Research Paper:: The Effect of the Parent-Child Relationship Enrichment Training Package With An Emphasis on the Internet Use: A Mixed Methods Approach

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ABSTRACT

Objective: In the current world, one of the parent-adolescent communication challenges is overusing the Internet and digital devices. The present study aimed to examine the effectiveness of the parent-child relationship enrichment training package with an emphasis on Internet use in parents and their adolescent daughters.

Methods: This study was conducted using the exploratory sequential mixed methods design. The research population consisted of parents and their female adolescent children studying in the junior secondary school in District 11 of Tehran City, Iran, in 2020. In the qualitative phase of the study, 15 parents were selected using the purposive sampling method, and then semi-structured interviews were held with them. The data collected from the interviews were analyzed using Strauss and Corbin's (2014) grounded-theory approach to extract related categories and subcategories. Afterward, the parent-child relationship enrichment training package was developed with an emphasis on Internet use. The participants in the intervention group received the training for twelve 1.5 hour sessions. The collected data were analyzed using the multivariate analysis of covariance in SPSS v. 21.

Results: The validation results showed that the parent-child relationship enrichment training package was effective in promoting media literacy (F=310.972; P<0.05), improving the mother-child relationship (F=57.76; P<0.05), improving the father-child relationship (F=1503.863; P<0.05), and reducing the problematic use of the Internet in female adolescents (F=402.084; P<0.05).

Conclusion: The parent-child enrichment education intervention with emphasis on Internet use was designed to fit the context and lifestyle of female adolescents studying in District 11 of Tehran. It can help parents reduce adolescent-parent conflicts and improve the quality of adolescent-parent interaction.

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Highlights

● The parent-child relationship is one of the most fundamental emotional bonds between human beings. The family grows through this bond. However, this bond is affected by parental psychological conditions, social change, and technology.

● Constant access to the Internet and the use of digital devices by children have increased parents' concerns. They are apprehensive because they have no control over the content and the amount of this use.

● This study explores their concerns and fears about using the Internet in the Iranian community by interviewing parents of adolescents. Also, by analyzing the interviews, the researchers tried to design an educational package to enrich the parent-child relationship.

● The results indicated that the parent-child relationship enrichment training package effectively increased the parent-child relationship in adolescents.

Plain Language Summary

Parent-child relationship enrichment training programs help parents to learn the best ways to relate with their children. Nowadays, the parent-child bond is influenced by the Internet and digital devices. Adolescents spend less time with their parents. The present research revealed that parents are concerned about the use of the Internet by adolescents. In addition, the researchers designed an educational package to enrich the parent-child relationship.

1. Introduction

Adolescence is a sensitive and particular period, very different from the periods before and after it. Sociologists and psychologists consider this period a very vital one in the life of every human being. Family as the first place in which a person starts living is of great importance. The family environment and the way parents communicate and respond to their children play a major role. Besides, the parent-child interaction, family structure, common parent-child experiences, role division among family members, power relations in the family, coping and problem-solving methods, training and behavior control strategies, family support, and family functioning all affect adolescents (Shahbazi, , Khoda-bakhshi-Koolaee, Davodi, & Heidari, 2020).

Challenges between parents and their children are a rapidly growing phenomenon in Iran. Adolescents spend less time with their parents. The adolescent-parent relationship is often associated with significant anxiety at this critical stage of development. Negative parent-adolescent relationships disrupt family functioning and emotional bonds between family members, lead to problematic sibling relationships and increase conflicts between family members (Sanagoei, Etemadi, Sayyed Ahmadi, & Jazayeri, 2016). The emergence of Information and Communication Technology (ICT) has transformed all aspects of human life, and all daily affairs have undergone significant qualitative and quantitative changes (Boor Boor, Khodabakhshi-Koolaee, & Falsafinejad, 2021).

In the present era, the world is moving towards invisible horizons under the influence of information explosion, technological achievements, and the breaking of cultural boundaries. Globalization and communication technologies and mass media have turned the world into a small village, and the cultures, values, norms, and customs of societies have undergone dramatic changes. One area that has experienced significant changes under the influence of globalization is the family with its changing functions (Carvalho, Francisco, & Relvas, 2015). Research has shown that ICT has created qualitative changes in family functioning, made new interaction modes, and rearranged family communication patterns (Stafford and Hillyer, 2012). Given the speed of technological advancement, its impact on life experiences has become an interesting topic for research. However, the research on its effects on family dynamics is still in its infancy (Appel, Holtz, Stiglbauer, & Batinic, 2012).

