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A Cross-Country Analysis on the Mental Health Impacts of the COVID-19 Pandemic on Filipino Adolescents in UAE and the Philippines

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Abstract

Aim: The COVID-19 pandemic has been investigated by several peri-pandemic studies to cause significant mental health impacts on children and adolescents, highlighting the need for proper psychological help and empowerment for this age group. The researcher believes that cross-country assessments could provide a greater sense of the mental health and wellbeing of children and adolescents. The purpose of this descriptive-correlational study was to initially provide a cross-country comparison between children and adolescents living in two biggest cities from two socioeconomically opposing countries, United Arab Emirates and Philippines. But due to sampling and systematic errors, the resulting web-based surveys conducted returned answers only from predominantly Filipino citizens in a province outside Metro Manila. With a main focus on Filipino students living in rural areas, this study thus aimed to investigate the prevalence of traumatic events, stress, anxiety, depression, and PTSD risk among adolescents in Grade 7 to Grade 12 in the Philippines and UAE.

Methodology: A total of 567 adolescents, mostly males (63.38% & 62.96%) in Grade 10 from the Philippines (23.68%) and Grade 8 in the UAE (22.37%), answered the Depression Anxiety Stress Scales for Youth (DASS-Y) and the Children's Revised Impact of Events Scale (CRIES-13) from December 2022 to January 2023.

Results: The most common traumatic event experienced by respondents in both the Philippines and the UAE was fear of harm or a high-stress environment (About 1 in 4), followed by verbal or emotional abuse and cyberbullying. The least common traumatic events were terrorist events, gang/community violence, and witnessing bodily harm or death. The results showed that the majority of respondents had normal levels of stress, anxiety, and depression, but more than half (56.3%) were at risk for PTSD diagnosis. The study also found significant differences in levels of stress, anxiety, depression, and PTSD risk between males and females, with females reporting higher levels in all four measures. There was also a significant difference in levels of stress, anxiety, and depression by grade level, with higher levels reported by older students. Based on the results, the researcher proposed the "Building Resilience" program for Filipino adolescents in the Philippines and UAE, which includes five interventions involve a range of stakeholders (e.g. mental health professionals, licensed counselors and psychologists, community leaders, educators, parents, etc.).

Conclusion: Despite the inherent biases in this study, the results can be particularly beneficial in the secondary education systems of both countries, specifically in the area of post-traumatic adolescent mental health interventions.

Keywords: Mental health impact, COVID-19, Stress, Anxiety, Depression, Post-traumatic Stress Disorder (PTSD)**.**

INTRODUCTION

Social experiences help or hinder children's learning behavior, development, and mental health. The ongoing COVID-19 or SARS-Cov2 pandemic prompted a change in the social fabric of teenagers who, instead of going to class or hanging out with friends, have been banished to a life of screens, solitude, and uncertainty. Two years after, current global meta-analyses still agreed depressive and anxiety symptoms among children and adolescents have increased (Racine, et al., 2021; Li et al., 2022, among others). Although this demographic appears less averse to

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contract severe COVID-19 symptoms, the problem lies in the significant disruption it presents in two most important developmental milestones: the build-up of social skills and sense of identity. Depending on their age and stage, some of them might have a hard time coping with this great setback isolating them from social support outlets and peers.

Unlike children, adolescents are quite moody. When they get sadder, more angry, more tired or try to avoid some activities or people, they are showing signs of either poor mental health or they are engaging in some risk-taking behaviors. Adolescence is such a unique and formative phase of development that there are multiple and rapid changes that are happening. It is also a period of vulnerability. Half of mental health issues actually arise before the age of fourteen. Depression is the leading cause of burden of disease in adolescents, followed by suicide which is the leading cause of death in 15 to 29 years old. If these are left untreated, they extend into adult life and thus impacting educational attainment, employment, difficulty in relationships or even parenting for the younger generation (WHO, 2018). Talking and communicating with them therefore is very crucial to maintain their mental resilience against traumatic events.

