

Article

COVID-19-Related Fear among Youth in Israel

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Abstract: The present study sought to expand the now expansive research on COVID-19 by examining COVID-19-related fear among adolescents in Israel, focusing on demographic variables, COVID-19-related variables (e.g., exposure and vaccination), psychosocial variables (e.g., adolescent wellbeing and perceived social support), and technology usage (e.g., amount of time spent on social media). Data from parents were also collected, reflecting parental attitudes toward the pandemic, anxiety and depression, and wellbeing. A total of 150 youth aged 12–18 and 150 parents participated in the study. Findings indicated that being a female, having a parent who knew someone who had died from COVID-19, and never having tested positive for COVID-19 were positively associated with increased fear of COVID-19. Increased fear of being infected with COVID-19 was also associated with high levels of anxiety and depressive symptomatology in both youth and parents and with low parent subjective wellbeing. Youth who used social media for sharing experiences and for politics also reported such fear. Youth whose parents reported that the media exaggerated COVID-19 risks were less likely to fear something bad would happen to them or to a loved one or fear another outbreak of the virus. Our findings call for paying further scholarly and professional attention to the role intrapsychological, interpersonal, and social aspects play in processes of increased fear and wellbeing in adolescents who constitute a particularly vulnerable group to the mental health consequences of the pandemic.

**Citation:** Estlein, R.;

Gewirtz-Meydan, A.; Mitchell, K.J.;

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COVID-19-Related Fear among

Youth in Israel. *Youth* **2023**, *3*, 883–896.[https://doi.org/10.3390/](https://doi.org/10.3390/youth3030057)[youth3030057](https://doi.org/10.3390/youth3030057)

Received: 15 June 2023

Revised: 13 July 2023

Accepted: 23 July 2023

Published: 25 July 2023

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This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).**Keywords:** COVID-19; adolescents; COVID-19-related fear; stress; mental health

1. Introduction

In December 2019, SARS-CoV-2, the virus that causes COVID-19, appeared in Wuhan, China, expanding rapidly and affecting countries worldwide [1]. Within a few weeks, COVID-19 became a global health crisis, and in March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic. In addition to its deleterious physical implications, COVID-19 has constituted a significant stressor on mental health with both short- and long-term effects on individuals' wellbeing [2,3]. Several systematic reviews reflect the wealth of data collected on the mental health of adults during COVID-19 [4–6]. With significant changes in the lives of adolescents, forcing them into periods of prolonged social isolation and time away from school during a life stage when those are mostly needed, COVID-19 has had a particularly great effect on the mental health and wellbeing of youth [7,8]. Understanding the psychological consequences of the pandemic for adolescents and the associated risk factors is essential to detect the most vulnerable children and adolescents in the COVID-19 and future pandemics and provide them with appropriate support. In the present study, we thus sought to map the factors related to the fear of COVID-19 in adolescents. Specifically, our main goal was to identify what in adolescents' closest social environments contributed to increased fear of the pandemic by exploring four contexts in adolescents' lives, namely, demographic characteristics, experience with and

attitudes toward COVID-19 (including parents' attitudes), psychosocial characteristics, and technology usage.

With the initial outbreak of COVID-19, national polls indicated a sharp increase in fear and worries relating to the virus [9]. A recent review indicated that uncontrolled fears related to infection, frustration and boredom, pervasive anxiety, and loneliness were the most common psychological reactions to COVID-19 and had a significant effect on individuals' subjective wellbeing and quality of life [10]. It has been suggested that the fear of COVID-19 has stemmed from its novelty and the uncertainties about how bad the pandemic might become [9]. Uncertainty about the future and about the virus, as well as fears of the unknown, were related to increased anxiety [10,11]. Lockdown restrictions, inhibition from daily activities, perceived lower social support, separation from loved ones, and loss of freedom were associated with boredom, loneliness, anger, and frustration [10]. Additionally, levels of COVID-19 fear were higher for individuals who perceived a higher risk of infection for their loved ones [12,13], for individuals who worried about the economic consequences of the pandemic [14], and for individuals who frequently used social media [12].

Research has indicated that fear of COVID-19 is relatively common [14,15]. Fear can be generated by increased stress [16], and indeed, during the COVID-19 pandemic, individuals faced increased perceived stress, prompted by worries about their own and their loved ones' health, as well as about job security and financial hardship [17]. There may have been, however, significant differences among individuals in how stressful COVID-19 was experienced. Perceived stress pertains to the degree to which life situations are appraised as stressful [18]. This perception—which is subjective [19]—can further play a meaningful role in predicting post-stress-exposure psychopathology [20].

