

Post-traumatic growth and perceived social support in young adolescents during the COVID-19 pandemic



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Abstract

Objectives: Pandemics would certainly have a negative impact on mental health. Positive modifications as well as negative alterations have been documented in earlier viral pandemic according to previous investigations. Teenagers face a variety of challenges during adolescence. Adolescents may become more concerned if this time coincides with other worries. This study aims to investigate the positive changes that occur in a young adolescent's life after COVID-19 pandemic, and to see how they relate to perceived social support.

Methods: This cross-sectional study was performed on adolescents who were randomly selected from high schools in Kerman, Iran 2020 during the COVID-19. The sample size was 108 and for sampling we used multi-stage random sampling at the end the data was analyzed by Pearson correlation test. Demographic information, the Multidimensional Scale of Perceived Social Support (MSPSS) and Posttraumatic Growth Inventory short form (PTGI-SF) were used to collect data. The data were subjected to descriptive and analytical statistical tests (Pearson correlation) using SPSS software version 24.

Results: Statistically a positive correlation was found between the PTG total score and young homeschooled adolescents, parents working remotely, income loss and COVID-19 experience. Moreover, during the COVID-19 pandemic, a positive association was found between perceived social support and PTG total scores in young adolescents. There were also substantial positive connections between the MSPSS subscales and the PTGI overall score.

Conclusion: Based on the findings, an overall growth in all areas of PTG was observed during the COVID-19 among young adolescents. Perceived social support scores have a positive and significant relationship with COVID-19 effects. In the crises we face throughout life, intimate family members and friends play a significant supporting role in adapting to these situations.

Keywords: Adolescence, COVID-19, SARS-COV-2, Post-traumatic growth, Social support

Introduction

We live in an era where the world and our surroundings are always changing, and the human activity and how people interact with their surroundings can be one of the key causes of these changes (1). Viruses can quickly adapt to and take advantage of these various environments. As a result, it should come as no surprise that viruses have been linked to recent cases of illness (2). The COVID-19 pandemic occurred in China, Wuhan province in late December 2019 (3). It then quickly spread throughout the world. Over 100 000 cases and deaths have been announced from around the world in just a few weeks,

and the numbers are fast rising (4).

On February 19, 2020, Iran reported the first confirming cases of COVID-19 infection (5). In Iran, quarantine procedures were not strictly enforced, although schools, shopping centers, and festivals were closed. People were also asked to stay at home and cancel travels that were not necessary. Due to the disruption of many occupations, this lethal outbreak, along with economic concerns, produced anxiety among the population (5).

As previous health crises have shown, today's worldwide pandemic will certainly have a negative impact on people's mental health. In Hong Kong in 2003, the SARS (severe



acute respiratory syndrome) outbreak, for example, was labeled a “mental health catastrophe,” with long-term psychiatric morbidities like PTSD and depression (6). Also, despite the fact that few studies have been conducted on the impact of the COVID-19 pandemic on a variety of developmental, and well-being outcomes in adolescents and young adolescents, evidence from around the world suggests that some, but not all, young people may experience increased mental health symptoms (7). In addition to the negative changes, previous studies have shown that positive changes and post-traumatic growth (PTG) have been observed due to the prevalence of SARS and Ebola. Rather than sacrifice, some survivors found strength in tragedy (8,9).

Some research has looked into how positive outcomes can arise in the face of adversity (10,11), but according to our findings, very few such studies have been done in Iran. PTG is described as a positive psychological transformation that develops because of overcoming severely traumatic life experiences (12). According to Tedeschi and Calhoun, PTG is divided into five domains including “personal strength, new opportunities, relating to others, life appreciation, and spiritual change are among them” (13).

A study by Hefferon et al investigated the relationship between PTG and disease and findings showed that disease survivors took more responsibility for their health, engaged in better activities, and reduced their engagement in high-risk behaviors (14).