Worldwide, the needs of teens are often overseen when it comes to COVID-19 restrictions. Last February 2021, the Hospital for Sick Children (SickKids) survey revealed how the first wave of the pandemic harmed the mental health of 70% of children and youth ages 6-18 in Ontario, Canada. Such alarming data scared many countries in the wake of similar reports. In fact, the medical community called the American Academy of Pediatrics in the United States declared a mental health crisis due to the serious psychosocial distress it is causing to children and their families, especially since the pandemic exacerbated inequalities within disadvantaged populations (i.e. Black, Latin, PWDs, etc.) (Oberg, et al., 2022). Bundervoet and Davalos (2021) revealed in their study that the pandemic's effects are most unequal in countries with preexisting inequalities. Children born into poor socioeconomic backgrounds with mostly lackluster opportunities to avail of mental health support channels will, in the same way, unevenly recover as things go slowly back to normal. Also, consistent with Bronfenbrenner's ecological systems theory, child development can be arrested by the immediate environment, but also at the interaction with government restriction policies (i.e. isolations and lockdowns).

Regardless of clinical history, adolescents experience similar overall mental health impacts. While anxiety and depression account for majority of the impact, sadness, loneliness, suicidal ideation and thoughts of self-harm also prevail, presenting a problem for future generations of our highly globalized society. The outbreaks released various psychological responses ranging from anger to stigmatization, but also brought along positive outcomes through a greater sense of empowerment and compassion towards others (Chew et al., 2020). Yet, despite assurances from the general population that COVID-19 stressors drew positive reactions, proper psychological help and empowerment for children and adolescents have been inadequate. Even protective institutions from developed countries decried the neglect in commitment to actively protect teens from the short- and long-term effects of sustained, multiple stressors on their mental health brought by pandemic-related issues and programs (Rider et al., 2021).

Schools have an important role in promoting mental health resilience especially in times when normal habits get derailed (Muńoz & Sanchez, 2023; Regala, 2023; Salendab, 2021; Sanchez & Sarmiento, 2020). But as COVID-19 kept them away from school, kids now have struggled with issues at home while still remaining connected through online platforms. As some parts of the world have eased on the restrictions, they are now returning to schools and what better time than to investigate their mental health. Homes have to adjust as a school, and making it safe and secure should promote psychosocial health. Obviously, parents are similarly instrumental in promoting mental health at home. Having stable positive emotional connections at home, having positive attitudes, communicating with them while giving them independence and engaging with them are just some of the things schools and parents can do. Meanwhile, many researchers around the world have been nudged to explore how children and adolescents have coped with the return to normal life from this large-scale developmental interruption.

As public actions varied depending on the state of the pandemic in each country, the researcher believed a greater sense of the mental health and wellbeing of children and adolescents could be reached by looking through cross-country assessments. As a Filipino working as a university psychologist for an institution in Dubai, United Arab Emirates, the researcher has witnessed unique differences in children's pandemic responses across the two countries. Despite the Philippines being about 3.6 times bigger than the UAE, the socioeconomic difference is staggering as the former is considered a developing country while the latter is a developed country. The average Emirati earns as much as 8 times more money than the average Filipino, and they are 71.9% less likely to be unemployed (CIA World Factbook, 2022). As such, children and adolescents in the United Arab Emirates follow the demographic trend in most European countries of low birth rates, low infant and maternal mortality rates, as well as being entirely connected to the Internet (compared to only about 60% in the Philippines).

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The goal of this research study is to expose the effects of COVID-19 pandemic almost three years since it wreaked havoc on national and global health systems. Adolescents living in the Philippines and United Arab Emirates were surveyed using tested mental health screeners in order to understand the impact and to provide immediate, medium- and long-term solutions for respective countries to adopt and implement. This traumatic event in the development of our youth may have disastrous consequences or it may have strengthened their mettle. A recent picture of the mental health impact of the pandemic provides various stakeholders with a comparative glimpse on its impact on mental health and its lingering consequences on young people today.

Throughout the conduct of the study, however, sampling problems arose. Instead of a comparative study, this cross-country assessment leaned more towards a discussion of the impacts of the pandemic on Filipino adolescents due to a skewed sample that had more Filipino respondents and lack of cooperation from participants in the UAE due to cultural and religious differences. The pandemic has disrupted the social experiences of children and adolescents, which are essential for their learning behavior, development, and mental health. Adolescents are particularly vulnerable to mental health issues, and the pandemic has caused serious psychosocial distress among them. The study highlights the importance of schools and parents in promoting mental health resilience and the need for psychological help and empowerment for adolescents. The study looks at cross-country assessments to understand the mental health and wellbeing of adolescents during the pandemic, with a particular focus on Filipino children.