One factor found to be associated with subjective perception is age [21]. Compared to adults, adolescents often appraise events and situations as particularly stressful due, in part, to major physical, emotional, cognitive, and social changes that occur during this pivotal developmental stage [22,23]. Moreover, COVID-19 has brought dramatic changes to the daily lives of adolescents. During this life stage, in which meeting peers and socializing at school are central and critical for the psychological development and wellbeing of the adolescent, youth were physically cut off from their educational and social environments, leaving them isolated in their homes for several months. Initial findings reveal that the isolated daily routine has increased loneliness and impacted mental health among adolescents both in the short and long run [24–26] and suggest that youth were particularly susceptible to experiencing perceived stress during COVID-19, which, in turn, may place them at risk for increased fear of the current global pandemic.

2. Materials and Methods

We report how we determined our sample size, all data exclusions, and all measures in the study.

2.1. Participants and Procedure

A total of 150 youth aged 12–18 and one of their parents (i.e., 150 parents) participated in the study. The sample size was a priori determined by a power analysis using Gpower * in order to reach 95% power to detect medium 0.15-sized effects. Participants were recruited from a prior study conducted among 1000 parents via Panel4All, an online Israeli participants' pool). Parents who took part in the main study were approached and asked if they would provide consent to survey their children. Following the parent's consent, the youth received an invitation to participate in the current study, provided their own assent, and received a small incentive (50 NIS, equivalent to 15 USD) for their participation. The survey took an average of 10 min to complete and was conducted during May and June 2021. The child survey was anonymous, and no data were collected that could identify participants. Youths were linked to their parents by an ID number. The [masked for review] institutional review board approved all procedures and instruments. Clicking on the link

to the survey guided potential respondents to a page that provided information about the purpose of the study, the nature of the questions, and an assent form (stating that the survey was voluntary, respondents could stop at any time, and responses would be anonymous).

Of the 150 adolescents who participated in the study, 56 were boys (37.3%), 93 were girls (62.0%), and 1 refused to identify. The mean age was 15.3 ($SD = 1.9$). The majority of youth came from an average (54.4%) or a high (16.8%) income family, with an average of 2.4 ($SD = 1.6$) siblings. Adolescents in the study were mostly nonreligious and lived across all parts of the country. The majority of youth (72.5%) reported that their parents were married. Seventy percent of the 150 participating parents were female, with a mean age of 46.6 years.

2.2. Measures

Independent Variables

Demographics variables included information about age, gender, the income of the family, religiosity, parents' marital status, and location of residence (see Table 1). Family income was asked in different ways for youth and parents: Youth were asked about their family's income in terms of above average, average, and below average, and parents reported a monetary amount, which was coded as below average [one standard deviation below the mean (12,000 NIS or less)], average [around the mean (12,001 to 24,000 NIS)], and above average (24,001 or more NIS)].

Table 1. Participant demographic characteristics.

Characteristic	Youth ($n = 150$) n (%)	Parents ($n = 150$) n (%)
Gender		
Male	56 (37.3)	45 (30.0)
Female	93 (62.0)	105 (70.0)
Mean age (SD)	15.3 (1.9)	46.6 (6.7)
Family income		
Above average	25 (16.8)	
Average	81 (54.4)	
Below average	9 (6.0)	
Not sure	23 (15.4)	
Refused	11 (7.4)	
Mean number siblings (SD)	2.4 (1.6)	2.7 (1.2)
Religiosity		
Secular	71 (47.7)	69 (46.0)
Traditional, not religious	31 (20.8)	37 (24.7)
Traditional, somewhat religious	8 (5.4)	8 (5.3)
Religious	38 (25.5)	34 (22.7)
Other/refuse	1 (0.7)	2 (1.3)
Parents marital status		
Single, never married	3 (2.0)	7 (4.7)
Married	108 (72.5)	112 (74.7)
Living with partner	2 (1.3)	3 (2.0)
Divorced	29 (19.5)	25 (16.7)
Separated	1 (0.7)	---
Widowed	2 (1.3)	2 (1.3)
Other	3 (2.0)	0
Refused	1 (0.7)	1 (0.7)
Where live		
North	---	31 (20.9)
Lowlands	---	11 (7.4)
Center	---	63 (42.6)
South	---	18 (12.2)
Judea and Samaria	---	8 (5.4)
Jerusalem	---	17 (11.5)

Youth COVID experience variables included questions designed for the current study that asked about exposure to other people infected by the virus. Specifically, youth responded to questions about whether they had received the COVID-19 vaccine, whether both parents were vaccinated, whether any friends or family members outside of their home had tested positive, whether they had ever tested positive, whether they had ever had a COVID test, and whether they knew anyone who had died from COVID-19. All response options were yes/no.

