



# The Effectiveness of Positive Psychological Interventions on Social Isolation of Girl Students During the COVID-19 Pandemic

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## Abstract

**Background:** Past studies have revealed that positive psychological intervention has a positive impact on social isolation.

**Objectives:** The purpose of this investigation was to examine the effect of positive psychological interventions on students' social isolation during the COVID-19 pandemic.

**Methods:** The research design of the study was quasi-experimental, comprising post-test and pre-test types with experimental and control groups. The population of this study included all female students of the 10th grade at Isfahan Conservatory during the academic year 2022 - 2023. The sample size consisted of 30 female students who were selected through convenience sampling and randomly assigned to two groups: the control group (15 students) and the experimental group (15 students). Eight sessions of positive psychological intervention were conducted with the experimental group, while the control group did not receive any intervention.

**Results:** The results of Fisher's Exact test and chi-square test did not reveal any significant difference between the two groups of fathers in terms of education level ( $P = 0.169$ ), and there was also no significant difference between the two groups of mothers in terms of education level ( $P = 0.715$ ). The mean scores of social isolation (control:  $50.00 \pm 7.44$ , intervention:  $30.00 \pm 7.60$ ) significantly decreased in the intervention group ( $P = 0.0001$ ), but there was no significant decrease in the control group ( $P = 0.45$ ). Accordingly, the pre-test mean scores of social isolation ( $P = 0.143$ ) did not show significant between-group differences, and the post-test mean scores of social isolation ( $P = 0.001$ ) in the intervention group were significantly lower than in the control group.

**Conclusions:** The positive psychological intervention had a significant effect on the students' social isolation in the experimental group during the COVID-19 pandemic, indicating that this intervention can be used to reduce the social isolation of students.

**Keywords:** Positive Psychological Interventions, Social Isolation, COVID-19 Pandemic

## 1. Background

"At the end of 2019, a new virus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), causing severe acute respiratory syndrome disease, spread globally from Wuhan, China. By the end of January 2020, according to the WHO, twenty countries were affected by the coronavirus disease. On February 11, 2020, the Director-General of the World Health Organization named the infectious disease as Covid-19" (1). In the beginning of 2020, education transitioned significantly to online methods worldwide due to limitations on face-to-face teaching interactions. The effects of quarantine and the coronavirus pandemic period have led to an increase in psychological issues among students, including anxiety, stress, depression, post-traumatic stress disorder, and

other psychological disorders (2). The coronavirus epidemic has become a crisis affecting the health, economy, and mental well-being of individuals, as well as the education infrastructure of nations. The UNESCO report (2020) has indicated that the education system in all countries has been impacted, leading to uncertainty in the educational process and the consequences of COVID-19 on students (3).

Positive psychology is a science that studies and examines better ways of living, along with the concepts and research findings, and interventions of this branch of science can lead people to more prosperous growth (4). There is ample evidence suggesting that reducing symptoms can increase life expectancy, according to Seligman's theory in 2011. Increasing enjoyment of

positive and enjoyable life experiences, strengthening skill connections, creating meaning in life, and supporting achievements can contribute to a better life. Despite widespread praise for interventions based on a positive approach, it can be said that one measure of well-being is considering a person's strengths: interventions based on positive psychology have been applied in a wide range of clinical and non-clinical samples of children and adults across various variables. Psychology and follow-up after treatment have been included in existing meta-analyses on interventions based on positive psychology. It can be noted that an average of 10 sessions during six weeks has been evaluated in multiple formats and contexts (5).

Evidence has shown that social relationships play an effective role in psychological health and well-being (6). Social isolation refers to the exclusion of social connection. This critical situation is often considered a major obstacle to attaining social well-being and a pertinent factor in understanding the poverty of communication and social support (7). While definitions and measurements of social isolation, loneliness, and related concepts lack transparency, House and colleagues identified the structures and processes through which social relationships influence health (6). Loneliness and social isolation are important distinguishing criteria for an individual's mental well-being in the community. Social isolation pertains to the size of the social network and the number of individuals with whom a person is connected in society, while loneliness is a subjective feeling (8). Social isolation can involve physical, social, and psychological separation or detachment of people from groups or individuals and from social assistance and support (9).