Numerous studies have investigated the elements that influence PTG, and have found that “perceived social support” and “posttraumatic growth” are related factors (15,16). Zhou et al reported that social support predicts PTG (17). Tedeschi and Calhoun suggested a PTG model in which social support might assist traumatized people to acquire new schemas by allowing them to see things from other, more helpful, and adaptive viewpoints (18). These can lead people to reconstruct world meanings after trauma. Consequently, to cope with the stress of a traumatic experience and to achieve a healthy psychological transition, social support is required (19).

Social support can take the form of physical or psychological assistance, but it usually satisfies the emotional needs of the recipient (20). According to studies, the social support system is crucial in coping with stress caused by disease or traumatic events (15,16). Adolescence is a time of developmental crises, (21,22) and the stress of the COVID-19 pandemic heightens the severity of these difficulties. COVID-19 has been linked to higher tension, mood disorders, social alienation, isolation, and fewer possibilities for people to connect with others, according to research (23,24).

Although there is a paucity of research on the effect of perceived social support on PTG in adults, there have been few studies on young adolescents (19,25). The goal

of this research is to investigate the positive and negative changes that occur in a young adolescent’s life after a traumatic event such as a COVID-19 pandemic and to see how they relate to perceived social support. This study explores three research questions: (1) what is the degree of PTG in young adolescents during COVID-19? (2) what is the relationship between the effects of COVID-19, PTG, and social support perception? (3) what are the sources of perceived social support for young adolescents?

Methods

This descriptive cross-sectional study investigated the psychological adjustment of young adolescents during the COVID-19 pandemic. From December 2020 to January 2021, 108 young adolescents were randomly selected from multiple classes of two high schools in Kerman city (The Ethic approval Code is IR.KMU.REC.1400.206). We used multi-stage random sampling method to collect data. We divided all schools into two groups of girls and boys. Then one school was selected from each group by simple random method and students were selected by simple random method too. Young adolescents between the ages of 12 and 18 were included in the sample selection criteria. Participants were asked to take part in an online survey to choose the best way to deal with COVID-19. Skyroom online survey tools, which are hosted by schools, were used to construct online survey and data gathering platforms.

We sent the online consent form link to the parents through the school WhatsApp group and they were asked to completed it. Sampling criteria included young adolescents between the ages of 12 and 18 who were studying and did not drop out of school under COVID-19 conditions. The study included all young adolescents who met the eligibility requirements. Furthermore, neither the young adolescents nor their parents refused to take part in the study.

Online recruitment was done by using school-related social media, email, business advertising, and websites. Students and their parents were given all of the information regarding the objectives of the study, the voluntary nature of their involvement, and the anonymity of the data collected before deciding to participate.

Student demographics (age, gender), family size, COVID-19 pandemic effects (young homeschooled adolescents, parents working remotely, income loss), and COVID-19 experience (family or close friends contracted COVID-19) were all gathered.

The Multidimensional Scale of Perceived Social Support (MSPSS) is a quick scale that measures how people perceive social support from three different perspectives (26). Support from family, friends, and a specific person are among the subsets of the scale. MSPSS contains 12 items, each with a point value ranging from 1 to 7. The lowest score possible is 12 and the best conceivable score is

84. A higher score indicates more perceived social support (26). Bagherian-Sararoudi et al translated this scale into Persian language and examined its compatibility and validity. Cronbach's alpha was used in this investigation and it was reported 0.84 (27).

Posttraumatic growth was measured by using the Persian abbreviated version of the PTGI, which was validated by Amiri et al (28). There were 10 self-report questions on 5 subscales in this inventory (Relating to others, new possibilities, personal strength, spiritual change, appreciation of life). There are two elements in each subscale. For scored subscales, a 6-point Likert scale was used. In this investigation, the Cronbach's alpha of the overall scale was 0.88. (Relating to others=0.61, new possibilities=0.73, personal strength=0.72, spiritual change=0.77, and appreciation of life=0.63).