Parent COVID-19 attitudes were measured using a seven-item scale designed for the current study, asking parents about their opinions regarding the pandemic. Sample items included “Professionals are providing reliable information about COVID-19” and “The public is overreacting to COVID-19”. For each, response options ranged from 1 (“strongly disagree”) to 4 (“strongly agree”). Missing data were less than 5% for each item and were replaced with the item mean. Individual items were examined separately in the analyses.

2.3. Psychosocial Characteristics

Subjective wellbeing was measured using Hamby et al.’s [27] scale to assess general life satisfaction among youth participants. Youth used a 4-Likert-type scale ranging from 1 (“not true about me”) to 4 (“mostly true about me”) to indicate their level of agreement with seven items (e.g., “I have a good sense of what makes my life meaningful”) ($\alpha = 0.83$). Items were combined to create a total scale score (range: 6–25, $M = 20.8$, $SD = 3.6$). Missing data was no more than 4% for each item and was replaced with the item mean.

For parents, subjective wellbeing was measured using the Personal Wellbeing Index (PWI) [28]. The PWI measures satisfaction with seven life domains: material status, personal health, achievement in life, relationships with family and friends, feelings of physical safety, acceptance by the community, and future security. Items included “How satisfied are you with your standard of living?” and “How satisfied are you with your health?”. Response options ranged from 0 (“completely dissatisfied”) to 10 (“completely satisfied”) ($M = 50.6$, $SD = 9.1$; $\alpha = 0.87$). There were no missing data across these items.

Depression and anxiety were measured using the widely-used ultrabrief Patient Health Questionnaire-4 (PHQ-4) [29]. Both youth and parents were asked to report these items. The scale asked respondents about how often in the past two weeks they felt the following: (a) felt nervous, anxious, or on edge; (b) felt that they could not stop or control worrying; (c) felt down, depressed, or hopeless; (d) experienced little interest or pleasure in doing things. Every respondent was asked to indicate how often he/she had these experiences during the past two weeks, from 0 (“not at all”) to 3 (“nearly every day”). Items were combined to create a total scale score (youth $\alpha = 0.81$; parent $\alpha = 0.89$), with higher scores representing more symptomatology. The average score for youth was 6.0 ($SD = 2.3$), and for parents, 6.1 ($SD = 2.7$). There were no missing data for these items.

Health was evaluated using the self-rated health (SRH) [30] single-item scale to assess the adolescent’s overall health on a scale ranging from 1 (“poor”) to 5 (“excellent”). Missing data were 3% and were replaced with the item mean. A higher score reflects better health.

2.4. Dependent Variable

COVID fear included three questions designed for the current study that asked about the level of fear of COVID-19 in three aspects. Specifically, youth were asked to evaluate their fear on a scale ranging from 1 (“never”) to 5 (“all the time”): (1) How often do you fear that you would be infected with COVID-19? ($M = 2.6$, $SD = 1.2$); (2) How often do you fear that something bad will happen to you or to someone in your family? ($M = 2.9$, $SD = 1.1$). The third fear item asked youth: “How much do you fear of another outbreak of COVID-19?” ($M = 5.5$, $SD = 2.6$) with response options ranging from 1 (“not at all”) to 10 (“very much”). Missing data were 2% or less across these items and were replaced with the item mean.

2.5. Data Analysis

Data were analyzed using SPSS-27. For each of the three types of COVID-19-related fear queried in this study (i.e., fear of being infected, fear that something bad would happen to oneself or someone in their family, and fear of another outbreak of COVID-19), we conducted a series of unadjusted linear regression analyses to explore their relationship between each of them and demographic characteristics, COVID-19 experience, parental COVID-19 attitudes, psychosocial characteristics, and technology usage. Then, for each type of fear, a parsimonious linear regression was conducted, which included those unadjusted variables significant at $p \leq 0.10$ or better. Both unadjusted and parsimonious results are discussed if significance reaches $p \leq 0.10$, given the relatively small sample size and corresponding lack of power to reach significance for some low-endorsed constructs. Anonymized data are available to be shared with researchers upon reasonable request following a signed data access agreement.