Parents have always had many concerns about Internet use, which has overwhelmed their lives. The growing impact of the Internet on family functioning, especially parent-child interaction, is remarkably uncontrollable (Verkuyl and Hughes, 2019).

The positive and negative aspects of the virtual world are obvious for everyone. However, one of the concerns of parents and adolescents today is the lack of proper familiarity and media literacy. In general, parents are concerned about the psychological, social, cultural, moral, and economic factors that unintentionally threaten adolescents. In general, people are afraid of unknown things and often show this fear as a threat in their relationships. The differences and conflicts between parents and adolescents are also because of the improper knowledge and understanding of the virtual world. This research seeks to explore the opportunities and threats of the virtual world from the perspective of Iranian parents with a mixed methods approach. Also, we do not know to what extent Iranian parents consider this environment and how the virtual world has fueled the communication challenges of parents and their daughters.

The study aims to identify the parent-child communication challenges in Internet use. It also seeks to develop a parent-child relationship enrichment training program. Implementing this program can promote skills needed to manage Internet use and improve media literacy. Besides, the insights from this study can be used by all institutions, organizations, and ultimately families who seek to prevent harms caused by cyberspace and communication conflicts between parents and children over Internet use.

2. Materials and Methods

This study was conducted using the exploratory sequential mixed methods design (Corbin and Strauss, 2014). To this aim, the research procedure began by collecting the qualitative data followed by the quantitative data. Furthermore, conventional qualitative content analysis was used to identify the components needed for developing the training program, and a quasi-experimental method with a pretest-posttest design and a control group was employed to assess the effectiveness of the devised program. Figure 1 shows the procedure taken to conduct the study. In the quasi-experimental phase, 32 adolescents were selected through a simple random sampling method and randomly assigned to the control and intervention groups, each with 16 members Caplan (2010). The data were collected using the media literacy questionnaire, the generalized and problematic internet use scale, and the parent-child relationship survey (Fine et al. 1985).

Phase 1: The qualitative phase

In the qualitative phase, the participants were selected using the purposive sampling method. They were the parents of female adolescent students studying in the junior secondary school in District 11 of Tehran in the 2019-2020 academic year. The qualitative data were collected and saturated using semi-structured interviews with 15 parents. They were asked questions such as: "What difficulties do you have with your child?" or "To what extent do you think your problems with your child relate to internet use?" The questions were developed based on empirical studies in the literature. The validity of the questions was already checked by several subject-matter experts to ensure the absence of bias or directionality, and the questions were revised based on the received feedback. Then, the primary categories and subcategories were extracted using Strauss and Corbin's (2014) analytical method, as shown in Table 1.

The interviews were conducted in the counseling center so that interviewees could speak with confidence. The interviews were conducted in person before the COVID-19 outbreak in Iran. Each interview lasted 45 to 90 minutes and the average interview time was about 48 minutes. In the end, the interviewees appreciated their cooperation. After completing the interviews, they were transcribed verbatim. As a precaution, all transcripts were copied so that the analysis process could be done on the copies. This action ensured that the analysis process could be repeated if there was any problem with data analysis. The qualitative phase of the study was conducted in the 2019-2020 academic year. The validity of the questions asked in the interview was reviewed and confirmed by the experts in the field. However, other questions were asked during the interviews if necessary to enrich the data. To ensure the credibility of the findings, after analyzing each interview, the researcher referred to the participants again and asked them to check the accuracy of the content.