Stress, Anxiety, Depression and PTSD

The Centers for Disease Control and Prevention (CDCP, 2020) stated that pandemics can be stressful for both young and old people. Anything that causes people to feel stress is called a stressor. According to Harvard Medical School (2020), stressors can be environmental, such as looming work deadline or psychological, such as persistent worry about losing a job. There is a clear distinction between pressure, which can create a 'buzz' and be a motivating factor, and stress, which can occur when this pressure becomes excessive. Fear and anxiety about a virulent disease and thinking about what would happen can be very overwhelming. In addition, small crises compound and this oftentimes can lead to anxiety, eating disorders, depression and addictive disorders. Emergency responses in this type of situation like social distancing and community quarantines can make people feel isolated and lonely, frequently leading to negative stress and anxiety. It disrupts the normal flow of life for some that it can cause sleep and eating disorders. Thinking about it makes it difficult for some to sleep. It can worsen chronic health problems and may increase the use of tobacco, alcohol and even illicit drugs just to cope with the sudden changes in how people live.

The very first systematic review and meta-analysis on the prevalence of stress, anxiety and depression among the general population in this COVID-19 situation was published last 6th of July 2020. Salari and colleagues (2020) found that stress was prevalent among 29.6%, anxiety among 31.9% and depression among 33.7%. COVID-19 being a novel and unexplored SARS-type of virus, unique because of its rapid transmission and high mortality rate, makes people anxious. Add to that are distressing news, sometimes associated with rumors, which raises anxiety levels when people are exposed to them. Panchal et al. (2020) concluded that as the pandemic wears on, ongoing and necessary public health measures expose many people to experiencing situations linked to poor mental health outcomes, such as isolation and job loss. Employees, and even employers, felt stressed than ever before. Prior to the pandemic, use of antianxiety and anti-insomnia medications among Americans were both on the decline from 2015 to 2019 but starting 2020, new prescriptions for antidepressant, antianxiety, and anti-insomnia medications nearly doubled, stressing the vital need for therapeutic intervention (Gavidia, 2020).

Perhaps, posttraumatic stress disorder (PTSD), both among survivors and relatives of victims, may be another "unseen epidemic" following the COVID-19 pandemic according to Stawicki et al. (2020). Such phenomena were observed on a large scale in Africa following the 2014–2016 Ebola outbreak. In similar fashion, early reports from China indicate that the COVID-19 outbreak has resulted in significant number of new PTSD cases. It should be expected that PTSD will be increasingly evident across the affected areas of the globe, and it will be equally important to ensure that local resources are available to help individuals cope with the immense emotional stress of a pandemic. In addition, significant rates of anxiety, depression, and other mental health disorders are to be expected, involving both the general population and healthcare providers. Perhaps, the most dreaded mental health consequence is the increase in suicidal ideation and suicide during the pandemic.

Crosswell and Lockwood (2020) stated that stress is too vague and broad to accurately measure. However, they described best practices in stress measurement, detailing which dimensions of stressor exposures and stress responses to capture, and how. They described two types of indicators to use, whether psychological or

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physiological. Along with the two types of indicators, the stress process – never a single concept according to Epel et al (2018) – must also be differentiated between exposures to stressful events and the responses to these events. So together, the authors were able to identify certain aspects of stress to capture in order to fully capture the role it plays in predicting disease: 1) the specific type(s) of stressor exposure, 2) a wide range of psychological, cognitive, behavioral, and physiological responses to the exposure, and 3) contextual and individual-level factors that moderate the impact of the exposure and response.

Life events scales form the bulk of stress measurement approaches in research today. According to Wethington (2016), they remain as one of the most commonly utilized means of naturalistic assessment of exposure to stressors, in distinction to the manipulation of stressor exposure in experimental research. Over the years, research journals have been flooded by a surge in development of better and more specific scales to measure stress. In light of this present study, the researchers only picked a handful of them. Only those commonly used and validated will be included for review and discussion.