3. Results

3.1. Fear of Being Infected with COVID-19

We started by conducting bivariate correlations among all variables to evaluate for multicollinearity. No multicollinearity was detected among the study variables. Unadjusted linear regression models identified some youth and parent characteristics related to a higher likelihood of youth fear of being infected with COVID-19 (see Table 2). First, adolescent girls were more fearful than adolescent males to be infected with COVID-19. Additionally, having a parent who knew someone who had died from COVID-19 and the youth personally ever having tested positive for COVID-19 were positively associated with increased fear. Increased fear of being infected with COVID-19 was also related to higher levels of anxiety and depressive symptomatology in both youth and parents and to lower parents' subjective wellbeing. Youth who used social media for the function of sharing experiences and for politics were also more likely to report such fear. In a parsimonious model holding all significant unadjusted findings equal, the factor most strongly related to fear of being infected was youth use of social media for politics ($\beta = 0.22$, $p = 0.02$).

Table 2. Linear regression indicates characteristics related to adolescents who fear that they will be infected with COVID-19 (COVID_fear1).

Characteristic	Bivariate		Parsimonious Multivariate	
	β (SE)	p Value	β (SE)	p Value
<i>Demographics</i>				
Youth age	0.08	0.31	---	---
High income	0.004	0.96	---	---
Youth female	0.15	0.07	0.15 (0.20)	0.09
Parents married	−0.03	0.67	---	---
Parents divorced	0.04	0.61	---	---
Secular	−0.11	0.16	---	---
<i>COVID Experience/attitudes</i>				
Child vaccinated	0.03	0.71	---	---
Both parents vaccinated	−0.05	0.51	---	---
Any friends/family outside home tested positive	0.12	0.14	---	---
Know of someone who died from COVID-19				
Child ever had COVID test	0.02	0.79	---	---
Child ever tested positive	0.17	0.06	0.15 (0.35)	0.08
Parent attitudes:				
Media exaggerated COVID-19 risks	−0.11	0.18	---	---
Government manages to keep citizens safe from COVID	−0.005	0.96	---	---
Pandemic is conspiracy of pharmaceutical and biotech corporations	−0.01	0.87	---	---
Pandemic is conspiracy of the government	−0.06	0.46	---	---
Professionals are providing reliable information about COVID-19	−0.12	0.16	---	---
The public is over-reacting to COVID-19	0.05	0.58	---	---
There is not enough reliable information on COVID-19	0.05	0.56	---	---
In isolation since outbreak	−0.03	0.72	---	---

Table 2. Cont.

Characteristic	Bivariate		Parsimonious Multivariate	
	β (SE)	<i>p</i> Value	β (SE)	<i>p</i> Value
<i>Psychosocial</i>				
Adolescent subjective wellbeing	0.03	0.68	---	---
Adolescent depressive/anxiety symptoms	0.21	0.01	0.16 (0.04)	0.07
Perceived social support (adolescent report)	0.03	0.74	---	---
Health	−0.03	0.72	---	---
Caregiver wellbeing	−0.19	0.02	−0.13 (0.01)	0.22
Caregiver depressive/anxiety symptoms	0.17	0.03	0.02 (0.05)	0.81
Nonvictimization adversity (adolescent report)	0.04	0.59	---	---
<i>Technology usage</i>				
Amount of time on social networks	0.12	0.13	---	---
Uses Facebook	0.06	0.49	---	---
Uses Instagram	0.10	0.21	---	---
Uses Snapchat	0.13	0.10	---	---
Uses Twitter	0.09	0.28	---	---
Uses YouTube	0.06	0.43	---	---
Uses Tik Tok	0.10	0.23	---	---
Use social media as sharing experience	0.15	0.06	0.01 (0.07)	0.93
Use social media for social bonds and events	0.08	0.31	---	---
Use social media for politics	0.24	0.003	0.22 (0.11)	0.02
Use social media for sports, music, art, and hobbies	0.03	0.74	---	---

3.2. Fear That Something Bad Would Happen to Oneself or to a Loved One

In the unadjusted models, youth who were more likely to fear that something bad would happen to themselves or to a loved one in their family were female, secular, and had friends or family outside of their home who had tested positive for COVID-19 (see Table 3). Youth whose parents reported that the media exaggerated COVID-19 risks were less likely to fear something bad would happen to them or to a loved one. Higher parent wellbeing was related to lower levels of fear, whereas higher levels of parent anxiety and depressive symptomatology were related to higher levels of fear. Various types of youth technology use were also related to increased fear that something bad would happen, including spending larger amounts of time on social networks, using Snapchat, and using social media for politics. In a final, parsimonious linear regression model holding all significant factors equal, having friends or family outside the home who tested positive ($\beta = 0.20$, $p = 0.01$) and using Snapchat ($\beta = 0.18$, $p = 0.03$) were most strongly associated with an increased likelihood of this type of fear among youth.