Furthermore, to assess the transferability of the findings to similar situations and groups, the selected participants were the parents of adolescent children of different ages and in various high schools. To ensure the dependability of the research procedure, the findings were peer-checked and confirmed by subject-matter experts. Finally, to ensure the confirmability of the results, the researchers tried not to involve their assumptions in data collection and analysis. Informed consent was obtained from the participants for taking part in and recording the interviews. The participants were told that their participation was voluntary and they could leave the study at any time. They were also ensured that their identity information (names, phone numbers, and addresses) would be confidential. Moreover, after transcribing the interviews, the participants' voice-recorded files were kept in a safe place.
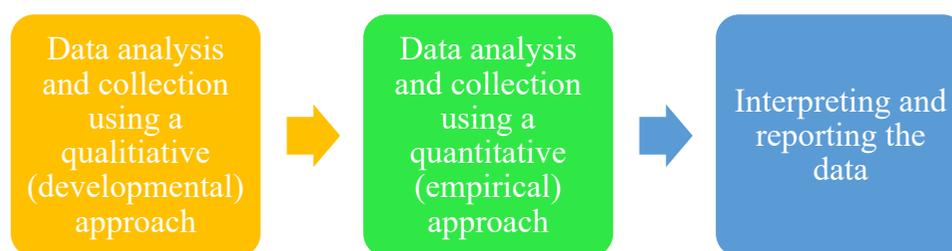
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Figure 1. The seps taken to conduct the study

Phase 2: The quantitative phase

The research population included all female students studying in the junior secondary school in District 11 of Tehran in the 2019-2020 academic year. In the second sampling stage, 60 persons willing to attend the study were clinically interviewed, and 32 persons who met the inclusion criteria were selected using a simple random sampling method and were assigned to either control or intervention groups (each with 16 members). One additional person was placed in each group due to the possible drop out of some participants. Then, a training program was implemented for the members of the intervention group.

Phase 3: The mixed quantitative-qualitative phase

This study was conducted using exploratory sequential mixed methods design in two stages:

Linking: After completing the qualitative phase, analyzing the data using conventional qualitative content analysis, and extracting the categories, the training program was developed to be implemented in the second quantitative phase. Then, 32 participants were selected in the quantitative phase and assigned to the intervention and control groups (the quantitative phase).

Integration: Upon completing the qualitative and quantitative phases, a meta-inferential strategy was used to show how the qualitative data explained the quantitative data.

The data in the quantitative phase were collected using Shahin's media literacy questionnaire. It consists of 29 items scored on a 5-point Likert scale from "very high" to "very low". The questionnaire targeted the five dimensions of goal-oriented and more selective use of messages (questions 1–4), understanding how the media works (questions 5–11), evaluation of media messages (questions 12–19), the combination of media messages (questions 20–25), and summarizing media messages (questions 26–29). The test validity was confirmed by experts in the field of media, communication, and library. The reliability was calculated using the Cronbach

α in the first to fifth dimensions, respectively, as 0.813, 0.899, 0.909, 0.926, 0.773, and totally, 0.971 (Akbarinejad, Soleymani, & Shahrzadi, 2017). The Persian version of the inventory was administered to the participants in this study, and its reliability was reported to be 0.95 using the Cronbach α coefficient.

The Parent-Child Relationship Survey (PCRS) was developed by Fine, Moreland, and Schwebel (1985) to assess the quality of the parent-child relationship. The scale contains 24 items that are scored in a range of 1 to 7. This 24-item tool measures young people's perceptions of their relationship with their parents. It measures positive affection, irritation/role confusion, identification, and communication. The survey is divided into two subscales, one assessing "relationship with mother" and the other measuring "relationship with father". Both scales are the same, except that the words "mother" and "father" are exchanged. However, different factor loads have been reported for the two scales.

The father-child relationship scale had an α coefficient values of 0.89 to 0.94 for the subscales, and the mother-child relationship scale had an α coefficient values of 0.61 to 0.94 for the subscales. The α coefficient for the whole instrument was equal to 0.96, showing its excellent internal consistency. The items in PCRS can be easily scored. Negatively worded items (9, 13, 14) are scored reversely. Then, the sum of scores of individual items is calculated and divided by the number of items for each factor to obtain the mean score of the subscale. The total score of the survey is the sum of the mean scores of the subscales (Fine et al. 1985). The content validity of the scale was assessed and confirmed for use in Iran, and its reliability was assessed through the Cronbach coefficient as 0.91 for the Persian version of the scale (Koolaee, Lor, H. S., Soleimani, & Rahmatizadeh, 2014).

