

Resilience among Gifted Students: Are They Prone to Anxiety during Pandemic?

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Abstract

Background: Resilience is an important protective factor for psychological wellbeing. According to the previous literature, physical activity level and digital game playing are likely to impact anxiety level.

Objective: The present study aimed to identify the role of resilience, doing physical activity, and playing digital games on gifted children's anxiety levels during the Pandemic period in 2021 in Turkey.

Method: The sample consisted of 199 gifted students. Anxiety was measured using the Spielberger's State Anxiety Inventory. Resilience was measured using The Brief Resilience Scale. The physical activity and online/digital game-playing were measured using two open-ended questions.

Results: Results provided evidence that resilience had a strong negative association with anxiety among gifted students during the Pandemic period ($\beta = -.59, p < .001$). Doing physical activity was associated with anxiety among gifted boys ($\beta = -.16, p < .001$) but not girls. Finally, digital game playing was associated with anxiety among neither girls nor boys.

Conclusions: These results reflected the importance of resilience for anxiety.

Keywords: Gifted students, anxiety, resilience, physical activity, digital game playing

Introduction

COVID-19 Pandemic impacted people physically and psychologically worldwide (1). WHO (2) made some recommendations to prevent its spread. Schools were closed in many countries, including Turkey as part of the preventive measures. The Turkish government also imposed about three-month-long curfew for those under the age of 18 during this time. Thus, the students experienced a stunning life change.

Given that there are substantial changes in students' lives during the pandemic, anxiety is a highly common psychological response (3). Previous research has shed light on the linkages between Pandemic and anxiety in children and adolescents, but its impacts on gifted students need further investigation. Besides, it remains largely unknown which factors contribute to the anxiety level of gifted children. Thus, the present study addresses the factors that contribute to their anxiety level by focusing on personality characteristics (i.e., resilience) and daily routines (i.e., doing physical activity and digital game playing).

Anxiety among Gifted Children

The pandemic is expected to affect children's psychological health due to the threat of serious illnesses associated with the sudden emergence of the virus, staying away from school and friends, possible financial losses in some families, and illness among relatives or acquaintances. Children who experience these kinds of traumatic stress are likely to have increased existential anxieties and question life and death due to confronting death (4). Studies supported that COVID-19 Pandemic was associated with anxiety (Cao et al., 2020), among the most common mental health problems among adolescents (5, 6). Thus, gifted students would also be affected.

Gifted students may be at a higher risk for anxiety than their non-gifted peers in general (7). It is reported that they are among the risk group and likely to be vulnerable to anxiety (8). Their cognitive maturity and increased awareness were said to promote existential questions and associated anticipatory anxiety. Many studies have discussed the role of such characteristics as asynchronous development, perfectionism, and hypersensitivity for vulnerability to psychological health problems (9-13).

Research has also shown that gifted children have more fears than their typically developing peers (14). War, violence, death, and diseases are the most feared concepts for them. During the COVID-19 Pandemic, they would be at significant risk for anxiety. They may have concerns about the disease and death threat for both themselves and their families.

Anxiety among gifted students is controversial. Some studies showed that gifted children had lower anxiety scores than their non-gifted peers (15,16). For example, Guignard et al., (9) reported that gifted children display higher anxiety only when they did not have more perfectionism than their peers. Similarly, Eren et al. (17) concluded that anxiety level is not higher in gifted children than in children with normal intelligence. These controversial views on anxiety necessitate more research especially in the presence of an anxiety-provoking worldwide event, i.e., the Pandemic.

There is limited research on the effect of the COVID-19 Pandemic on the psychological wellbeing of gifted students. In a qualitative study, parents reported that their children experienced sleep disturbances, feelings of stress, fear, and worry among their gifted children (18). Also, increased psychological load interrupted daily routines, and inability to socialize with their peers were other problems reported by parents. However, little is known about how COVID-19 Pandemic impacted gifted students' psychological wellbeing and what factors predicted their anxiety level.