3.3. Fear of Another Outbreak of COVID-19

In the unadjusted models, females, as well as youth with higher anxiety and depressive symptomatology, had higher levels of fear of another outbreak of COVID-19 (see Table 4). Youth whose parents felt that the media exaggerated COVID-19 risks were less likely to report such fear. Increased fear of another outbreak was also associated with using social media as a sharing experience and for politics. In a final, parsimonious model holding all significant unadjusted factors equal, higher youth anxiety and depressive symptomatology ($\beta = 0.16$, $p = 0.05$) were related to more fear of another outbreak, whereas having parents who felt COVID-19 risks were exaggerated in the media ($\beta = -0.22$, $p = 0.008$) was associated with lower levels of this type of fear.

Table 3. Linear regression indicates characteristics related to adolescents who **fear something bad will happen to them or someone in their family** (COVID_fear2).

Characteristic	Bivariate		Parsimonious Multivariate	
	β (SE)	<i>p</i> Value	β (SE)	<i>p</i> Value
<i>Demographics</i>				
Youth age	0.04	0.64	---	---
High income	−0.02	0.76	---	---
Youth female	0.18	0.02	0.04 (0.18)	0.64
Parents married	−0.09	0.26	---	---
Parents divorced	0.10	0.21	---	---
Secular	−0.18	0.02	−0.13 (0.18)	0.11
<i>COVID Experience/attitudes</i>				
Child vaccinated	−0.001	0.99	---	---
Both parents vaccinated	−0.07	0.39	---	---
Any friends/family outside home tested positive	0.21	0.009	0.20 (0.19)	0.01
Know of someone who died from COVID-19				
Child ever had COVID test	0.09	0.29	---	---
Child ever tested positive	0.08	0.36	---	---
Parent attitudes:				
Media exaggerated COVID-19 risks	−0.14	0.09	−0.11 (0.10)	0.13
Government manages to keep citizens safe from COVID	−0.05	0.53	---	---
Pandemic is conspiracy of pharmaceutical and biotech corporations	−0.01	0.86	---	---
Pandemic is conspiracy of the government	−0.05	0.53	---	---
Professionals are providing reliable information about COVID-19	−0.13	0.12	---	---
The public is over-reacting to COVID-19	0.01	0.92	---	---
There is not enough reliable information on COVID-19	0.03	0.75	---	---
In isolation since outbreak	−0.05	0.55	---	---
<i>Psychosocial</i>				
Adolescent subjective wellbeing	0.05	0.51	---	---
Adolescent depressive/anxiety symptoms	0.12	0.13	---	---
Perceived social support (adolescent report)	0.04	0.63	---	---
Health (adolescent report)	−0.08	0.35	---	---
Caregiver wellbeing	−0.25	0.002	−0.15 (0.01)	0.11
Caregiver depressive/anxiety symptoms	0.21	0.009	0.13 (0.04)	0.16
Nonvictimization adversity (adolescent report)	0.05	0.58	---	---
<i>Technology usage</i>				
Amount of time on social networks	0.16	0.05	0.04 (0.06)	0.66
Uses Facebook	0.04	0.63	---	---
Uses Instagram	0.09	0.24	---	---
Uses Snapchat	0.23	0.005	0.18 (0.19)	0.03
Uses Twitter	0.09	0.29	---	---
Uses YouTube	0.11	0.16	---	---
Uses Tik Tok	0.15	0.07	0.04 (0.20)	0.62
Use social media as sharing experience	0.13	0.10	0.06 (0.06)	0.48
Use social media for social bonds and events	0.08	0.33	---	---
Use social media for politics	0.16	0.05	0.08 (0.08)	0.33
Use social media for sports, music, art, and hobbies	−0.02	0.81	---	---

Table 4. Linear regression indicates characteristics related to adolescents who **fear another outbreak of COVID-19** (COVID_fear3).

Characteristic	Bivariate		Parsimonious Multivariate	
	β (SE)	<i>p</i> Value	β (SE)	<i>p</i> Value
<i>Demographics</i>				
Youth age	0.05	0.53	---	---
High income	−0.11	0.19	---	---
Youth female	0.19	0.02	0.12 (0.42)	0.16
Parents married	−0.04	0.64	---	---
Parents divorced	0.06	0.49	---	---
Secular	−0.09	0.27	---	---
<i>COVID Experience/attitudes</i>				
Child vaccinated	0.01	0.88	---	---
Both parents vaccinated	−0.07	0.36	---	---
Any friends/family outside home tested positive	0.11	0.17	---	---

Table 4. Cont.