The third instrument used in the study was the generalized and problematic internet use scale. It was developed by Caplan (2002) and then revised in 2010. It is a valuable tool to assess the psychological harm caused

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by excessive Internet use from various angles. This scale has been translated into German, Italian, Portuguese, and Persian. The scale measures 5 areas related to different aspects of the psychological harm: the preference for online social interactions, regulating negative mood states, preoccupation, compulsive Internet use, and negative consequences. Each area is measured using 3 items. Thus, the scale has a total of 15 items scored on a 7-point Likert scale. Therefore, the lowest and highest scores obtained for each item are 1 and 7, and the lowest and highest scores on the whole scale are 51 and 105, respectively.

The severity of the harm caused by the problematic use of the Internet is directly related to the score obtained. Therefore, the higher the score, the more severe the harm. A score of 15 to 45 is normal, a score of 46 to 65 shows mild harm, a score of 66 to 85 indicates moderate harm, and a score of 86 to 105 shows severe harm. The reliability of the scale was measured using the Cronbach α coefficient, and the corresponding values for each of the five areas and also the whole scale were estimated and reported. The Cronbach α coefficients equal to 0.7 or higher were considered the minimum score to confirm the reliability of the scale. The validity of the scale was assessed based on the content validity ratio. The validity of 10 items was 100%, the validity of 3 items was 08%, the validity of one item was 40%, and the validity of one item was 0. The total validity of the scale was 85.3%. The reliability values for preference for online social interactions, regulating negative mood states, preoccupation, compulsive Internet use, and negative consequences were 87.6%, 91.1%, 89.8%, 90.8%, and 86.2%, respectively. The overall reliability of the scale was estimated at 92.5% (Caplan, 2002; 2010). This scale was assessed and confirmed for use in Iran, and the present study and its reliability were assessed through the Cronbach coefficient as equal to 0.88.

Finally, a 12-session training program to enrich the parent-child relationship was developed following the findings of the qualitative phase of the study and the parents and children's needs. The developed model was reviewed by several university professors in the fields of psychology, counseling, psychiatry, and psychometrics and was implemented after their confirmation. For the quantitative phase of the study, two informed consent forms were signed by the students and their parents, one copy was delivered to the parents, and the researcher kept the other copy.

As with the qualitative phase, the researcher talked to the principals of the target schools and provided some information about the study's objectives and its contributions to attract their cooperation. To ensure that the training program did not interfere with the student's weekly schedule, the day and time of the training sessions were chosen upon the principals' agreement so that no student would be absent from important classes. Given the COVID-19 outbreak and the closure of the schools, the training course was held online and in the BigBlueButton space during non-school hours. The same training sessions were held for the students in the control group at the end of the study and following the completion of the questionnaires after the intervention.

To comply with ethical considerations, the participants were assured that their data would be kept confidential. Besides, this research project was registered under the code of ethics ID IR.IAU.SRB.REC.1399.058. The Kolmogorov-Smirnov test was used to check the normality of the data and the results showed the normal distribution of the data for the auxiliary variables. Moreover, the value of Levene's test was not significant for the variables of harmful Internet use, media literacy, the father-child relationship, and the mother-child relationship (P>0.05). To assess the effectiveness of the training program, the questionnaires were re-administered to the participants in the intervention and control groups after the intervention. Finally, the collected data were analyzed using multivariate Analysis of Covariance (ANCOVA) with SPSS v. 21.

3. Results

Phase 1: The qualitative phase

In the qualitative phase and after extracting the categories, the related themes were identified using the conventional qualitative content analysis method (Table 1). Afterward, the research model (Table 2) was developed based on the content presented in Table 1, literature review, and the instructions provided in the training sessions for enriching the relationship between parents and children.

Phase 2: The quantitative phase

Table 3 presents the mean and standard deviation of media literacy, parent-child relationship, and the Internet problematic use.