Many studies supported that anxiety varies according to gender, and girls showed more anxiety symptoms than boys (19-21). Martin et al. also reported a slightly increased anxiety among gifted females. Thus, it is thought that gifted girls and boys would likely differ in terms of their anxiety level and associated factors.

Similar to gender, age matters for anxiety. Anxiety disorders (e.g., specific phobia, social phobia, generalized anxiety disorder, and separation anxiety disorder) are common among children and adolescents (22). According to Essau, the prevalence of anxiety is 10% among children and 20% among adolescents (23). Given that anxiety is twice as much prevalent among adolescents as children, gifted children's cognitive maturity (8) might make them more vulnerable to anxiety at earlier ages than their typically developing peers. Thus, age was taken into consideration in the present study. Age also impacts the resilience. Studies indicated that resilience increases with age (24-26) and early adolescents are more vulnerable to fluctuations in terms of resilience (27).

Other characteristics related to giftedness may also lead to increased anxiety during COVID-19.

Overexcitability, an organic excess of energy or heightened excitability of the neuromuscular system and reflects a capacity for being active and energetic, is one of these characteristics which lead to higher anxiety (10, 28). The parents reported that gifted children have higher energy levels than their peers (29). The unique characteristics of giftedness may prone them to anxiety.

The Effects of COVID-19 Pandemic on Children's Daily Routines

One of the impacts of the COVID-19 Pandemic on daily life is that adolescents stayed at home due to curfew, which resulted in decreased physical activity. Spending time at home retains them from wasting their energy and may cause more significant anxiety among them. Studies investigating the relationship between physical activity and anxiety among adolescents showed that adolescents with low physical activity levels had significantly higher anxiety levels than those with medium and high physical activity levels (30-31).

Another impact of the pandemic process is the increased time spent by adolescents in front of the screen, including playing online games (32), using social media (33), and doing school-related tasks (34). For example, a study conducted with 2050 adolescents found that one-third of adolescents experienced problematic internet use during the COVID-19 Pandemic lockdown (35). Problematic internet use is known to be positively associated with anxiety (36). Although the present study has not focused on problematic Internet use, it is thought that playing digital games might have similar consequences with problematic internet use and impede the time children devoted to other activities. Therefore, gifted adolescents seem to be significantly at risk in terms of anxiety because of decreased daily physical activity and increased online or digital game playing.

Resilience as a Protective Factor

Resilience, on the other hand, is a protective factor for many psychological problems. It is the capacity for adaptation to challenges in life (37). It is a dynamic process and refers to a persons' positive adaptation capacity in the presence of adversity (38). Therefore, risk factors are essential in terms of resilience. For example, the COVID-19 Pandemic constitutes a high-risk factor for students because of the reasons mentioned above, such as the threat of virus-related health problems, curfew, online education, restricted social life, and limitations in routine life. Thus, resilience is likely to determine the anxiety experienced during COVID-19.

Resiliency studies with gifted students have revealed that these students appear to be

advantageous due to their high capacity to solve problems when faced with difficulties (39, 12). Besides, many characteristics associated with resilience such as intelligence, task orientation, verbal ability, reflectiveness, self-understanding, desire to learn, maturity, and the ability to dream seem to overlap with characteristics of gifted students (40). Therefore, investigation of the protective role of resilience among gifted students may be informative in understanding and supporting their socio-emotional problems.

Resilience as personality characteristics seemed to be a protective factor in terms of psychological wellbeing. Studies that focused on the relationship between resilience and anxiety showed that high resilience predicted lower anxiety (41-43). Moreover, a study investigated the role of resilience on physicians' anxiety during the COVID-19 pandemic and reported an inverse relationship between them (44). Therefore, resilience is expected to protect gifted adolescents from anxiety related to pandemic. The previous studies reported conflicting results regarding the gender differences in the resilience scores (45-47). Thus, in the present study, it is predicted that the effect of resiliency on anxiety might vary according to gender.

