the solution-oriented perspective, conducting a pre-test
2	Helping participants formulate their goals in a positive, definite, tangible, and measurable way.
3	Helping participants to discover that there are different interpretations of an event in the family and they are able to change their perception of the problems in a more useful way and helping participants to realize their capabilities and resources.
4	Helping participants to identify positive exceptions in life with their spouse and build hope based on them and reduce their areas of problem.
5	Breaking down different behavioral patterns designed by participants using miraculous questions.
6	Helping participants find other ways to think, feel, and behave instead of doing what they are doing now, and to experience new emotions using the concept of "instead" as their goal.
7	Reviewing goals and answering the participants' questions and giving final summary of all sessions and post-test

Table 2

Summary of the Bowen System Consulting Program

Session	Titles and goals of counseling
1	Becoming familiar with members, pre-test, explanation about counseling and counseling goals
2	Assessing the family, drawing the genealogy of the members and examining their patterns
3	Becoming familiar with and working on the concept of differentiation and explanation of the separation of thoughts from feelings and separation of the individual from the family, evaluating individuals in this regard
4	Introducing members to the concept of interdependence and how to improve it
5	Becoming familiar with the family with the concepts of triangulation and the emotional system of the nuclear family and their effect on creating and perpetuating the problem
6	Becoming familiar with family with the concepts of family projection and emotional breakdown and their impact on family problems
7	Making the members Becoming familiar with the status of nurses and the process of intergenerational transfer and review of all sessions and post-test

3. Results

Table 3 reports the descriptive indicators of research variables including the mean and standard deviation of groups in pre-test and post-test.

Table 3

Descriptive indicators of the research variables for experimental and control group

	Group	Pre-test		Post-test	
		Mean	SD	Mean	SD
Divorce risk	Control	7.133	3.735	6.601	3.960
	Bowen systematic counseling	7.933	1.791	3.366	0.703
	Solution-focused counseling	6.133	3.398	2.215	1.021
Physical exhaustion	Control	26.60	2.746	28.60	1.352
	Bowen systematic counseling	31.066	1.709	21.66	2.526
	Solution-focused counseling	30.80	5.518	17.066	7.391
Mental exhaustion	Control	28.12	1.788	28.80	1.656
	Bowen systematic counseling	30.334	3.177	20.80	3.385
	Solution-focused counseling	30.133	5.085	22.533	2.852
Emotional exhaustion	Control	30.20	3.529	30.80	2.858
	Bowen systematic counseling	32.066	2.344	21.266	3.750
	Solution-focused counseling	33.133	6.770	14.20	3.949
Overall burnout	Control	4.248	0.343	4.20	0.395
	Bowen systematic counseling	4.753	0.458	3.350	0.573
	Solution-focused counseling	4.732	0.590	3.041	0.474
Discord	Control	84.80	16.746	84.75	12.585
	Bowen systematic counseling	103.733	5.921	73.80	20.178
	Solution-focused counseling	65.21	2.31	75.50	35.31

As shown in Table 3, the mean score of divorce risk among discordant women in control group was 7.13, which decreased to 6.60 in the post-test. The mean score of divorce risk among discordant women in the pre-test of Bowen systematic counseling group was 7.933, which decreased to 3.366 in the post-test. The mean score of in pre-test solution-focused counseling group is 6.133, which decreased to 2.215 in the post-test. The mean score of marital burnout among discordant women in control group was 4.248, which almost remained fixed at 4.20 in the post-test. The mean score of marital burnout among discordant women in the pre-test Bowen systematic counseling group was 4.753,

which decreased to 3.35 in the post-test. The mean score of marital burnout in pre-test solution-focused counseling group was 4.732, which decreased to 3.041 in the post-test. The mean score of physical exhaustion among discordant women in control group was 26.61, which increased to 28.6 in the post-test. The mean score of physical exhaustion among discordant women in pre-test Bowen systematic counseling group was 31.06, which decreased to 21.66 in the post-test. The mean score of physical exhaustion in the pre-test solution-focused counseling group was 30.8, which decreased to 17.06 in the post-test. The mean score of emotional exhaustion among discordant women in control group was

30.20, which increased to 30.80 in post-test. The mean score of emotional exhaustion among discordant women in the pre-test Bowen systematic counseling group was 32.06, which decreased to 21.26 in the post-test. The mean score of emotional exhaustion in the pre-test solution-focused counseling group was 33.13, which decreased to 14.2 in the post-test. The mean score of mental exhaustion among discordant women in control group was 28.12, which increased to 28.80 in the post-test. The mean score of mental exhaustion among discordant women in the pre-test Bowen systematic counseling group was 30.33, which decreased to 20.80 in the post-test. The mean score of mental exhaustion in the pre-test solution-focused counseling group was 30.13, which decreased to 22.53 in the post-test. Moreover, the mean score of marital discord among discordant women in control group was 84.80, which almost remained constant at 84.75 in the post-test. The mean score of marital discord among discordant women in the pre-test of Bowen systematic counseling group was 103.73, which decreased to 73.80 in the post-test. The mean score of marital discord in the pre-test solution-focused counseling group was 65.21, which increased to 75.50 in the post-test.