A lesser-known scale is the Standard Stress Scale (SSS) developed by Gross and Seebaß (2016). The authors insisted that the SSS is consistently applicable to almost any cohort. The final 11-item Standard Stress Scale (SSS) sprung from 35 questions regarding stressful life situations, social stress, daily distress, anxieties about the future and other stresses and strains. It follows the theoretical approach of the effort-reward imbalance model (ERI) and the demand-control model. These 35 items were pretested with different subsamples—such as students in different school types, university students, and adults in different life stages—using self-administered questionnaires.

The most famous scale is the DASS-21. The Depression Anxiety Stress Scale (DASS) developed by Lovibond & Lovibond in 1995 has currently been receiving increasing usage and support due to its strong psychometric properties (Beaufort, 2017). It is consistent with both younger and older adult samples. Results from DASS indicated good internal consistency, excellent convergent validity, and good discriminative validity. DASS-21, a shortened version of the 42-item questionnaire, predicted the diagnostic presence of generalized anxiety disorder and depression, as well as other commonly used measures. These data suggest that the DASS may be used in lieu of multiple scales designed to measure similar constructs. It has been used successfully in many cohorts such as a rural community of women, Brazilian adolescents (da Silva et al., 2016), Egyptian drug users (Ali & Green, 2019) and of course, populations affected by COVID-19. The most recent iteration of the DASS-21 extends the psychometric properties to children and adolescents. The original author Peter F. Lovibond, along with Marianna Szabo, developed the Depression Anxiety Stress Scales for Youth (DASS-Y) and tested its psychometric properties. They found that the core symptoms that define depression, anxiety and stress in children and adolescents are similar to those previously found in adults (Szabo & Lovibond, 2022).

Another known perceived stress instrument was the Perceived Stress Scale (PSS) developed by Sheldon Cohen in 1983. It is a measure of the degree to which situations in one's life are appraised as stressful. The 10 5-point Likert scale items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. Since it has never been modified, it remained a very reliable instrument to assess the subjective perception of the respondent through the years. Its various language versions were reliable and valid in a sample of early childhood teacher candidates from Korea (Lee & Jeong, 2018), among Chinese adolescents (Liu et al., 2020) and even Filipino patients with Lupus (Mills et al, 2017).

Another emerging trend in measuring stress is the use of online technology. Þórarinsdóttir et al. (2019) investigated (1) the validity of smartphone-based self-assessed stress compared with Cohen Perceived Stress Scale (PSS) and (2) whether smartphone-based self-assessed stress correlates with neuroticism (Eysenck Personality Questionnaire-Neuroticism, EPQ-N), psychosocial functioning (Functioning Assessment Short Test, FAST), and prior stressful life events (Kendler Questionnaire for Stressful Life Events, SLE). This study followed 40 healthy blood donors for 4 months with daily self-assessment of stress using their smartphone. The findings indicate that smartphone-based self-assessed stress is a valid measure of subjective stress on its own. They found statistically significant positive correlations between smartphone-based self-assessed stress, and the PSS, the EPQ-N, and the FAST, respectively. However, it did not correlate with prior stressful life events.

Today, many life events scales are still being developed, and tested for reliability and validity, especially during this COVID-19 crisis. Searching Google with the keywords "stress scale COVID-19" will pop up tens or maybe hundreds of scientific journals and articles regarding stress measurement scales specific to the COVID-19 situation. The COVID Stress Scale by Taylor (2020), Fear of COVID-19 Scale by Ahorsu et. al. (2020), modified/combined scales, along with many others. All of these COVID-19-related scales involved sub-scales. Taylor's (2020) COVID Stress Scales, for example, hover around five correlated facets of COVID-19-related distress: (a) Fear of the dangerousness, which includes fear of coming into contact with fomites potentially contaminated with SARSCoV2, (b)

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worry about socioeconomic costs (e.g., worry about personal finances and disruption in the supply chain), (c) xenophobic fears that foreigners are spreading it, (d) traumatic stress symptoms associated with direct or vicarious traumatic exposure to COVID-19 (nightmares, intrusive thoughts, or images related to COVID-19), and (e) compulsive checking and reassurance seeking.