Previous studies have identified the linkage between social isolation and loneliness with depression, suicide, and personality disorders, although informal social support is more likely to improve psychotic symptoms (6). Studies on peer acceptance show that rejected children have increased externalization problems, but withdrawal is associated with subsequent symptoms of depression and anxiety. However, the relationship between isolation and subsequent psychopathology may not be simple (10). Forty to sixty percent of secondary school students suffer from social isolation due to a lack of activity in school programs, lack of social support, and lack of popularity among their peers, resulting in fewer positive psychological characteristics (11).

The importance of peer relationships for the psychological well-being of students and their academic performance has been proven (12). Loneliness and social isolation are often associated with each other, while the term loneliness refers to the individual's mental

feelings, social isolation has hundreds of sentences that can be defined (13). The WHO has recommended a close association between physical and mental performance with self-efficacy and social participation in society. Active participation can involve engagement in religious, sports, cultural, recreational, political, and voluntary activities. Social activities, including their positive aspects, enhance physical and mental well-being (14). The results indicate the association between loneliness and psychological disorders in children and adolescents. Loneliness and a period of being away from society and people can have the strongest relationship with depression, and there are also criteria. Loneliness and isolation are more associated with depression in girls and increased social anxiety in boys (15). Regarding interventions based on positive psychology, it can be said that an average of 10 sessions during six weeks has been evaluated in multiple formats and contexts (5). So far, the effectiveness of the positive psychology approach in social isolation has not been investigated extensively. Most research conducted in this field has focused on investigating schema therapy in reducing aggression and social anxiety in teenagers. Very few studies have been conducted regarding the effectiveness of positive psychology in reducing aggression and depression, which can be consequences of social isolation.

Lukacs (16) found in a study that the coronavirus disease caused discomfort to the general public, including students. After 4 - 6 weeks of quarantine, students experienced significant negative changes in physical function, connection with family and friends, education, financial status, perceived health, future outlook, and satisfaction with life. Research revealed that emotional intelligence is one of the important factors to reduce the consequences of social isolation during the crisis of Corona (17). Studies found that curbing academic stress during social isolation related to the coronavirus pandemic can be achieved with mindset and growth mindset as protective factors against the impact of loneliness of coronavirus outbreaks, which pose an epidemic challenge for psychological well-being. The positive psychology establishment of mindset and growth mindset may offer a solution to this challenge as both are related to psychological resilience. Also, the positive approach describes people's fundamental beliefs about the flexibility of emotional intelligence, resilience, and forgiveness (18). Findings of the diagnostic analysis led to a meaningful diagnostic function, according to which the components of school burnout and victimization had the highest discrimination power (19). Dependence on cyberspace is one of the major risk factors for social isolation among high school students and increases the risk of social isolation in teenagers (20). The results

indicate that the program for the positive development of adolescence increases the dimensions of psychological well-being in the experimental group compared to the control group (21). Teaching positive thinking skills increases the level of happiness and social adjustment of students (22). Teaching school-based positive psychology concepts is effective on the social and behavioral levels of academic well-being (11). Positive psychology improves and builds the capabilities of people and also fosters resilience, improves the quality of life, and creates a shield against the recurrence of symptoms (23). Students with high social skills have more positive thinking, whereas those with low social skills have less positive thinking (24). Kashyap (25) concluded that social isolation had a significant negative relationship with. Hall-Land (26) found that prolonged social isolation is a risk and protective factor. The risk of prolonged social isolation was related to prolonged isolation of psychological disorders. Hall-Land, Eisenberg, Christensen, and Nomark-Steiner (27) showed that feelings of social isolation can affect mental health in adolescents. The results showed that social isolation was significantly linked to an increasing risk of depression, suicide orientation, and low self-regard. Preserving factors impressed the association between social isolation and mental health.

## 2. Objectives

Based on previous research results, this study aims to investigate the effectiveness of positive psychological interventions for students' social isolation during the COVID-19 pandemic.