Phase 3: The mixed quantitative-qualitative phase

The multivariate Analysis of Covariance (ANCOVA) was run to investigate the effectiveness of the training program on media literacy, parent-child relationship, and the Internet problematic use (Table 4). The results showed a significant difference between the intervention and con-

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Table 1. Main categories, subcategories, and meaning units

Main Categories	Subcategories	Meaning Units
Cyberspace opportunities	Education/research	Using the Internet for research and study
	Education/research	Art education
	Quick access to information	Easy access to useful contents
	Education/research	Scientific content for research activities
	Online shopping/registration	Online shopping and registration are easier
	Online shopping/registration	Less time-consuming
	Education/research	Fast communication with the world and access to up-to-date scientific content
	Online shopping/registration	Opportunities such as online shopping, online businesses, and sharing useful information
	Education/research	Tutorials for exams and solving exercises and educational clips and games
	Education/research	Suitable useful scientific sites
	Education/research	Access to scientific materials around the world
	Online shopping/registration	Online shopping
	Education/research	Scientific and artistic websites
	Quick access to information	Answering the questions
	Education/research	Access to educational videos and clips
	Online shopping/registration	Applications like Snapp
	Education/research	Use of encyclopedias and useful scientific websites
	Education/research	Use of scientific sites to improve scientific knowledge and skills
	Quick access to information	Useful social art and culinary channels
	Quick access to information	Opportunities such as distance education, useful scientific materials from around the world
	Education/research	Sample exam questions posted in channels
Cyberspace coping strategies	Study and leisure	Filling the children's free time more with exercise and reading
	Using consulting services	Seeking help from a counselor
	Study and leisure	Curriculum, scientific and educational programs, online courses
	Improving communication skills	Talking, encouraging, and listening well to the child
	Improving communication skills	Talking and listening
	Improving communication skills	Informing the adolescent and then allowing him/her to use the Internet
	Improving communication skills	The need for parental supervision
	Improving communication skills	Talking and explaining
Problematic internet use from the perspective of parents	Inappropriate friendships	Uncontrollable and unrecognizable friendships, harmful and offensive thoughts

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Main Categories	Subcategories	Meaning Units
	Academic problems	Academic failure
	Isolation	Isolation and lack of proper emotional connection with family members
	Familiarity with foreign culture	Familiarity with foreign culture
	Waste of useful time	Falling behind assignments and daily tasks by spending too much time on the Internet
	Familiarity with foreign culture	Watching the content not fitting very well with Iranian values and culture
	Waste of useful time	Chatting with friends for a long time and using offensive words
	Academic problems	Children are not taught how to use the Internet properly
	Precocious puberty	Surfing the net causes precocious physical and sexual puberty
	Waste of useful time	Adolescents are very emotional and do not use their intellect much
	Academic problems	Falling behind school assignments
	Waste of useful time	Children spending time in vain
	Sexual problems/ precocious puberty	Relationship with the opposite sex
	Wasting time	Using unknown programs and applications
	Familiarity with foreign culture	Playing inappropriate and violent games not fitting Iranian values and culture
	Waste of useful time	Sitting in a corner and surfing the net does not allow children to foster their creativity and thinking
Problematic internet use from the perspective of parents	Isolation	Perceiving a significant generation gap between the child and parents
	Inappropriate friendships	Communication issues, choosing friends
	Encouraging impulsive online shopping	Online and undesirable shopping
	Encouraging impulsive online shopping	Buying unnecessary items just under the influence of the Internet ads
	Academic problems	Decreased creativity
	Sexual problems/precocious puberty	Sexually-offensive content
	Sexual problems/precocious puberty	High-risk relationships with other children
	Cybernetic deceptions	Cybernetic deceptions and lies
	Cybernetic deceptions	Unfortunately, teenagers are soon fooled by the glamor
	Sexual problems/precocious puberty	Being tempted to associate with people of opposite sex introduced by themselves or friends
	Encouraging impulsive online shopping	The temptation to buy everything that is advertised
	Sexual problems/precocious puberty	Watching movies and content online sometimes causes children to miss their school assignments
	Sexual problems/precocious puberty	Install sexually offensive movies and games that have a negative impact
	Influence of peer groups	Suicide/self-harm
	Academic failure	Failure to pay attention to personal and educational activities
	Sexual problems/precocious puberty	Destructive friendships, high-risk and anti-value behaviors, friendships with people of the opposite sex, sexual issues
	Familiarity with foreign culture	Failure to pay attention to religious issues, praying