According to the ecological viewpoint, individual, familial and support factors influence resilience (48). In this theoretical view, individual assets of children like higher intelligent quotation (IQ) influence the resilience in one of the three models: compensatory, challenge, and protective factor models. In the compensatory model explanation, IQ compensates for the negative effects of COVID-19 and related changes. In the protective vs. vulnerability model, IQ interacts with the changes and difficulties associated with COVID-19. In the challenge model, COVID-19 challenges the individual and mobilizes the internal and external resources of the child and intelligence is one of the internal strengths. Alvord and Grados (2005) identified that a child's intelligence contributed to resilience (49). However, the exact mechanism of how intelligence protects gifted students from adversity is not known. The presents study might provide a small contribution to the understanding resilience among gifted children.

The Current Study

The present study aims to identify factors related to gifted children's anxiety levels during the COVID-19 Pandemic period. In contrast to the previous studies, it focused on a special population with unique characteristics that may make them vulnerable during this period. The following research questions will be investigated: (1) "Do anxiety scores and resiliency differ according to age and gender?", (2) "Do anxiety scores of girls, boys and whole sample differ

according to the doing physical activity and playing digital games?" (3), "Do resiliency scores of girls, boys, and the whole sample differ according to the doing physical activity and playing digital games?", (4) "How much variance do engagement in physical activity, playing digital games and resilience explain in the anxiety level of gifted girls, boys, and whole sample?"

Regarding the first research question, girls are expected to have higher anxiety than boys (19-21) and older children are expected to be more resilient than their younger peers (24-26). Regarding the second research question, it is expected that physical activity will protect them from anxiety (30-31), whereas playing digital games will increase anxiety levels (36). For the third research question, similarly, physical activity will strengthen the resilience whereas the results of playing digital games is unclear in the past research. Regarding the last research question, given that resilient adolescents experience less anxiety than their non-resilient peers, it is expected that resilience will predict a decrease in the anxiety level of gifted students as suggested by Garnezy et al. (48). Based on previous literature that reveals gender differences, the associations for girls and boys would differ in favor of boys.

Method

Procedure

The study was conducted during the lock-down of the COVID-19 pandemic period. Ethical Permission was obtained (No:7.10.2020-325). Data were collected through an online questionnaire sent to the parent with whom the teacher generally communicates on child-related issues. Parents who had a gifted child were contacted and invited to the study with an online link containing information about the study's aim, informed consent, and survey questionnaires. The aim of the study, the opportunity to discontinue at any time, and confidentiality were explained at the beginning of the study. Children answered the questionnaire after their parents' consent. The response rate was 56%.

Participants

The sample consisted of 199 gifted students (51.8 % female, N= 103) in Ankara, Turkey. The mean age was 9.92 years (SD=1.52), with a range between 8 and 13 (Table 1). All the students were Turkish. The sample was identified as a convenient sample of participants who attend one of the pull-out education centres in Turkey.

The children in Turkey are recognized and directed mainly by their teachers for screening for giftedness during the first three years of primary school. Those who are identified as gifted attend science and art centres at out-of-school times for supportive

education. All the children who participated in the current study were identified as gifted with an intelligence quotient score above 130 and they attend a pull-out education centre for gifted students. Nonetheless, the exact scores were unavailable for research purposes, and they were not presented here.

Measures

Physical Activity and Online/digital Game Playing

These two variables were assessed by two open-ended questions, “How did you spend your time at home during COVID-19?” and “What else do you do at home?”. Open-ended questions are preferred instead of merely asking a yes-no question in case students can prefer socially desirable answers. They prompted participants to disclose their “lived experiences” of pandemic process and how they spent their time. The aim was to generate two categories for physical activity level and digital game playing. Each statement was considered as a separate unit. Total 357 answers were recorded for these two questions.

After carefully reading all answers, the responses which involve any kind of physical activity (e.g., skipping, table tennis, aerobic, football, exercising, etc.) were coded separately to decide their physical activity level. “0” was coded for no physical activity, and “1” for any kind of physical activity or sports at home.