## 3. Methods

### 3.1. Study Design

The population of this study included all female students in the 10th grade of Isfahan Conservatory during the academic year 2022 - 2023. The research design of this study was quasi-experimental, comprising post-test and pre-test types with experimental and control groups. The population under investigation consisted of all female students aged 16 in the 10th grade at Isfahan Conservatory during the academic years 2020 - 2023. The sample size was determined based on the findings of a prior study, which indicated that the mean score of social isolation was  $40.60 \pm 6.16$  in the intervention group and  $53.80 \pm 8.97$  in the control group (28). Consequently, with a confidence level and power of 0.95, the sample size was calculated to be 9 participants per group. However, 15

participants were selected for each group to account for potential withdrawals and enhance the study's power.

$$n = \frac{\left(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta}\right)^2 (S_1^2 + S_2^2)}{\left(\bar{X}_1 - \bar{X}_2\right)^2} \quad (1)$$

$$= \frac{(1.96 + 1.64)^2 (6.16^2 + 8.97^2)}{(40.60 - 53.80)^2}$$

$$= 8.80$$

Eight sessions of positive psychological intervention were conducted with the experimental group, while the control group did not receive any intervention. One of the inclusion criteria was being a 10th-grade female student in a conservatory, while the exclusion criteria included not completing coursework and being absent for more than two sessions. The students were randomly assigned to either the experimental or control groups. A pre-test social isolation questionnaire was administered to both groups under identical conditions. Subsequently, the participants in the experimental group underwent training in positive psychological intervention during eight 90-minute group sessions (two sessions per week for one month), whereas no intervention was provided to the control group. Following the training, a post-test was administered to both groups.

The instruments used in the study included a questionnaire on demographic information and a social isolation questionnaire developed by Modaresiyazdi, Farahmand, and Afshani in 2016 (29). This tool comprises 18 items scored on a five-point Likert scale (1 = very little to 5 = very much), resulting in scores ranging from 18 to 90, with higher scores indicating greater social isolation. The content validity index (CVI) of this questionnaire was approved by experts (0.84), and the content validity ratio (CVR) was deemed suitable (0.64). The construct validity of the questionnaire, assessed using the factor analysis method, was acceptable (29). Modaresiyazdi, Farahmand, and Afshani (30) reported the reliability of this questionnaire, measured using Cronbach's alpha coefficient, as 0.72. In the current research, Cronbach's alpha coefficient was calculated to be 0.75.

### 3.2. Statistical Analysis

To analyze the data, Fisher's Exact test, chi-square test, and analysis of covariance (ANCOVA) were performed, and all analyses were conducted using IBM SPSS version 22.

### 3.3. Procedure

Positive group intervention sessions are presented in [Table 1](#) below.

**Table 1.** The Summary of Positive Group Intervention Session's Package is Presented in the Following Table

| Sessions | Targets   | Summary of the Content of the Sessions  |
|----------|---|---|
| First    | Making initial connections, initial explanations of positive psychology | Familiarity with the concept of positive thinking, familiarity with the group and its current regulations, familiarity with the next session's homework.  |
| Second   | Talk about positive feelings and emotions                               | Highlight the fact that people incorporate their thoughts and beliefs into their thoughts and attitudes, talk about aspects of positive thinking, and present homework for the next session.  |
| Third    | Teaching positive thinking<br>Providing positive thinking solutions     | Review homework from previous sessions, teach positive thinking by challenging negative thoughts, change mental imagery, use constructive language and modify beliefs, group discussion and homework assignments for next session announcement.   |
| Fourth   | Recognition and development of skills                                   | Review the assignment from the previous session, talk about how to write down skills and goals and plan to achieve them, and present the assignment for the next session.   |
| Fifth    | Cultivating meaning in life   | Repeat the previous session's tasks, teach positive thinking by teaching how to stop thinking, calm and change attitudes such as coercion, inhibition, and combativeness, and present the next session's tasks.   |
| Sixth    | Finding something positive in a negative situation                      | Reviewing the assignment of the previous session, asking the students to write a positive one-page introduction of themselves in the form of a story. The story you write should be a real story and show their best situation. Also, it should have a clear beginning, middle, and end, and its conclusion should be very strong. Presentation of the assignment for the next session.   |
| Seventh  | How to communicate correctly without arguing with family and friends    | Review the assignment from the previous session, visualize how they would like to function as a family, and focus on what people want to happen rather than what they want to stop (family description of happy times, abilities, and goals). By building positive relationships, noticing positive aspects of yourself and others, dealing with criticism, building good relationships with others, adopting a guilt-free attitude, and presenting tasks for the next session. Practice positive living. |
| Eighth   | Summary of sessions   | Review of previous sessions and feedback from subject, practice trusting in one's own abilities, appreciation and appreciation of subject, follow-up on exam.   |