Multivariable Analyze of Variance was also used to compare the effectiveness of Bowen systematic and solution-focused counseling in reducing the risk of divorce, burnout, and marital discord among discordant women. It should be noted that the presumptions of this test were examined and confirmed before using Multivariable Analyze of Variance. The Levene F statistic was not significant for any of the components; thus, the variance of variables in groups was homogeneous. The F statistic linearity of the pre-test with the post-test of components was significant, therefore there was a significant linear relationship between the pre-test and the post-test of variables. The F statistic difference of groups in the pre-test of components was not significant. The consistency test of regression slope was not significant for the pre-test and the post-test. Therefore, it can be concluded that the regression slope of the pre-test and the post-test was homogenous in both groups. Correspondingly, the F statistic of Box's M Test was not significant; therefore, regarding the non-significance of this statistic, it can be concluded that the Multivariable Analyze of Variance of dependent variables of the groups were equal. Hence, considering the establishment of presuppositions, we could employ the Multivariable Analyze of Variance. The results of Multivariable Analyze of Variance are reported in Table 4.

Table 4

The results of Multivariable Analyze of Variance (MANOVA) of variables of the study

The source of change	Dependent Variable	SS	df	MS	F	P	Eta
Treatment Method	Divorce Risk	166.289	2	83.144	11.00	0.001	0.455
	Burnout	1.697	2	0.849	3.669	0.030	0.661
	Marital Discord	5128.822	2	2564.411	8.390	0.001	0.335
Pretest-Posttest	Divorce Risk	266.944	1	266.944	35.316	0.001	0.802
	Burnout	24.712	1	24.712	106.834	0.001	0.987
	Marital Discord	1013.378	1	1013.378	3.316	0.072	0.958
Treatment Method * Pretest-Posttest	Divorce Risk	96.156	2	48.078	6.361	0.003	0.208
	Burnout	11.547	2	5.774	24.961	0.001	0.080
	Marital Discord	6767.22	2	3383.611	11.070	0.001	0.167

Based on Table 4, there was no significant difference between the mean of marital discord among the participants of the pre-test and the post-test ($p < 0.05$). Nonetheless, the mean of marital burnout and divorce risk in pre-test and post-test had a significant difference. The results also highlighted that solution-focused therapy was more effective than Bowen systematic counseling in reducing of the divorce risk, burnout and marital discord.

The Duncan's post hoc test was also used to examine the effect of counseling methods on research variables, the result is reported in Table 5.

Table 5

The results from Duncan's post hoc test for the effectiveness of solution-focused counseling and Bowen systematic counseling on the reduction of divorce risk, burnout, and marital discord

Group	Group	Marital Discord		Marital Burnout		Divorce Risk	
		Mean Difference	Sig	Mean Difference	Sig	Mean Difference	Sig
Control	Solution-focused	20.663	0.001	0.336	0.022	3.30	0.001
	Bowen	-7.466	0.267	0.172	0.350	1.266	0.181
Solution-focused	Control	-20.663	0.001	-0.336	0.022	-3.30	0.001
	Bowen	-28.10	0.001	-0.163	0.389	-2.033	0.014
Bowen	Control	7.466	0.267	-0.172	0.350	-1.266	0.181
	Solution-focused	28.10	0.267	0.163	0.389	2.033	0.014

The results of Duncan's analysis showed that there was no difference between the control group and Bowen's systematic counseling in both stages in reducing the risk of divorce of incompatible women (Table 5). In other words, the post-test scores did not show a significant decrease compared to the pre-test. On the other hand, between the two groups, the control group with solution-oriented counseling in both stages was useful in reducing the risk of divorce of discordant females. In other

words, in the post-test, the scores illustrated a significant decrease compared to the pre-test. There was a significant difference between the two methods of counseling. Moreover, the results of Duncan's analysis illustrated that there was no significant difference between Bowen's control group and systematic counseling in both stages in reducing marital incompatibility of discordant females. In other words, in the post-test, the scores did not show a significant decrease compared to the pre-test. On the other hand, between the two groups, control with the solution-oriented counseling group was useful in both stages in reducing marital incompatibility of discordant females. In other words, in the post-test, the scores showed a significant decrease compared to the pre-test. The two methods of counseling applied were significantly different. Besides, solution-oriented counseling method was more effective in reducing marital incompatibility than Bowen systemic counseling method. Similarly, the results of Duncan's analysis revealed that there was no significant difference between Bowen's control group and systematic counseling in both stages in reducing marital boredom of discordant females. That is to say, in the post-test, the scores did not show a significant decrease compared to the pre-test. On the other hand, there was a significant difference between the two groups, control with solution-oriented counseling in both stages in reducing marital boredom of discordant females. In other words, in the post-test, the scores revealed a significant decrease compared to the pre-test. There was no significant difference between the two methods of counseling.