Chang and associates (2020) assessed three COVID-19-related scales among people with mental illness and tested them along with DASS-21. They found that Fear of COVID-19 Scale (FCV-19S), Believing COVID-19 Information Scale (BCIS), and Preventive COVID-19 Infection Behaviors Scale (PCIBS) demonstrated satisfactory psychometric properties. Moreover, the authors constructed a path model showing a positive association between believing in COVID-19 information and fear of COVID-19, a negative association between fear of COVID-19 and preventive COVID-19 infection behaviors, and a positive association between fear of COVID-19 and psychological distress. In the early months of the pandemic, Filipino authors Bernardo et al. (2020) developed an 11-item Coronavirus Pandemic Anxiety Scale (CPAS-11) to measure symptoms of anxiety related to the COVID-19 pandemic to help identify individuals who might need mental health services. The scale was validated in a Filipino sample (N = 925). Their tests showed good internal consistency, convergent and divergent validity, and screening accuracy.

As with any scale, COVID-19-related scales started broadly. Qiu et al. (2020) developed the COVID-19 Peritraumatic Distress Index (CPDI), a broad self-report questionnaire assessing different aspects related to the pandemic, such as level of social functioning and frequency of anxiety, depression, and specific phobias. Since then, many began to use small or concise versions. Ahorsu et al. (2020) developed a more concise tool to specifically address the fear of COVID-19 (Fear of COVID-19, FCV-19S). The scale consists of seven items developed after a thorough review of various valid fear scales. The scale has been adopted in Bangladesh and the UK (Harper et al., 2020; Sakib et al., 2020), and was found to sustain its stable psychometric properties as well as to predict positive behavior change (e.g., improved hand hygiene, social distancing). Tzur Bitan et al. (2020) found FCV-19S very reliable as it also has good psychometric properties. The authors recommended the scale to be used in studies assessing the effects of the pandemic on the population's mental health.

Lastly, measures evaluating the impact of traumatic events to assess posttraumatic stress exist. One of these is Deeba, Rapee and Prvan's (2014) Children's Revised Impact of Events Scale (CRIES). The Children's Revised Impact of Events Scale is a reliable and valid measure that has two brief versions (13 items and 8 items) to assess reactions to traumatic events among young people.

In conclusion, stress scales vary in terms of many variables and many are being produced or modified during difficult times especially during large-scale traumatic events (i.e. pandemics, war, terrorist attacks). The COVID-19 situation showed increasing developments in self-administered questionnaires. However, a single point stands out among them: that concise 10 or maybe lesser number of items can be very reliable, verifiable and reproducible as long as the sample is large enough to achieve a low margin of error.

Impact of COVID-19 pandemic on mental health of children and adolescents

Chew et al. (2020) conducted a narrative synthesis of the published literature over the last two decades with a quality appraisal of included articles that reported both psychological responses and coping strategies within infectious disease outbreaks. They found 18 studies examining the psychosocial responses of the general population towards the severe acute respiratory syndrome epidemic, four studies focused on the Ebola epidemic and two studies covered the H1N1 outbreak. Common themes in psychological responses included anxiety/fears, depression, anger, guilt, grief and loss, post-traumatic stress and stigmatization, but also a greater sense of empowerment and compassion towards others. Coping strategies adopted included problem-focused coping (seeking alternatives, self- and other-preservation), seeking social support, avoidance, and positive appraisal of the situation.

Chawla et al. (2021) synthesized literature on the psychological impact of COVID-19 among children and adolescents. One hundred and two relevant papers were identified. Most of the studies were conducted online or telephonically. The study designs were primarily single group cross-sectional, though a few prospective/retrospective designs were also identified. Studies assessing emotional distress showed variable levels of anxiety and depressive symptoms in the study population, with greater severity of anxiety symptoms among females and older adolescents. Reduced physical activity; delayed sleep time; increased sleep duration, screen time, internet use, and sedentary habits, poor quality of life were other notable findings, often correlating with anxiety/depression. Efforts to address bias, discussion on generalizability of their results, and sample size calculation were not reported in most studies. Psychological impact on children/adolescents is significant, either due to the fear of the illness or social isolation related to COVID-19.