Similarly, all responses were checked in terms of digital game playing. The responses were coded as “0” when they did not report any digital game playing and “1” when they reported any kind of online/digital game playing (such as computer games, digital games on the phone, etc.).

Anxiety

Anxiety was measured using the Turkish version (50) of 20 items of the Spielberger’ State Anxiety Inventory (51). Participants stated how they had been feeling during the COVID-19 Pandemic period using 20 items (Each item was responded to on a 4-point-Likert-type rating scale ranging from 1 (not at all) to 4 (very much). The scores range from 20 to 80. Scores between 20-49 indicate the absence of anxiety, 50-59 indicate a moderate level of anxiety, and 60-80 indicates an elevated anxiety level. Cronbach Alpha internal consistency coefficient was found as .87 in this study.

Resilience

Resiliency was measured using The Brief Resilience Scale (52), adapted to Turkish by Doğan (53). It is a unidimensional scale with six items. The items were answered on a 5-point Likert-type scale, ranging from strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). The sample item

includes “I tend to bounce back quickly after hard times”. Cronbach Alpha internal consistency coefficient was .82.

Data Analysis

To address the impact of gender and age differences on the anxiety and resiliency level, independent samples t-tests were used. Secondly, to address the impact of physical activity and online/digital game playing on anxiety and resiliency, independent samples t-test were conducted for girls, boys, and the whole population separately. Finally, the effect of resiliency, physical activity, and online/digital game playing on anxiety was evaluated using three hierarchical regression models for girls, boys, and the whole sample to reveal the differences caused by the gender.

Before the analysis, the assumptions of the regression were tested. There were no missing variables and outliers. The sample size was large enough for regression analysis with three predictor variables (54). The medium correlations between variables, tolerance (between 0.85-0.92), variance inflation factor (between 1.07-1.17), and condition index (12.89) ensured multicollinearity. Residual and scatter plots indicated the assumptions of normality (54).

Results

Descriptive Analysis

First, the characteristics of the sample were presented in Table 1. Mean age of participants was 9.94 (SD=1.68) ranging from 8 to 13. Of the participants 51.8% were female (N=103). Then, the means and correlations between the study variables were computed for girls, boys, and the whole sample. The results are presented in Table 2. For girls, mean anxiety score is 35.95 (SD=10.15) and mean resiliency is 21.28 (SD=5.14). On the other hand, boys’ mean anxiety score is 34.58 (SD=9.65) and mean resiliency score is 22.04 (SD=4.57). For the whole sample, mean anxiety is 35.29 (SD=9.91) and mean resiliency is 21.64 (SD=4.88).

TABLE 1. Descriptive statistics.

Variables	N	%
Gender		
Girl	103	51.8
Boy	96	48.2
Age		
8	35	17.6
9	42	21.1
10	58	34.2
11	25	12.6
12	18	9.0
13	11	5.5

TABLE 2. Correlations between variables.

Variables	Girl (N=103)			Boy (N=96)			Whole (N=199)		
	2	3	4	2	3	4	2	3	4
1. Physical activity	0.12	-0.08	0.17	-0.06	-0.34**	-0.29**	.00	-.19**	.21**
2. Digital games		-0.00	-0.01		0.24**	-0.26**		.11	-.12
3. Anxiety			-0.58**			-0.65**			-.61**
4. Resilience									
Mean		35.95	21.28		34.58	22.04		35.29	21.64
SD		10.15	5.14		9.65	4.57		9.91	4.88

* $p < .01$, ** $p < .001$ Note: Point-Biserial correlation was used for physical activity and digital games.

The results showed that anxiety has a significant negative correlation with resilience for girls, boys, and the whole sample. For boys, it has significant negative correlations with physical activity and positive correlations with digital games. Besides, resilience has significant negative correlations with both physical activity and digital games. For the whole sample, resilience has significant negative correlations with digital games, while it has significant positive correlations with physical activity. Besides, physical activity has significant negative correlations with digital game playing.

Do anxiety scores and resiliency differ according to age and gender?