Characteristic	Bivariate		Parsimonious Multivariate	
	β (SE)	<i>p</i> Value	β (SE)	<i>p</i> Value
Know of someone who died from COVID-19				
Child ever had COVID test	0.04	0.59	---	---
Child ever tested positive	0.08	0.37	---	---
Parent attitudes:				
Media exaggerated COVID-19 risks	−0.22	0.008	−0.21 (0.23)	0.008
Government manages to keep citizens safe from COVID	0.12	0.13	---	---
Pandemic is conspiracy of pharmaceutical and biotech corporations	−0.06	0.44	---	---
Pandemic is conspiracy of the government	−0.06	0.45	---	---
Professionals are providing reliable information about COVID-19	−0.05	0.51	---	---
The public is over-reacting to COVID-19	−0.05	0.54	---	---
There is not enough reliable information on COVID-19	0.04	0.59	---	---
In isolation since outbreak	−0.06	0.43	---	---
<i>Psychosocial</i>				
Adolescent subjective wellbeing	0.05	0.50	---	---
Adolescent depressive/anxiety symptoms	0.21	0.009	0.16 (0.09)	0.05
Perceived social support (adolescent report)	0.06	0.43	---	---
Health	0.02	0.84	---	---
Caregiver wellbeing	−0.05	0.55	---	---
Caregiver depressive/anxiety symptoms	0.03	0.70	---	---
Nonvictimization adversity (adolescent report)	0.003	0.97	---	---
<i>Technology usage</i>				
Amount of time on social networks	0.15	0.06	0.03 (0.14)	0.68
Uses Facebook	−0.04	0.61	---	---
Uses Instagram	−0.05	0.56	---	---
Uses Snapchat	0.11	0.20	---	---
Uses Twitter	−0.01	0.86	---	---
Uses YouTube	−0.06	0.47	---	---
Uses Tik Tok	0.04	0.66	---	---
Use social media as sharing experience	0.20	0.01	0.15 (0.19)	0.15
Use social media for social bonds and events	0.13	0.10	−0.01 (0.19)	0.93
Use social media for politics	0.17	0.04	0.14 (0.21)	0.08
Use social media for sports, music, art, and hobbies	0.08	0.31	---	---

4. Discussion

The present study is one of the first attempts to map the various factors associated with COVID-19-related fear in youth during the time of the COVID-19 pandemic. In this exploratory investigation, we sought to identify what in adolescents' closest social environments contributed to increased fear of the pandemic during an unusual time of ongoing uncertainty. This is specifically of interest as this group is considered especially vulnerable to the mental health consequences of COVID-19 [31]. To do so, we looked into four contexts in adolescents' lives, namely, demographic characteristics, experience with and attitudes toward COVID-19 (including parents' attitudes), psychosocial characteristics, and technology usage. Each of the contexts covers a variety of factors that may explain COVID-19-related fear experienced by youth in Israel. Fears could rise due to concerns about being infected by the Coronavirus, worry that something bad would happen to oneself or to a loved one, or that another outbreak of the pandemic will occur. Especially in a time of unprecedented global pandemic, never before experienced by young individuals, such fears could both reflect and invoke elevated stress linked to youth mental health in a multidimensional stressful context [3], that is, COVID-19.

4.1. Demographics

Our results showed that neither age, income, nor parents' family status (i.e., married or divorced) were associated with any type of COVID-19-related fear. Being a female adolescent, however, did predict all types of fear of the pandemic. This finding is in line with recent findings pointing to higher levels of COVID-19-related fear in adult females than in adult males [15,32,33] and in adolescent females than adolescent males [34–36]. The current study supports the cumulating evidence about females fearing COVID-19 more than males but emphasizes that fear of COVID-19 can be detected as early as adolescence.

Although prior research on the association between gender and COVID-19-related fear is scarce, some studies have examined the association between gender and COVID-19-related stress—which often both generates and reflects fear [16,37]—yielding inconsistent results. Some of this research points to higher levels of perceived stress in women than in men [38,39], whereas others point to no association between gender and levels of perceived stress e.g., [17,40]. Our finding that adolescent girls reported higher levels of COVID-19-related fear than adolescent boys calls for further investigation of the interplay between perceived stress and fear within the context of the pandemic, especially among youth. Previous non-COVID-19-specific findings indicating gender differences among youth in terms of subjective stress, psychological wellbeing, and health complaints suggest girls report higher scores than boys in all parameters [41–43]. Research should consider the factors that can promote perceived stress among adolescent girls in particular, as stress may reflect and give rise to increased fear of the pandemic. Although it has been suggested that females tend more than males to develop intense internalizing symptoms due to stress experiences, the specific mechanisms that underlie this association should be further explored.