4. Discussion

The present study was conducted to compare the effectiveness of Bowen systematic and solution-focused counseling in reducing the divorce risk, burnout, and marital discord among discordant women. The results showed that solution-focused therapy was more effective than Bowen systematic counseling in reducing the divorce risk, burnout and marital discord. There was no research background comparing the effectiveness of Bowen systematic therapy with solution-focused therapy. Nevertheless, separate studies stressed the effectiveness of solution-focused counseling method (Shahi & Ouji Nejad, 2014; Dastbaz et al., 2014; Sehat et al., 2014; Hosseini et al., 2013) and Bowen systematic method (Karkhane et al., 2015; Hashemi et al., 2014; Asadi, 2014; Nilab, 2014; Bilge & Engin, 2016; Smith & Macduff, 2017; Sarvi & ghazi, 2016) on similar variables.

To explain the results of the present study, it can be said that in solution-focused counseling method, the therapist focuses on present time and ask the advisees to explore their present life and find exceptions, imagine if something magic happens, what would be their ideal life; in some way, they would realize their desires and wishes in the present time and, accordingly, they would find solutions to the problem by themselves. On the other hand, it can be said that in solution-focused counseling method, the gradual discovery of exceptions in life can induce hope in advisees to see they are approaching a better future (Pichot, 2007). In counseling sessions, because of the technique of exception question, advisees could remember moments that they did not have any problems with their spouse resulted

from marital relationship; if any, the severity of these problems was very low, extracting these problem-free moments allowing the them to realize how was their marital relationships in those situations and what they were doing, so that they treat each other similarly at present. In solution-focused counseling method due to scaling questions, the therapist asks the advisees to identify the degree of their problems based on a rating scale of 1 to 10. These questions help the advisees to determine the progress or failure of a particular issue outside or inside the counseling session (Lethem, 2002). Spouses often respond to each other without thinking and insist on their behavior without achieving desired results. Solution-focused therapists help spouses to stop blaming one another and put emphasis on understanding each other; they also change useless patterns and reach a better balance (Jenny Steele, 1997). In addition to exceptions and scaling questions, miracle question is another intervention question used by solution-focused therapists. Miracle question help to find information about the advisees' view about the future or look for a solution to solve the problem. Solution-focused therapist asks the advisees whether a miracle happens today and your problem is solved, what will you do differently; How do you recognize that your problem has been solved? Using these questions help the advisees to find a different way to look at their problems and can be an important step in the change process (De Castro & Gattermann, 2008). In the therapy sessions, when miracle question was used for the advisees who were disappointed with their lives, spouse as well as the future of their marriage, they were told to imagine if suddenly a miracle happened and all problems related to their spouses ended, then what would happen,

what changes they would realize, and how they recognized that their problems were over? This technique helped the advisees to imagine a different life where they no longer had a problem with their spouses, it created a good imagination in their minds and, consequently, they became more hopeful to their own life. To explain the obtained results, it can be added that in counseling sessions when the advisees were asked questions using admiration technique to admire any positive behavior of their spouses, although a slight one, and to put emphasis on positive points of their spouses, they were able to improve their emotional communication with their life partner by admiring their spouses, and, thus, establish a better relationship with them (Nazari et al., 2015); accordingly, the divorce risk and its related factors such as burnout and marital discord were reduced. In addition, regarding the reason for lower success of Bowen systematic method in reducing divorce risk, burnout, and marital discord, it can be argued that since this counseling method concentrates more on the past, when the advisee is explained that the reason for his or her current behavior derives from his or her past, it may cause a mental issue for the advisee. However, both of these methods can be used in a specific situation and produce a desired outcome. One of the limitations of the present study was the use of self-report scale (questionnaire) to measure dependent variables. Although the tools used in this study had a good validity and reliability, responses might be partially affected by social desirability or the subjects' condition at the time of answering the questions. The follow-up test was not used due to the time limit; therefore, it is recommended the other researchers use other tools such as interviews and observations in future

studies for data collection and follow-up periods should be considered. Correspondingly, since counseling methods and interventions that are conducted on families are more effective when they are performed in a multidimensional mode, it is suggested that subsequent researchers provide the context of support and continuity of the intended counseling changes by performing simultaneous counseling with the spouse of the advisees.

5. Conclusion

This study provided empirical evidence for the more effectiveness solution-oriented counseling method. Therefore, psychologists and family therapists can benefit from this method to decrease the risk of divorce, boredom and marital incompatibility in discordant females.

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