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Gilsbach et al. (2021) explored whether youth with mental disorders show a higher pandemic-associated psychological burden than healthy children and adolescents and to determine which psychiatric diagnoses are particularly associated with a higher distress level. In this study, 144 children and adolescents between the ages of 6 and 18 years with a mental disorder and 48 children and adolescents within the same age range without a mental disorder, and their caregivers, completed questionnaires assessing the pandemic-associated trauma symptoms (the Child Report of Post-Traumatic Symptoms [CROPS] and the Parents Report of Post-Traumatic Symptoms [PROPS]). They found that children and adolescents with a mental illness, particularly, female children and individuals with a depressive disorder, are at an increased risk of suffering from pandemic-associated psychological distress.

Schnaiderman et al. (2021) assessed the impact of COVID-19 lockdown on the emotional health of children and adolescents attending primary or secondary school. Parents of children and adolescents from San Carlos de Bariloche participated in the study. Adults' perception of the emotional and behavioral impact of lockdown on children and adolescents, changes in sleeping habits, screen use, sports-related activities, eating, and medical consultations, was assessed. A total of 267 parents were included. Of them, 96.3 % noticed emotional and behavioral changes. The most common ones were that their children were more bored (76.8 %), more irritable (59.2 %), more reluctant (56.9 %), and angrier (54.7 %). It was observed that they woke up and went to bed later, and slept 30 minutes more. Moreover, leisure screen use increased by 3 hours on weekdays. Time dedicated to physical activities did not change, but the type of activities did swimming and team sports were replaced by biking, walking, and skiing. COVID-19 lockdown affected the emotional health and habits of children and adolescents. Boredom, irritability, and reluctance were more present during lockdown. The possibility of doing outdoor physical activities allowed them to keep practicing sports.

De Figueiredo et al. (2021) explored the COVID-19 pandemic impact on children and adolescents' mental health: Biological, environmental, and social factors. They found that children and adolescents were greatly impacted by the abrupt withdrawal from school, social life and outdoor activities. Some of them also experienced domestic violence growing. The stress they are subjected to directly impacts their mental health on account of increased anxiety, changes in their diets and in school dynamics, fear or even failing to scale the problem. They concluded that COVID-19 has a multifactorial impact on children and adolescents populations. Stressors of COVID-19 pandemic can trigger neuroinflammation and behavioral impairments. Social isolation stress can induce neuroimmunoendocrine changes during early life. The pandemic stressors early in life may lead to neuropsychiatric outcomes in adulthood.

Theberath et al. (2022) summarized existing survey studies addressing the effects of the current COVID-19 pandemic on the mental health of children and adolescents. In total, 35 survey studies with 65,508 participants, ranging from 4 to 19 years of age, were included. Anxiety (28%), depression (23%), loneliness (5%), stress (5%), fear (5%), tension (3%), anger (3%), fatigue (3%), confusion (3%), and worry (3%) were the most common mental health issues reported. Children and adolescents with psychiatric and/or developmental disorders, such as severe obesity, chronic lung disease, attention deficit hyperactivity disorder, cystic fibrosis, and obsessive-compulsive disorders, were especially vulnerable to the mental health effects of the COVID-19 pandemic. Age, gender, psychological quality, and negative coping strategies were identified as risk factors for the development of mental health problems. Social and family support, along with a positive coping style, was associated with better outcomes.

Octavius et al. (2020) analyzed the impact of COVID-19 towards adolescents' mental health. A systematic search was conducted from Cochrane, Google Scholar, Scielo, and PubMed. Inclusion criteria included all types of studies which observed the effect of COVID-19 and its related causes, such as lockdown, on adolescents' mental health. All studies were assessed for its level of evidence according to Oxford 2011 criteria and Newcastle Ottawa Scale (NOS). Three studies (Seçer and Ulaş, Int J Ment Health Addict: 1–14, 2020; Zhou et al., Eur Child Adolesc Psychiatry 29:749–58, 2020; Qu et al., Lancet: 1–17, 2020) showed that COVID-19 was a risk factor for mental health problems in adolescents while Oosterhoff et al. (J Adolesc Health 67: 179–185, 2020) showed that adolescents who preferred to stay at home during this pandemic reported less anxiety and depressive symptoms. COVID-19 has been found to be associated with mental health changes in adolescents which meant management of COVID-19 should also focus on mental health as well.