Data were statistically examined by using the SPSS statistical tool (version 24). Standard deviation (SD), frequency, and percentages were used to examine the characteristics of the sample. To examine the relationship between PTG and social support, Pearson correlation was used. The reliability of the questionnaire was determined using the Cronbach's alpha test. $P < 0.05$ was used as the statistical significance level.

Results

There were 50 girls and 58 boys in the study, ranging from 12 to 18 years, with the mean age of 12.9 (SD, 3.0) years. The majority of parents ($n=76$, 70.3 %) worked exclusively from home, almost half ($n=49$, 45.3 %) reported a decrease in income, the majority of young adolescents ($n=101$, 93.5%) were homeschooled, and 26 (24%) identified a family member with suspected or confirmed COVID-19 infection. The PTG had a total score of 38.2 ± 7.7 . Males had higher PTGI total scores than the females; the difference was statistically significant ($P < 0.00$) (Table 1). MSPSS received a total score of 54.89 (SD, 10.52). Families obtained the highest score regarding the subscales (28.69); friends received 18.23 and a special person received 9.59, respectively. Descriptive statistics (mean and standard deviation) are presented in Table 2.

Based on Pearson correlation (results in Table 3), statistically significant positive associations were discovered between the PTGI total score and young homeschooled adolescents, parents working remotely, income loss, and COVID-19 experience (Table 3).

During the COVID-19 pandemic, a link was discovered between perceived social support and PTG total scores in young adolescents. Meanwhile, strong positive connections between the MSPSS subscales and the PTG total score were discovered. The results are presented in Table 4.

Discussion

This study aimed to investigate PTG and social support

Table 1. Gender's *T* Test on Post-traumatic Growth

Gender	N	Mean	SD	<i>t</i>	<i>df</i>	<i>P</i> Value
Male	58	45.17	5.787	12.415	106	0.000
Female	50	30.15	6.785			

P value < 0.001

Table 2. Descriptive Statistics for the Study Variables in the Sample

		Total
		Mean ± SD
Total PTG		38.2 ± 7.7
PTG dimensions	Relating to others	7.1 ± 2.1
	New possibilities	7.8 ± 2.1
	Personal strength	7.7 ± 1.9
	Spiritual change	7.6 ± 2.1
	Appreciation of life	7.8 ± 1.9
		N (%)
Gender	Male	58 (53.7)
	Female	50 (46.3)
young homeschooled adolescents	Yes	101 (93.5)
	No	7 (6.5)
parents working remotely	Yes	76 (70.3)
	No	32 (29.7)
income loss	Yes	49 (45.3)
	No	59 (54.7)
COVID-19 experience	Yes	26 (24)
	No	82 (76)
		Mean ± SD
Total MSPSS		54.89 ± 10.52
MSPSS dimensions		
Family		Mean ± SD
My family really tries to help me		7.82 ± 0.18
I get the emotional help and support I need from my family		6.97 ± 0.22
I can talk about my problems with my family		6.86 ± 1.15
My family is willing to help me make decisions		7.04 ± 0.96
Friends		Mean ± SD
My friends really try to help me		5.00 ± 1.90
I can count on my friends when things go wrong		4.47 ± 1.12
I have friends with whom I can share my joys and sorrow		4.36 ± 0.98
I can talk about my problems with my friends		4.40 ± 2.08
Special person		Mean ± SD
There is a special person who is around when I am in need		2.05 ± 0.96
There is a special person with whom I can share my joys and sorrows		3.33 ± 0.24
		Mean ± SD
I have a special person who is a real source of comfort to me		2.02 ± 1.16
There is a special person in my life who cares about my feelings		2.19 ± 1.18

In PTG, Means based on a -6point Likert scale (0="I did not experience this change as a result of my crisis"; 5="I experienced this change to a very great degree").

IN MSPSS, Means based on a 7-point Likert scale (1 = "strongly disagree", 7 = "strongly agree").

in Iranian young adolescents during the COVID-19 pandemic. One of the questions of the present study was related to the PTG scores of young adolescents. Results showed a moderate level of total PTG. As mentioned, PTG is divided into five domains, which are personal strength, new opportunities, relating to others, life appreciation, and spiritual change. The PTG scores of these five domains were close to each other. This finding is in line with the results of a study highlighting that disease survivors took more responsibility for their health, engaged in better activities, and reduced their engagement in high-risk behaviors (14). This can improve all areas of PTG achieved during the COVID-19 pandemic among young adolescents.