The mean differences for anxiety and resiliency level according to gender and age were examined. According to the results for gender, there was not a significant difference ($t_{(197)}=.97$, $p=.33$) between the anxiety level of girls ($M=35.95$, $SD=10.15$) and boys ($M=34.58$, $SD=9.65$). Similarly, girls ($M=21.28$, $SD=5.14$) and boys ($M=22.04$, $SD=4.57$) did not differ in terms of resilience ($t_{(197)}=-1.10$, $p=.27$). Also, the results of one-way analysis of variances did not yield significant differences for anxiety ($F_{(7,95)}=.66$, $p=.70$) and resilience ($F_{(7,88)}=1.05$, $p=.39$) according to age.

Do anxiety scores of girls, boys and whole sample differ according to the doing physical activity and playing digital games?

The anxiety level of girls, boys, and the whole sample were compared according to physical activity level and digital game playing status. Regarding the anxiety level (Table 3), there was no significant difference in girls' anxiety scores in terms of having physical activity and playing digital games. On the other hand, boys had lower anxiety when they did any physical activity and did not play digital games. For the whole sample, those who did physical activity had lower anxiety. Playing digital games did not affect anxiety levels.

Do resiliency scores of girls, boys, and the whole sample differ according to the doing physical activity and playing digital games?

Regarding the resilience level (Table 4), there was no significant difference among girls in physical activity and playing digital games. On the other hand, boys who did physical activity had a significantly higher resilience level than boys who did not. Similarly, boys who played digital games had a significantly lower resilience level than those who were not. For the whole sample, those engaged in physical activity had higher resiliency, whereas playing digital games did not affect resiliency.

TABLE 3. The results of independent samples t-test for anxiety level.

Variables	Level	Girl (N=103)			Boy (N=96)			Whole (N=199)		
		M	SD	t	M	SD	t	M	SD	t
Physical activity	0	37.02	10.39	.80	38.25	11.08	3.40**	37.68	10.71	2.84**
	1	35.34	10.04		31.60	7.13		33.68	9.02	
Digital games	0	35.97	10.28	.06	33.14	9.96	-2.24**	34.72	10.20	.11
	1	35.78	9.64		38.46	7.66		37.52	8.38	

* $p < .01$, ** $p < .001$

TABLE 4. The results of independent samples t-test for resilience level.

Variables	Level	Girl			Boy			Whole		
		M	SD	t	M	SD	t	M	SD	t
Physical activity	0	20.10	5.32	-1.75	20.55	4.80	-2.97**	20.35	5.02	-3.14**
	1	21.93	4.95		23.24	4.04		22.52	4.60	
Digital games	0	21.30	5.05	.10	22.78	4.52	2.69**	21.95	4.86	1.78
	1	21.14	5.88		20.03	4.18		20.42	4.79	

* $p < .01$, ** $p < .001$

How much variance do engagement in physical activity, playing digital games and resilience explain in the anxiety level of gifted girls, boys, and whole sample?

The analyses were performed separately for girls and boys since the independent samples t-test results indicated some significant differences between genders in terms of resilience level. Three multiple regression analyses were performed to identify predictors of anxiety among gifted girls, boys, and the whole sample (Table 5). The results of the first model for girls explained 34% of the variance ($F_{(3,99)}=17.46, p<.001$). The further analysis of the predictors showed that physical activity ($\beta = .02, p>.001$) and playing digital games ($\beta = -.01, p>.001$) did not significantly predict the level of anxiety; however, resilience level did significantly predict it ($\beta = -.59, p<.001$). In the model, only resilience explained 34% of variance in anxiety among girls.

The results of the second model for boys indicated that two predictors explained 45% of the variance ($F_{(3,92)}=25.90, p<.001$). It was found that both physical activity ($\beta = -.16, p<.001$) and resilience ($\beta = -.58, p<.001$) predicted anxiety negatively whereas playing digital games did not ($\beta = .07, p>.001$). In the model, both physical activity and resilience explained 45% of variance in anxiety among girls.

