

Investigating the Relationship between Fear of COVID-19 and Mental Health in High School Students in Bangkok’s Pathumwan District

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Abstract:

Amongst the many afflictions that the SARS-CoV-2 virus has caused is the mushrooming of a mental health crisis. Statistics depicts a surge in the prevalence of negative psychological conditions such as depression, anxiety and stress during the COVID-19 pandemic as the virus imposes tremendous casualties and widespread trepidation upon humanity. Recent research found mental health had collapsed among adolescents who had already been prone to negative psychological conditions before the pandemic. This phenomenon is particularly conspicuous in countries heavily affected by the pandemic and past studies indicated an increased level of those conditions and their correlation with people’s fear of COVID-19, which was revealed to be in a positive relationship with the severity of the disease outbreak and which a measurement scale called the Fear of COVID-19 Scale (FCV-19S) consisting of 7 questions was devised to measure in 2020. However, past studies regarding mental health in the COVID-19 era were preponderantly conducted in regions with high case counts and death tolls and it remains unclear whether replicating them in such areas harmed by the plague to a relatively smaller extent as Bangkok’s Pathumwan district would yield a similar result. Using the Mental Health Continuum–Short Form (MHC–SF) and the aforementioned Fear of COVID-19 Scale (FCV-19S), this research was therefore carried out to investigate the relationship between mental health and fear of COVID-19 in the district and determine whether or not the two were correlated in the particularly susceptible group—high school students. The result was unwonted, but not anticipated. Survey responses (n=370) indicated a mediocre level of fear and its non-relationship with mental health (measured by Pearson Correlation Coefficient; $r = -0.01987$). This could be useful in designing mental health therapy and pandemic-related public policy in the future, albeit given some extant unclarities, more painstaking research will be requisite.

Keywords — fear of COVID-19, mental health, COVID-19 pandemic, high school students, fear of COVID-19 scale (FCV-19S), Mental Health Continuum–Short Form (MHC–SF)

I. INTRODUCTION

According to the World Health Organization, “mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community”, in addition to the absence of

psychological disorders. Caused by the spread of SARS-CoV-2 virus (Hu et al., 2020), the COVID-19 pandemic affects the mental health of humans greatly and extensively, as demonstrated by a surge in depression, anxiety and stress, as well as multiple other psychological parameters (Son et al., 2020; Mahmud et al., 2020; Rodriguez-Hidalgo et al., 2020; Czeisler et al., 2020). This occurrence can be explicated using data from previous research.

Morganstein & Ursano (2020), for one, reported that experiencing a disease outbreak raises negative mental health conditions like depression. Another investigation by Maunder (2009) suggested that social interactions and support were instrumental in alleviating stress. Since accessibility to the two has plummeted due to lockdown and quarantine orders, a path for mental health deterioration has been paved.

Undoubtedly, the prevalence of mental health disorders and contemplations upon suicide has drastically risen in the course of the pandemic (Czeisler et al., 2020). This phenomenon could be particularly grinding for high school students whose age range had already featured a significant rise in mental health problems prior to the pandemic (Twenge et al., 2019), a condition that would be exacerbated by COVID-19. Accordingly, a study by Luijten et al. (2020) found a substantial dilapidation of teenagers' mental health during the pandemic. Statistics also showed emergency room visits by those under the age of 18 had skyrocketed during the same period (Leeb et al., 2020). This data provides an unmistakable testimony to the severity of the growing adolescent mental health crisis that warrants exigent rectification. However, it is worth noting that every aforementioned study and the vast majority of research currently available were conducted in countries other than Thailand.

According to statistics from the World Health Organization, in those certain countries, case counts have usually been high, as has casualty toll which Eder et al. (2021) found to be correlated with fear. It is extremely possible that such tremendous afflictions contributed to fear of the novel disease, which in turn was a potential propellant of mental health degradation, a precise scenario explicitly confirmed by the works of Ahorsu et al. (2020), Rodriguez-Hidalgo et al. (2020) and Şimşir et al. (2021), which found correlations between fear of COVID-19—measured by the newly developed Fear of COVID-19 Scale, abbreviated as FCV-19S, that consists of 7 apposite queries (Ahorsu et al., 2020)—and mental disorders. Because of this, there remains a capacious room for skepticism as to whether or not such a scenario would be the case in Thailand, which boasts only a comparatively small number of case counts (World Health Organization, 2021).

This research was therefore initiated to investigate the relationship between fear of COVID-

19 and overall mental health—capable of being gauged by the Mental Health Continuum–Short Form (MHC–SF; Keyes, 2005) designed to assess psychological welfare—among high school students in Bangkok's Pathumwan district, which harbors diverse stripes of adolescents, with a hypothesis that because of low exposure to the disease and thus speculatively abated fear, the 2 variables would be unrelated in the group of interest and a purpose of providing data that could be valuable in tailoring public policy, or any policy for that matter, regarding the pandemic and mental health.