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Main Categories	Subcategories	Meaning Units
Problematic internet use from the perspective of parents	Influence of peer groups	Chatting with strangers not known by parents
	Influence of peer groups	Confusion and anxiety about friendships with frequent sulking and reconciliation
	Familiarity with foreign culture	Lack of attention to moral issues
	Influence of peer groups	Tendency to use drugs
	Cybernetic deceptions	Scams and cybercrime
	Influence of peer groups	High-risk behaviors
	Influence of peer groups	Learning to get nervous and irritable
	Familiarity with foreign culture	Attempting dangerous challenges
	Sexual problems/precocious puberty	Lack of privacy
	Familiarity with foreign culture	Familiarity with anti-cultural issues
	Sexual problems/precocious puberty	Sexual issues and friendship with the opposite sex, homosexuality
Communication problems with the child	Communication problems with the child	The child does not have a good relationship with the parents but listens to them as he/she is afraid of them. He/she usually has no contact with anyone and prefers to sit alone in a corner and play with the phone
	Ignoring the people around	Inattention to others, inattention to one's nutrition, lack of personal hygiene, feeling stress and anxiety when using the phone
	Ignoring the people around	The child says he/she would like to be alone at home
	Engaging in immoral behaviors	Wearing unsuitable clothing
	Engaging in immoral behaviors	Engaging in unethical issues of delinquency
	Engaging in immoral behaviors	Sharing and seeing pictures, movies, and video clips with sexually inappropriate content
	Disrespect to parents	The child has changed a lot because of using the mobile phone and often uses offensive words
	Disrespect to parents	Not respecting the parents
	Disrespect to parents	Ignoring parental advice and instructions
	Disrespect to parents	Ignoring parental demands
	Disrespect to parents	Not listening to parental advice and not behaving according to their expectations

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tro l groups in improving media literacy (F=310.972; P<0 .05), improving the mother-child relationship (F= 57.76; P<0.05), improving the father-child relation-shi p (F=1503.863; P<0.05), and reducing the Internet problematic use (F=402.084; P<0.05). It was also shown that the training intervention improved media literacy, the mot her-child relationship, the father-child relationship, and reduced the Internet problematic use by 91%, 66%, 83%, and 93%, showing the effectiveness of the training program to improve the parent-child relationship.

4. Discussion

The present study results showed that the training intervention was effective in improving media literacy, enhancing the parent-child relationship, and reducing the Internet problematic use among the female adolescents in the intervention group compared to the participants in the control group after the intervention. Thus, parent-adolescent relationship improvement training was effective. The study findings on the effectiveness of the training program in promoting media literacy were consistent with the results of the previous studies (Salehi and Kermani Bradaran, 2016). The parent-child relationship

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Table 2. A summary of the training sessions

Sessions	Participants	Contents
1	Parents and female children	Introducing group members and establishing rapport with them through eye contact and active listening, empathy, building trust, introducing group members to each other, explaining group rules to the members and explaining ambiguities, familiarity with the training process and program, administering the questionnaires
2	Parents and female children	Introducing the changes and developments in adolescence, explaining the physical, emotional, and cognitive changes to improve further the relationship between parents and children with a focus on communication problems with the child
3	Parents and female children	Teaching communication skills and the effects of proper verbal communication, the role of words, effective two-way (win-win) discourse with a focus on communication problems with the child, and strategies to deal with the problematic Internet use
4	Parents and female children	Building empathy and mutual understanding in members, providing feedback on problem-solving skills training, and practicing how to use the skills to solve an imaginary problem with a focus on communication problems with the child
5	Parents and female children	Conflict management training and how to use conflict resolution strategies in an imaginary situation with a focus on communication problems with the child
6	Female children	Recognizing and managing anger and emotions with a focus on communication problems with the child
7	Female children	Media literacy training, entering the age of information media saturation, expanding a realistic view of the media with a focus on cyberspace opportunities and problems from the parent's point of view
8	Female children	Critical thinking skills training to identify appropriate content on the Internet with a focus on cybernetic opportunities
9	Female children	Training in Internet use management skills and familiarity with the opportunities and threats of online education and research with a focus on the Internet problematic use from the parents' point of views
10	Female children	Training in the skills of assertiveness and courage, which was the subject of cyberspace problems from the parents' point of views and communication problems with the child
11	Female children	Teaching academic skills (time management skills, effective planning, and study methods) with a focus on Internet addiction coping strategies
12	Female children	Summing up the discussions and results, evaluate the training sessions, re-administering the questionnaires

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enrichment training program has focused on the communication challenges of using the Internet and helped the participants raise their awareness and media literacy. This action improved their knowledge to produce and interpret messages with insight and knowledge and ultimately helped reduce their communication challenges. Furthermore, the parent-child relationship enrichment training intervention significantly improved this relationship in the participants in the intervention group compared to the control group, as indicated in the literature (Cacioppo et al., 2019).