Finally, the results of the third model for the whole sample explained 38% of the variance ($F_{(3,195)}=41.18, p<.001$). Similar to the results of girl model, only resilience predicted anxiety negatively ($\beta = -.59, p<.001$) but not physical activity ($\beta = -.06, p>.001$) or playing digital games ($\beta = .03, p<.001$). In the model, both only resilience explained 38% of variance in anxiety among girls. To summarize, resilience predicted anxiety among gifted children regardless of their gender, however, physical activity negatively predicted anxiety only among boys.

life event, contributed to the extant literature in three ways. First, results provided evidence that resilience was negatively associated with anxiety among gifted students during the Pandemic period. Second, it revealed that engagement in physical activity was associated with less anxiety among gifted boys while not predicting girls' anxiety. Third and finally, digital game playing predicted anxiety among neither girls nor boys, although boys who were playing such games had significantly higher mean anxiety and lower mean resiliency scores.

Regarding the first finding, resilience was negatively associated with anxiety among gifted students during the Pandemic period. This finding is in line with previous research that consistently reported lower anxiety among the resilient population (41-43). The present study replicated this association among gifted students. Resilience was also reported as a protective for mental health during the COVID-19 Pandemic (55). Thus, the present finding may make resilience a prime focus for school counsellors who want to intervene in their gifted students' anxiety. Therefore, the relationship between anxiety and resiliency may allow teachers, school counsellors, and parents to support students' resiliency to tackle their anxiety.

As a result of the shift in mental health research away from risk and psychopathology and toward the promotion of positive outcomes, resilience-focused intervention programs have been employed recently to target the mental health problems of children in school settings. Dray et al. (56) reviewed these intervention programs and reported that they mainly concentrated on cognitive characteristics (e.g., problem-solving or decision making, coping skills or cooperation and communications) and social-emotional characteristics. The result from the present study informs that physical activity might be

TABLE 5. Predictors of anxiety level among girls, boys, and the whole sample

Predictors	Girl			Boy			Whole		
	B	SE B	β	B	SE B	β	B	SE B	β
Constant	60.56	3.56		62.97	3.93		62.23	2.59	
Physical activity	.50	1.75	.02	-3.25	1.55	-.16**	-1.36	1.15	-.06
Digital games	-.46	2.41	-.01	1.71	1.72	.07	.93	1.39	.03
Resilience	-1.16	.16	-.59**	-122	.17	-.58**	-1.21	.11	-.59**
R^2	.34			.45			.38		

* $p<.01$, ** $p<.001$

Discussion

Anxiety represents an important problem among gifted students (8). However, information on the role of resilience on anxiety among the gifted population and findings on the role of physical activity and digital or online game playing were limited despite the findings among typically developing students (41-43). The present study, conducted during the COVID-19 Pandemic period, an anxiety-provoking

helpful in these kinds of resilience-focused interventions for especially gifted children.

Second, the gender differences related to the role of engagement in physical activity on anxiety favour boys. Although a previous study also showed a connection between physical activity and psychological wellbeing, it did not reveal any gender differences (30). Interestingly, physical activity seemed more critical for boys when compared to

girls for gifted children. In the present study, physical activities included individual activities. A previous study reported that girls benefited more from team sports in terms of mental health (31). Thus, since the nature of physical activity measured in the present study was individual, it is plausible that girls did not experience any benefit. Still, this is a very interesting finding regarding both COVID-19 Pandemic anxiety and anxiety in general for preventive measures. School counsellors or teachers working with gifted students may suggest that children and adolescents engage in more physical activities.

Not only physical activities but also other activities such as music, dance and art were recommended for these children (57). Reis and McCoach (58) also explained that extra-curricular activities for gifted students are helpful to channel their high energy which otherwise may lead to inadequate self-regulation strategies. Similarly, Alexopoulou et al. (57) underlined the necessity of enhancement of gifted students' resilience for better mental and physical health. Although the association was low, physical activity was associated with other mental health problems like depression (59). Thus, parents and teachers could pay attention to the physical activity levels of gifted children as a preventive strategy. Even better, these children should be presented opportunities to spend their energy for the sake of better mental health.