#### 4. Results

The study sample comprised 30 female 10th-grade students, all aged 16 years old. The educational levels of their parents were as follows: One father in the experimental group and 5 fathers in the control group had education up to 9th grade or below, while 14 fathers in the experimental group and 10 fathers in the control group had a high school diploma. Additionally, 8 mothers in the experimental group and 7 mothers in the control group had education up to 9th grade or below, while 7 mothers in the experimental group and 8 mothers in the control group had a high school diploma.

In Table 2, the experiment and control groups were compared based on their parents' education levels. The results revealed that there is no significant difference between the two groups of fathers in terms of education level ( $P = 0.169$ ), and similarly, no significant difference emerged between the two groups of mothers in terms of education level ( $P = 0.715$ ).

The independent-sample *t*-test did not show any significant between-group difference regarding the pre-test mean score of social isolation ( $P = 0.143$ ). The paired-sample *t*-test indicated that the mean scores of social isolation significantly decreased in the intervention group ( $P = 0.0001$ ), while there was not any significant difference in the control group scores ( $P = 0.45$ ). The

post-test mean scores of social isolation in the intervention group were significantly lower compared to the control group ( $P = 0.001$ ) (Table 3).

#### 5. Discussion

According to the findings of this investigation, it can be stated that the study did not reveal any significant difference in the education levels of parents (father and mother) between the two groups.

The results of this study demonstrated that positive psychological intervention was effective in reducing the social isolation of students. The intervention program led to lower social isolation scores in the experimental group compared to the control group. These results are consistent with previous findings (16, 17, 19-22, 24, 25).

The adolescent years can be the most vulnerable period in a person's physiological, psychological, and social development. Adolescents are still searching for their identity, which may increase the risk of developmental disabilities associated with social isolation at this stage of life. Social isolation is positively and significantly associated with depressive symptoms (15). Loneliness and social isolation are main distinguishing criteria for the psycho-social well-being of individuals in the community. Social isolation is bound to the size of the social network, encompassing the individuals with whom

**Table 2.** Comparison of the Parents Education Between the Experiment and Control <sup>a</sup>

| Variables                 | Experiment | Control   | P-Value |
|---------------------------|------------|-----------|---------|
| <b>Father's education</b> |            |           | 0.169   |
| ≤ 9th grade               | 1 (6.7)    | 5 (33.3)  |         |
| ≥ diploma                 | 14 (93.3)  | 10 (66.7) |         |
| <b>Mother's education</b> |            |           | 0.715   |
| ≤ 9th grade               | 8 (53.3)   | 7 (46.7)  |         |
| ≥ diploma                 | 7 (46.7)   | 8 (53.3)  |         |

<sup>a</sup> Values are expressed as No. (%).

**Table 3.** Within- and Between-Group Comparisons Respecting the Mean Scores of Social <sup>a</sup>

| Outcomes and Groups         | Before       | After        | P-Value <sup>b</sup> | P-Value  |
|-----------------------------|--------------|--------------|----------------------|----------|
| <b>Social Isolation</b>     |              |              |                      | < 0.0001 |
| Control                     | 52.93 ± 9.15 | 50.00 ± 7.44 | 0.45                 |          |
| Intervention                | 57.73 ± 8.28 | 30.00 ± 7.60 | 0.0001               |          |
| <b>P-Value <sup>c</sup></b> | 0.143        | 0.0001       |                      |          |

<sup>a</sup> Values expressed as mean ± SD

<sup>b</sup> The results of the paired-sample *t*-test.