Another finding of our study was that males ($n = 58$) had a higher PTG score than females ($n = 50$). This may be due to cultural differences. Naturally, the pandemic condition has affected the whole community, and people who are more involved with the community are more affected by this condition. According to the cultural conditions of our country, men are more involved in society and experience the effects of the epidemic more. However, due to the low number of samples, COVID-19 conditions, and differences between men and women, interpretations must be made with caution in this regard.

It was also found that PTG scores in young homeschooled adolescents, their parents working remotely, and people

with low income were higher. It seems that during the COVID-19, students were faced with many different challenges. Therefore, adaptation to the new situation as well as the application of new teaching methods can help students increase their strengths. Accordingly, COVID-19 condition can lead to increased appreciation of life, spiritual changes, and ultimately an increase in PTG score.

By the same token, PTG scores were higher for young adolescents who did not have COVID-19 in comparison to others who experienced COVID-19. This finding is consistent with previous studies (12,13). Growth occurs when post-traumatic individuals engage in a deliberate cognitive restructuring of reality and change their life narrative to better understand themselves, others, and thus the world. According to Tamiolaki and Kalaitzaki (29). As a result, stronger personal strength (personal growth), deeper relationships with others (social growth), and a greater appreciation of life may be the outcomes of cognitive reconstruction (spiritual growth) (11,15). These are all important and effective components in PTG.

In the present study, we examined four effects of COVID-19 including young homeschooled adolescents, parents working remotely, income loss and, COVID-19 experience. In general, PTG scores had a positive and significant relationship with COVID-19 effects; but among the PTG components, personal strength did not

Table 3. Relationship Between COVID-19 Effects and Other Variables

	Young homeschooled adolescents		Parents working remotely		Income loss		COVID-19 Experience	
	r^2	p value	r^2	p value	r^2	p value	r^2	p value
Posttraumatic Growth Inventory								
new opportunities	0.73*	0.00	0.69*	0.00	0.64*	0.00	0.49*	0.00
Personal strength	0.18	0.16	0.54	0.68	0.42*	0.00	0.50	0.18
relating to others	0.62*	0.00	0.78*	0.01	0.58*	0.00	0.62*	0.00
Appreciate life	0.71*	0.00	0.74*	0.00	0.66*	0.00	0.76*	0.00
spiritual change	0.81*	0.00	0.69*	0.00	0.56*	0.00	0.69*	0.00
Total score	0.80*	0.00	0.76*	0.00	0.69*	0.00	0.53*	0.00
Perceived social support								
Family	0.63*	0.01	0.55*	0.01	0.61	0.84	0.75*	0.00
Friends	0.59*	0.00	0.64*	0.00	0.57*	0.00	0.81*	0.00
Special person	0.61*	0.00	0.80*	0.00	0.54*	0.00	0.71*	0.00
Total score	0.72*	0.00	0.81*	0.00	0.66*	0.00	0.73*	0.00

Note: *Pearson correlation analysis * $P < 0.05$ is significant.

Table 4. Relationships Between PTG and Perceived Social Support

	new opportunities		Personal strength		relating to others		Appreciate life		spiritual change		Total score	
	r^2	p value	r^2	p value	r^2	p value	r^2	p value	r^2	p value	r^2	p value
Family	0.64*	0.00	0.49*	0.00	0.38*	0.00	0.66*	0.00	0.63*	0.00	0.54*	0.00
Friends	0.57*	0.00	0.56*	0.00	0.19	0.06	0.59*	0.00	0.68*	0.00	0.73*	0.00
Special person	0.58*	0.00	0.85*	0.00	0.32	0.07	0.43*	0.00	0.62*	0.00	0.42*	0.00
Total score	0.64*	0.00	0.69*	0.00	0.28*	0.00	0.57*	0.00	0.84*	0.00	0.88*	0.00