4.2. Experience with and Attitudes toward COVID-19

Whereas demographic characteristics were mostly similar in predicting all types of increased COVID-19-related fear, experiences, and attitudes regarding the pandemic acted somewhat differently across types. Both the association between fear of being infected and adolescents being COVID-19 positive and the association between fear that something bad could happen to oneself or to a loved one and knowing someone (other than self) who tested positive for the virus make sense. Namely, if one had been infected with the virus once, he/she might accept the possibility of being infected again because what happened once can happen again. Similarly, if one knew others who had COVID-19, they already knew that being sick—or that something bad can and does happen—was a realistic possibility.

Why, however, did adolescents' fear that something bad would happen to them or to a loved one or fear that another outbreak of the pandemic was possible, decrease when a parent thought that the mainstream media exaggerated in its report on COVID-19-related risks? We believe that this association speaks to parental influence on adolescents' construction of reality [44]. Prior research has documented the contribution of parents to the ways their children shape their perceptions [45,46]. Observing others, children and adolescents can absorb their parents' attitudes and model their responses to different situations and circumstances [47,48]. Thus, by voicing their perceptions on the extent to which the media was a reliable source of information about the pandemic and its related consequences, adolescents internalized their parents' messages about the degree to which COVID-19 was indeed dangerous and should have been feared of. Our findings suggest that, to the extent that adolescents were exposed to parental communication that undermined the severity of COVID-19 and its risks as discussed in the media, they were less concerned with threatening thoughts about future consequences of the pandemic (i.e., something bad would happen to me or to others or that there would be another outbreak). It seems, then, that adolescents, similar to children [46,49], look up to their parents in their attempt to make sense of what is going on during an ongoing time of uncertainty.

4.3. Psychosocial Characteristics

Both adolescents' and their parents' psychological states had significant associations with all three forms of youth COVID-19-related fear examined. Understandably, feelings of distress can both reflect and generate negative and fearful thoughts [16,37], particularly in times of uncertainty. It is interesting to see, however, that whereas parent depression, anxiety, and low subjective wellbeing were associated with fear that something bad would happen to oneself or to a loved one, and adolescent depressive and anxiety symptoms were associated with fear of another outbreak, it was only adolescent's fear of being infected with the virus that was associated with both his/her and their parent's psychological distress.

These findings suggest that adolescents may still perceive their parents as a significant source of protection during uncertain times, such as the pandemic. Research documents associations between parents' and child's mental wellbeing [50,51]; this association is also found in our results. We speculate that, within the context of COVID-19, when an adolescent felt that the hardships of the pandemic and its related demands took their psychological toll on their parent, they might have feared that they and their environment were less protected. This fear could be concrete and personal, or more general, manifesting into fears that something bad could happen directly to the adolescent him/herself or to someone they knew. When their parent's psychological distress was low, however, adolescents seemed to feel more protected and thus less fearful, although their own psychological distress might have created conditions for more general fear of a future outbreak of the pandemic.

Our finding on the association between a parent's psychological distress and a child's fear that something bad would happen to them or to a loved one is in line with previous findings pointing to associations between parents' decreased wellbeing and child increased worries for their parents [52,53]. When children and adolescents experience psychological distress themselves, however, they may project it onto "the entire world," fearing another future global outbreak [54].

4.4. Technology Usage

In the last couple of decades, scholarly work has produced a vast amount of research about the potential influences of technology usage on adolescents and their psychological and social wellbeing [55,56]. While this rich body of research provides many significant insights on the subject, it is yet to be explored how technology utilization, in general, and spending time on social media networks, in particular, contributed to adolescents' fear during the days of COVID-19. According to the current findings, the more time spent on technology and social media, the more fear is reported in all three types. Specifically, the use of social media for sharing experiences and for politics was found to be significant in this association. We speculate that the more engaged adolescents were in sharing experiences of the pandemic, the more exposed they were to content in this realm that might have instilled more fear in them. Recent findings indicate that increased exposure to COVID-19-related negative content during the social isolation and stay-at-home orders due to the pandemic was associated with COVID-19-related stress and ill-being among youth [57]. Indeed, youth tended to share content about COVID-19 on social media, which focused mostly on the pandemic's negative aspects, including its physical and psychological deleterious implications [58,59]. Thus, the more time spent on social media for sharing experiences, the more negative content adolescents might have consumed with regard to COVID-19 online, which may explain their perception of the pandemic as dangerous and harmful. Such perceptions seem to be related to increased fear of COVID-19. These findings are also supported by Gerbner's [60] cultivation theory, positing that exposure to negative content in the media shapes individuals' views of reality as cruel and dangerous.