II. METHODOLOGY

To investigate the relationship between mental health and fear of COVID-19 in the group of interest, a comprehensive survey of a sample group had to be conducted. In the process, a questionnaire of 24 items was contrived, consisting of 3 queries on personal background, 14 to gauge respondents' mental health status and 7 to assess their fear of the novel contagion. The personal background portion inquired about each respondent's age, gender and school grade. The mental health and fear of COVID-19 portions contained questions derived from the Mental Health Continuum–Short Form (MHC–SF; Keyes, 2005) and the Fear of COVID-19 Scale (Ahorsu et al., 2020), respectively, and modified for appropriacy and correspondence with circumstances of the research. The questionnaire was subject to evaluation by experts to determine its Item-objective Congruence (IOC) value, which surpassed the 0.5 threshold required for usability, and apropos adjustments. Afterwards, a pilot testing was executed and yielded a Cronbach's alpha value of 0.812, which was sufficient for acceptability, according to Cortina (1993). When this phase concluded, the questionnaire was distributed for data collection. The sample size was 370, which was adequately representative of the total population of over 6,500 individuals, according to Krejcie & Morgan (1970), and the questionnaire was submitted to them online via Google Forms. Collected data then proceeded for analysis, using Microsoft Excel's Analysis Toolpak software. To

ascertain the relationship between the 2 variables, the Pearson Correlation Coefficient was used.

III. RESULTS

Table I: statistics of the respondents’ demographics including gender, age and educational level

Personal information	Number of participants	Percentage
1) Gender		
Female	256	69.18919
Male	103	27.83784
LGBTQ+	11	2.97297
Total	370	100
2) Age		
15	11	2.97297
16	157	42.43243
17	123	33.24324
18	79	21.35135
Total	370	100
3) Education Level		
Grade 10	47	12.70270
Grade 11	277	74.86486
Grade 12	46	12.43243
Total	370	100

According to this table, the vast majority of respondents (n = 370) were female, who accounted for 69.19% of the total responses, and in grade 11 (74.86%). The figures for males and those identifying themselves as members of the LGBTQ+ community were only 27.84 and 2.97%, respectively, and respondents were rather evenly divided between 10th graders and 12th graders. At 42.43%, 16-year-olds contributed most to the questionnaire, followed by 17-year-olds (33.24%) and 18-year-olds (21.35%). Only a diminutive 2.97% of the responses came from those at the age of 15.

Table II: statistics of the answers to the fear of COVID-19 portion of the questionnaire. The portion consisted of 7 statements to which participants (n = 370) could respond by answering on a Likert scale between 1 (strongly disagree) and 5 (strongly agree).

Question	Mean Rating (Out of 5)	Standard Deviation	N
1) At the present, I am most afraid of COVID-19.	3.95454	1.17422	370
2) At the present, it makes me uncomfortable to think about COVID-19.	3.68181	1.24924	370
3) At the present, my hands become clammy when I think about COVID-19.	2.59091	1.43623	370
4) At the present, I am afraid of losing my life to COVID-19.	3.72727	1.57908	370
5) At the present, when I watch news and stories about COVID-19, I become nervous or anxious.	4.36363	0.65795	370
6) At the present, worrying about contracting COVID-19 makes me unable to sleep.	2.68181	1.35879	370
7) At the present, my heart races or palpitates when I think about contracting COVID-19.	2.54545	1.40500	370
Overall descriptive	3.23474	1.44538	370

As depicted by this table, the collective statistical mean of every response to the 7 questions were in the proximity of 3, or “neutral”. However, scrutinizing each of the 7 questions illustrated that the individual means of responses to questions number 1, 2, 4 and 5 were

skewed towards 4, which translated into “agree”, whereas the individual means of responses to the remaining questions were distinctly close to 2.5, which was in the middle between “disagree” and “neutral”. An overall standard deviation value of approximately 1.45 was calculated. The entirety of this suggested that the respondents were generally neither apprehensive nor insouciant about COVID-19, a result that aligned with the initial hypothesis that envisioned a relatively marginal impact upon fear by Thailand’s comparatively modest case counts and casualties.

Table III: statistics of the responses to the mental health section of the questionnaire. The portion included 14 statements to which participants (n = 370) could respond by answering on a Likert scale between 1 (never) and 5 (always).

Question	Mean Rating (Out of 5)	Standard Deviation	N
1) In the last month, how often did you feel happy?	4.04545	0.89553	370
2) In the last month, how often did you feel interested in life?	3.77272	1.10977	370
3) In the last month, how often did you feel satisfied with life?	3.81818	1.13961	370
4) In the last month, how often did you feel that you had something important to contribute to society?	3.36363	1.13580	370
5) In the last month, how often did you feel that you belonged to a community?	2.81818	1.36753	370
6) In the last month, how often did you feel that our society is a good place, or is becoming a better place, for all people?	2.45454	1.47122	370