Teaching effective communication between parents and children can significantly manage communication challenges between parents and adolescents and prevent the emergence of newer issues. The parent-child communication improvement model that focused on communication challenges in the proper use of the Internet helped the female adolescents and their parents improve their communication patterns and enhance parent-child interactions.

The results also indicated a significant difference between the intervention and control groups in terms of the

Internet problematic use as a control variable, implying a reduction in the Internet problematic use of the adolescents who attended the intervention program. Danet showed that the use of digital devices by children is a source of concern for 53.1% of parents, while 62.6% of parents consider that the use of information and communication technology in the home affects (positively or negatively) their relationship with their children (Danet, 2020). Kaur Hansaram indicated that Malaysian parents had concerns about using the Internet among their children. They reported the fear that the influence of foreign culture could impact their culture (Kaur Hansaram, 2020).

It seems that the development and implementation of the parent-child relationship enrichment training package that focused on improving the communication challenges in terms of Internet use and incorporated the necessary interventions for each component of the mother-daughter and father-daughter relationship and media literacy had a positive effect on reducing the problematic Internet use among the participants. In other words, when the intervention can simultaneously improve the

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Table 3. Descriptive statistics for the research variables

Variables		Mean±SD		P
		Control Group	Intervention Group	
Media literacy	Pre-intervention	53.9375±5.97181	54.1250±5.61991	0.928
	Post-intervention	58.1250±5.28993	82.0000±4.14729	0.000
Mother-child relationship	Pre-intervention	4.1927±0.33433	3.9375±0.34258	0.041
	Post-intervention	4.2448±0.24574	4.9635±0.26998	0.000
Father-child relationship	Pre-intervention	3.6536±0.28695	3.5703±0.23556	0.376
	Post-intervention	3.7604±0.28157	4.5417±0.19896	0.000
Internet problematic use	Pre-intervention	86.3750±6.11964	85.3125±6.62036	0.641
	Post-intervention	84.1875±4.13471	63.7500±5.03984	0.000

parent-child relationship and enhance media literacy, it can reduce the harms associated with Internet use.

One of the most critical limitations of this study was caused by the COVID-19 pandemic. Thus, the training sessions were held online, which led to newer challenges such as Internet disconnection, software problems, and the participants' concerns about the effectiveness of online training due to the lack of facilities (lack of up-to-date systems, high-speed Internet connection, etc.). Given the findings and limitations of this study, and since Iran has several subcultures, similar qualitative and quan-

titative studies can be conducted in these fields and other subcultures in Iran. Furthermore, as the participants in the present study were female adolescents, future studies can focus on other groups such as male adolescents.

5. Conclusion

The results showed that the parent-child relationship enrichment program was effective in improving media literacy, enhancing the parent-child relationship, and reducing the Internet problematic use among female adolescents. Therefore, this training program can be used to

Table 4. Results of the ANCOVA for the effectiveness of the training intervention on the research variables

Sources	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Media literacy	4522.854	1	4522.854	310.972	0.0001	0.916
Error	421.783	29	14.544			
Total	162318.000	32				
Mother-child relationship	3.890	1	3.890	57.760	0.0001	0.666
Error	1.953	29	0.067			
Total	684.479	32				
Father-child relationship	5.385	1	5.385	150.863	0.0001	0.839
Error	1.035	29	.036			
Total	558.063	32				
Problematic internet use	3119.397	1	3119.397	402.084	0.0001	0.933
Error	224.984	29	7.758			
Total	179063.000	32	4522.854			

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reduce the communication challenges between parents and female adolescents.

Ethical Considerations

Compliance with ethical guidelines

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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