In terms of the use of social media for politics, we believe that the ongoing focus of both the mainstream political media and social media on the risks and hardships of COVID-19 [61,62] could be responsible for the finding documenting increased fear in adolescents who often used this outlet. According to a study conducted in Israel, Israeli youth are hyperconnected to the Internet, engaging socially online far more than their American contemporaries [63]. Israeli adolescents engage in intensive daily online activity, with approximately 50 percent of 12–17-year-old teenaged boys and girls reporting using social media outlets for over 6 h every day, and users aged 15–24 spend about a fifth of their waking hours a day on the Internet [63,64]. The intense use of social media highlights the central role they play in Israeli youth's everyday lives. It is possible that this capacity has increased during the days of isolation due to COVID-19.

Furthermore, one aspect of media use has to do with its potential to cultivate users' perceptions of the world. The role of the media in cultivating individuals' perceptions of social, health, political, and other issues has long been studied [65,66], and its influence on

the way individuals—particularly children and adolescents—perceive events and construct their reality is well documented [67,68]. Our findings on the association between social media use for politics and increased fear of COVID-19 among adolescents is yet further evidence supporting the potential power of the media in shaping individuals' perceptions, emotions, and experiences of global events. It further highlights the potential role of technology, specifically social media, in contributing to experiencing the pandemic as frightening among adolescents. Because the current cross-sectional data did not allow for disentangling whether fearful youth were more likely to use social media to decrease their worries about the pandemic or if social media generated such fear, more research on these pathways is needed.

4.5. Limitations and Future Directions

Although the present study adds important knowledge to the existing literature about the impact of COVID-19 on stress and psychological health among adolescents, it has a few limitations that need to be acknowledged. First, the data were not collected during a lockdown period, and whereas adolescents were probably experiencing fear of COVID-19 as long as the pandemic continued, it might have been insightful to capture their experience during a lockdown because social and physical restrictions with heightened health concerns constitute conditions for more prominent fear. Second, our sample included youth from Israel, but trends might have been different in other countries. Further examination of the associations found in the present study across countries, cultures, and societies is thus required. Third, our sample size was relatively small and was somewhat limited in its power to reach significance for some of the constructs. Finally, our cross-sectional study could not capture longitudinal or long-term fears related to the pandemic among adolescents. Thus, future studies should follow youth over time to document the persistence, desistence, or changing context of fear among adolescents in times of ongoing stress.

5. Conclusions

In the present study, we sought to map the factors related to the fear of COVID-19 in adolescents. As information continues to accumulate about the ways COVID-19 could have generated anxiety and worry from its outbreak to its decline, our goal was to highlight the possible factors that contributed to increased fear among adolescents, as it was associated with a vast number of undesirable outcomes. Specifically, we focused on adolescents because this group was said to be particularly vulnerable to increased COVID-19-related fear as their social development and relationships, which is so crucial during this developmental stage, were dramatically interrupted [31]. With the WHO still considering the pandemic active as of now (January 2023), our results contribute to a better understanding of the various factors associated with increased fear of COVID-19 among youth. The findings call for paying further scholarly and professional attention to the role intrapsychological, interpersonal, and social aspects play in processes of increased fear, stress, and wellbeing in adolescents. This study extends the current literature on adolescents' psychological health during the current pandemic and particularly highlights the need to focus on adolescent girls, the interdependence that exists between adolescents and their parents in the context of fear during COVID-19, and the contribution of technology usage to increased fear among adolescents in this time.

Author Contributions: Conceptualization, all authors; methodology, R.E. and A.G.-M.; formal analysis, R.E. and A.G.-M.; investigation, all authors.; resources, K.J.M. and M.G.-W.; data curation, K.J.M. and M.G.-W.; writing—original draft preparation, R.E. and A.G.-M.; writing—all authors; project administration, M.G.-W.; funding acquisition, M.G.-W. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the McDonnell International Scholars Academy at Washington University in St. Louis; Mastercard Center for Inclusive Growth; and Centene Center for Health Transformation.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board of Washington University in St. Louis, St. Louis, MO.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Anonymized data are available to be shared with researchers upon reasonable request following a signed data access agreement.

Acknowledgments: The authors gratefully acknowledge the funders who made this research project possible: the McDonnell International Scholars Academy at Washington University in St. Louis; Mastercard Center for Inclusive Growth; and Centene Center for Health Transformation. We appreciate the contributions from many colleagues at the Social Policy Institute at Washington University in St. Louis who advised on the planning and implementation of the study. Lastly, we thank the individuals who consented to participate in the research surveys and shared their personal experience during the COVID-19 pandemic.

Conflicts of Interest: The authors declare no conflict of interest.

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