Note: *Pearson correlation analysis * $P < 0.05$ is significant.

have a positive and significant relationship with young homeschooled adolescents, parents working remotely, and COVID-19 experience. Personal strength is defined as positive characteristics in one's thoughts, feelings, and behaviors that enable individuals to thrive. It can be concluded that young homeschooled adolescents with parents working remotely may experience difficult conditions, but this pandemic did not have profound negative effects on their education or parents' occupation. During the lockdown period, students were able to continue their education by using online methods. Also, their parents worked remotely. Therefore, it can be concluded that when the three components of COVID-19 effects are examined alone with personal strength, it will not have a significant effect on thoughts, feelings/behavior, and ultimately cognitive reconstruction that leads to personal growth. However, when they are placed next to other components of PTG, they can have a positive and meaningful relationship.

To examine perceived social support, we used a scale that identified three areas including family, friends, and special person. Based on the results of Table 4, we also found that scores related to perceived social support had a positive and significant relationship with COVID-19 effects. This result is consistent with the findings of other studies (23,24). According to Tedeschi and Calhoun, social support assists people to reconstruct world meanings after trauma. In the crises we face throughout life, intimate family members and friends play a significant supporting role in adapting to these situations. The COVID-19 pandemic led to a situation that affected everyone. Quarantine also caused individuals to spend a great deal of time with family and close friends, and therefore the supportive role of family and friends in this difficult situation became very important. Various researches have confirmed the crucial role of the social support system in coping with traumatic events (12,13).

Income loss did not have a positive and significant relationship with family factor, a subset of perceived social support. The main function of the family as the first social environment is comprehensive support, including financial support for family members. When a family loses its income, all members are affected. Though, as mentioned, adolescence is a critical period of human development and these effects may be more severe for them. On the other hand, young adolescents spent a lot of time with their peers and friends before the start of COVID-19. But the pandemic and the closure of schools and quarantine caused a situation that most family members spent time together. This made family members more cautious and supportive of each other and less likely to experience the negative effects of low income.

Besides, we found that total PTG scores had a positive and significant relationship with total perceived social support scores. Our results are similar to several previous

studies (17,18). In the study conducted by Chen et al, it was found that young adolescents can build good interpersonal relationships by using social support (relationship between "relating to others in PTG" and social support) (19). Yet friends and the special person (the domains of MSPSS) did not have a positive and significant relationship with relating to others in PTG. It seems that young adolescents spend about a third of their day at school with their friends. Since the start of COVID-19 pandemic, all schools and universities were closed and classes were held virtually. In this regard, the quarantine caused young adolescents to spend less time with friends or other people especially their family.

Limitations and Strengths

This study has its own limitations. First, due to the COVID-19 pandemic, we could not interview students in person. Second, we gathered data during a short period of time. In this regard, our findings do not reflect long-term changes in the relationship between the perception of social support and PTG. On the other hand, despite the small sample size, our findings are interesting enough to suggest ideas for further research. This study can be the first to examine PTG and perceived social support in young adolescents during the COVID-19 pandemic. In addition, the results of this study make contributions to the theoretical and empirical understanding of posttraumatic consequences in young adolescents. Young adolescents may be aware of the negative consequences of trauma, but less cognizant of the negative outcomes after trauma. Family and school psychologists might help to increase PTG by providing awareness and social support.

Conclusion

This study found an overall growth in all areas of PTG during the COVID-19 pandemic among young adolescents. Perceived social support scores have a positive and significant relationship with the effects of COVID-19. In the crises we face throughout life, intimate family members and friends play a significant supporting role in adapting to these situations.

Authors' Contribution

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Competing Interests

None.

Ethical Approval

The Ethics Committee of Kerman University of Medical Sciences approved the protocol of the study (The Ethic Approval Code is IR.KMU.REC.1400.206).

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