7) In the last month, how often did you feel that people are basically good?	3.09090	1.30599	370
8) In the last month, how often did you feel the way our society works made sense to you?	2.95454	1.49530	370
9) In the last month, how often did you feel that you liked most parts of your personality?	3.68182	0.89370	370
10) In the last month, how often did you feel good at managing the responsibilities of your daily life?	3.40909	1.22120	370
11) In the last month, how often did you feel that you had warm and trusting relationships with others?	3.63636	1.29267	370
12) In the last month, how often did you feel that you had experiences that challenged you to grow and become a better person?	3.36363	1.21677	370
13) In the last month, how often did you feel confident to think or express your own ideas and opinions?	3.72727	1.03196	370
14) In the last month, how often did you feel that your life has a sense of direction or meaning to it?	3.59090	1.22121	370
Overall descriptive	3.14811	1.26137	370

This table demonstrates the collective statistical mean of the responses to all questions stood in the vicinity of 3 or

“sometimes”, with a standard deviation value of some 1.26. With certain exceptions, the individual means of each question were overwhelmingly inclined towards 4, or “frequently”, which signified a decent level of mental health. This result elicited an interpretation that in the past month, the mental health of Pathumwan district’s high school students remained in an average state amidst the ongoing COVID-19 pandemic, largely undiminished by the pandemic but also not in a superlative condition either.

Table IV: a correlation test between respondents’ fear of COVID-19 and mental health

Descriptive Statistics

	Mean	Std. Deviation	N
Fear of COVID-19	3.23474	1.44538	370
Mental Health	3.14811	1.26137	370

Correlations

		Connectedness	Stress
Fear of COVID-19	Pearson Correlation	1	-0.01987
	N	370	370
Mental Health	Pearson Correlation	-0.01987	1
	N	370	370

According to the correlation test’s result, a Pearson correlation efficient of -0.01987 was yielded. Although suggestive of a weak inverse correlation, this value was statistically insignificant, meaning that fear of COVID-19 and mental health were not correlated and supporting the study’s hypothesis.

IV. DISCUSSION

The results were indicative of a noncorrelation between fear of COVID-19 and the mental health of high school students in Bangkok’s Pathumwan district, illustrating a circumstance much congruent with the initial hypothesis, yet considerably divergent from what Rodriguez-Hidalgo et al. (2020) and others brought to light. As mentioned in the results section, the former was discovered to be in a

neutral state whereas the latter was found to be neither dismal nor delightful, although certain subsections of it implied positivity. This could be justified by the findings of previous studies. The ones conducted by Eder et al. (2021) and Fitzpatrick et al. (2020), for example, illustrated a relationship between regional COVID-19 casualties or confirmed cases and local fear of the disease, which Şimşir et al. (2021), Ahorsu et al. (2020) and Satici et al. (2020) amongst others found to be strongly correlated with mental health deterioration. In other words, high death tolls and Coronavirus-positive counts cultivate fear of COVID-19 and this fear, in turn, abrades mental health.

However, unlike the European and American countries in which the aforementioned studies had been executed, Thailand has featured relatively fewer COVID-19 cases and deaths (World Health Organization, 2021) and thus, such a scenario was not entertained in this study, vindicating its unorthodox findings. Low afflictions by the disease failed to beget a surge in fear and with an inadequate level of it, as ascertained by the survey of this research and mentioned previously, mental health would not dwindle. However, it is also possible that mental health was bolstered and kept afloat by external factors instead of waning in independence at the hands of even mediocre fear. Entertainment media, for one, could be responsible for this.

During the trajectory of the pandemic, statistical data noted a surge in video game (Statista, 2021), social media use (Wold, 2020), television and online news (Oxford Business News, 2020) and past research found these media to be helpful in alleviating stress and enhancing mental health (Mandryk et al., 2020; Depp et al., 2010; Nabi & Krcmar, 2004). Therefore, it remains inconclusive whether fear of COVID-19’s paucity alone is responsible for an undepleted degree of mental health in the study’s subjects and more thorough probes into the matter are advised in order for clarity to surface.

V. CONCLUSION

This study commenced to investigate the relationship between fear of COVID-19 and mental health, which has been found to exist in an inverse format in countries with heavily affected by the COVID-19 pandemic where research data indicated that high COVID-19 numbers were causally related with fear, in high school students, who research found to be especially vulnerable with regards to mental health, in the Pathumwan District of Bangkok, Thailand, where the pandemic has had relatively modest effects on. Per initial assessments, a hypothesis was established that a non-relationship would be unveiled in the particular group of subjects, provided that the modesty of COVID's afflictions on their home turf would neither translate into a significant level of fear nor cause mental health to plummet. As the procedures of this study unfolded, it was found that the hypothesis was accurate: there was no statistically significant relationship between fear of COVID-19 and mental health whatsoever. However, there might have been certain external factors influencing this finding and hence, more research is needed for certainty. Regardless, the current data confers a decent basis for future adaptations and applications in various fields—for instance, devising public policy or making Coronavirus-related announcements, which definitely encompasses contemplations upon the public's attitude to prevent panic and noxious consequences, and designing mental health therapy, which is of nonnegligible importance. In any case, utmost discretion is requisite in utilizing the discoveries yielded by this study.

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