<sup>c</sup> The results of the independent-sample *t*-test.

a person is connected in the community, while loneliness is a subjective perception of social disconnection (8). The process of socialization includes skills, norms, values, thoughts, attitudes, and behaviors that children learn to acquire social skills in the family and school, but the important role of school in the socialization of students during these years is undeniable (24). Social isolation is a form of social failure because it entails a reduction or cessation of social relations in society. Social isolation in students is characterized by low interaction with classmates, students, and peers (20). There is no clarity about the precise definition and measurement of concepts such as social isolation, loneliness, and distance from society. Social isolation is related to loneliness, but they are not synonymous (6). People who are socially isolated or lonely express having lower degrees of social support. Social isolation in primary and secondary school students is related to mental health problems and psychological well-being. This highlights the significance of early intervention to prevent the prolonged effects of social isolation and underscores the need for investigation to study this phenomenon from a developmental viewpoint. It is not obvious how isolation arises and continues. Understanding the function of isolation in child growth can provide clues about how it affects adult health (11). During the corona epidemic, social isolation and loneliness led to increased anxiety and depression, and the majority of people suffered from social

isolation, which was particularly observed in children and teenagers with higher levels of anxiety, depression, and social isolation. Clinical services should be accompanied by prevention and early intervention to alleviate the burden of psychological problems during a crisis like the corona pandemic. According to research conducted during the corona period, despite quarantine and social distancing in schools, children and teenagers experienced mental health problems five times more than usual and needed mental health services, and the consequences of loneliness and social isolation inadvertently created conditions for potentially dangerous problems (15). Positive psychological interventions have had a significant effect on improving the quality of life for adolescents in previous research and studies. They have also increased happiness, meaning in life, life expectancy, optimism, mental and psychological well-being, better communication, autonomy, and self-improvement. They have reduced anger, violence, bullying, self-blame, depression, and anxiety, thus, they can be used to promote growth and improve the mental health of students (21). Positive psychology is an intervention that assumes that life is more than just having problems and solving them. It believes that humans can optimize their moral characteristics and traits, but acknowledges that a person without symptoms or disorders may or may not live well. Today, there is widespread acceptance of the need for more studies and research on the effectiveness of positive

psychology on social isolation, and by conducting various and extensive research, we can take steps to reduce the psychological burden of social isolation (6). It seems that positive psychology interventions and treatments for students can improve social isolation.

The teenage years are of special importance for students due to maturity and identity development. During this period, various psychological disorders such as anxiety, stress, depression, bullying, family problems, among others, can arise. Therefore, receiving positive feedback from others and possessing social competence can help mitigate the consequences of the risk of social isolation (24). Generally speaking, in modern and urbanized societies, individuals are expected to be more socially active than before, especially in social environments like schools and workplaces. For students, psychological training and interventions are crucial for preventing risky behaviors such as bullying, exploitation, and abuse (11). Additionally, the researcher offers suggestions for future research, including utilizing the influence of teachers, principals, and school assistants in student interactions. Conducting school-based positive psychology interventions at elementary, middle, and high school levels could be beneficial, as prevention is often more effective than treatment. Given the effectiveness of school-based positive psychology interventions, school managers and counselors should dedicate time to teaching positive psychology techniques alongside other subjects. Based on the findings of this study, it is recommended that health policymakers pay more attention to the critical teenage years, where individuals may experience traumatic behaviors such as social exclusion and communication difficulties with peers. Prevention methods should be implemented, and appropriate role models should be provided. Furthermore, given the confirmation of the hypothesis regarding the effectiveness of positive psychology on social isolation, health policymakers can collaborate with psychologists and counselors to address adolescents' psychological issues, especially during the COVID-19 pandemic. Additionally, other institutions such as municipalities, sports and youth organizations, and health centers can allocate resources to create spaces outside the school environment where teenagers can benefit from positive psychology techniques to reduce social isolation.

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### Footnotes

**Authors' Contribution:** Ziba Karimi designed the study and gathered the data and the manuscript was written with here. The data analysis was done by Bahman Kord Tamini and Sana Nourimoghadam reviewed the manuscript and eventually Bahman Kord Tamini submitted the manuscript.

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**Data Availability:** The dataset presented in the study is available on request from the corresponding author during submission or after publication.

**Ethical Approval:** We accepted/committed/considered all rights/rules/regulations of the Helsinki protocol in our study.

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