Finally, contrary to expectations, the predictive role of digital game playing on anxiety was not supported in the present study. Still, boys who were playing such games had significantly higher mean anxiety and lower mean resiliency scores. According to previous studies on the association between the overuse of smartphones and anxiety, boredom proneness, which is defined as a trait-based tendency to experience boredom, is a personal characteristic that makes people more vulnerable to use such devices to alleviate their anxiety. Previous studies showed that boredom due to under challenging classroom environment is a common phenomenon among gifted students who attend especially regular classes (60). Thus, it could be possible for gifted students who are away from their schools and out of school supportive education environments (i.e., science and art centres in the present study) to experience more boredom during the COVID-19 Pandemic period.

Moreover, some researchers suggested that problematic internet usage is a way of emotional dysregulation (61, 62). In other words, those who experience anxiety were likely to play more digital games than those with less anxiety to avoid their negative emotions. The present study focused on digital game playing. Even though the study's cross-sectional nature did not allow a causal interpretation, digital game playing was associated with less anxiety

among boys but not girls. General game preferences differ among girls and boys. It was reported that half of the boys, as compared to one-third of girls, preferred digital platforms for playing games (63). Previous studies usually investigated problematic internet usage. Internet and other digital technology use serve as a means for getting away from reality and negative emotions (64). Thus, the boys who used digital games may have lower anxiety. On the other hand, girls may not have preferred it.

Another finding of the present study was that boys who played more digital games had lower resilience than those who played less. Hou et al. (65) and Canale et al. (66) also reported a negative correlation between resilience and problematic internet gaming. Resilient children have some positive characteristics, such as high tolerance for negative feelings (67) and better coping strategies to obtain positive emotions (68). Consequently, such characteristics might protect them from developing negative behaviours. Supporting these children's resiliency would be beneficial not only for their anxiety symptoms but also for digital game playing behaviours.

Limitations

This study also has several limitations that deserve to be mentioned given that there are a lot of uncontrolled variables in the analyses. First, the cross-sectional design limits the arrival at a causal inference. Cross-lagged models or longitudinal studies would be alternative for future studies. Most importantly, the measurement of digital game playing in the present study did not reflect any information about the type of play, frequency or overuse. Thus, it would be more informative to use either self-report or a parent-report measure for problematic usage. There is no comparison group in the present study which constitutes another important limitation.

Besides, the gifted students who participated in the present study might be different from non-responders in terms of anxiety levels. For example, Martin et al., (16) commented that the presence of mental health problems may impede the identification of children. Thus, identified children may be different from those who have not been identified which would be more likely in the case of anxiety. This could lead to a selection bias, which potentially affects the results' internal validity and generalizability. It could have been useful to compare the descriptive characteristics of the non-responding group. Since intelligence is regarded as an asset for gifted children (48, 49), comparing gifted children to normally developing children would inform us about understanding the protective and risk factors for gifted students. It may also help clarifying whether intelligence really protects children from life adversities or whether gifted children have

attributions that prone them to anxiety more than their normally developing peers. Finally, the data on the digital game playing and physical activity levels were categorical variables. Future studies should focus on the content and duration of digital game playing.

Clinical Significance

Despite its limitations, this study is among the few studies that focused on the gifted students' psychological experiences during the COVID-19 Pandemic. The findings might be especially beneficial for school counsellors who could mitigate these children's anxiety by arranging their daily routine with their parents' collaboration. The pandemic period provides a unique environment to examine anxiety. Thus, the present results are not specific to Pandemic, it would be relevant for the understanding of anxiety among gifted children in general. Moreover, the findings would be informative for parents with anxious gifted children. Considering resilience as a human capacity that could be developed and strengthened, school counsellors of gifted students may employ programs for supporting resilience not only for the COVID-19 Pandemic but also for other possible adversities in their lives (69). Also, given the protective role of resilience on anxiety, they could mainly focus on those who are less resilient for prevention.

Conflicts of interest

The authors declare no conflicts of interests.

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