Ahmed et al. (2021) performed a cross-sectional study on 148 children aged 6–12 years old categorized into 2 groups based on COVID-19 infection history. Participants were assessed by the Socioeconomic Scale and the Checklist for Children's Behavior (CBCL). Children who had COVID-19 had a high percentage of problems regarding family, school, social, financial, and parent problems due to the COVID-19 pandemic. Regarding CBCL, children who had COVID-19 infection had a higher percentage of clinical rating than the other group regarding withdrawal (11.1% vs. 8.9%), anxious/depressed (33.3% vs. 25%), somatic (11.1% vs. 10.7%), internalizing (61.1% vs. 48.2%), externalizing (38.9% vs. 35.7%), and total problems (50% vs. 44.6%). Family history of psychiatric disorder and the

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presence of three or more offspring were at high risk for internalizing problems, while those with school problems during pandemic were more vulnerable for internalizing and total problems. Children with COVID-19 infection had a higher risk of developing psychological problems, such as withdrawal, anxiety/depression, somatic, internalizing, externalizing, and total problems.

Daniunaite et al. (2021) identified potential changes in adolescent psychosocial functioning from pre-pandemic to peri-pandemic assessment, and secondly, to identify specific patterns of change. This longitudinal study was based on a Lithuanian community sample of 331 adolescents aged 12–16 at T1 (M = 13.87, SD = 1.59). T1 data collected before the pandemic (March–June, 2019) was compared with T2 data collected during the COVID-19 outbreak (October 2020). Psychosocial functioning was assessed by The Strengths and Difficulties Questionnaire (SDQ). Multivariate latent change modeling and latent class change approaches were used to identify patterns of change. They found a small but significant increase in hyperactivity/inattention, emotional symptoms, but also prosocial behavior from before to during the pandemic, even adjusting for resilience, lifetime abuse experience, and socio-demographic situation. Three change profiles were identified in the latent change analysis: (1) a majority (70.7%) experienced a significant increase in psychosocial problems; (2) a smaller sub-group (19.6%) with increased peer problems only; (3) a small group (9.7%) showing no negative change and an increase in prosocial behavior. These findings highlight the importance of identifying and supporting adolescents in the time of the pandemic more effectively.

Shoshani & Kor (2021) examined the influence of the COVID-19 pandemic on children and adolescents' mental health and well-being, and potential risk and protective moderators of mental health change. 1,537 Israeli children and adolescents (Mage = 13.97; 52% girls) completed a battery of questionnaires in September 2019; before the COVID-19 outbreak and immediately after an 8-week lockdown period when schools reopened in May 2020. Results: A repeated measures multivariant analysis of variance (MANOVA) revealed significantly greater anxiety, depression, and panic symptoms, increases in video game, Internet and TV screen time use, and decreases in positive emotions, life satisfaction, social media use, and peer support during the pandemic. Participants with higher baseline mental health symptoms showed greater symptoms after the lockdown period. Perceived social support and consistent daily routines were found to act as significant protective factors against symptomatology. The authors highlighted the significant mental health consequences of the pandemic on children and adolescents, and substantiate the significant parents' and peers' roles in children's and adolescents' coping during this global pandemic.

Racine et al. (2021) performed a meta-analysis of 29 studies including 80 879 youth globally. A total of 3094 nonduplicate titles/abstracts were retrieved, and 136 full-text articles were reviewed. Data were analyzed from March 8 to 22, 2021. The pooled prevalence estimates of clinically elevated child and adolescent depression and anxiety were 25.2% and 20.5%, respectively. Pooled estimates obtained in the first year of the COVID-19 pandemic suggest that 1 in 4 youth globally are experiencing clinically elevated depression symptoms, while 1 in 5 youth are experiencing clinically elevated anxiety symptoms. These pooled estimates, which increased over time, are double of prepandemic estimates. An influx of mental health care utilization is expected, and allocation of resources to address child and adolescent mental health concerns are essential. The prevalence of depression and anxiety symptoms during COVID-19 have doubled, compared with pre-pandemic estimates, and moderator analyses revealed that prevalence rates were higher when collected later in the pandemic, in older adolescents, and in girls.

Singh et al. (2020) aimed at narratively reviewing various articles related to mental-health aspects of children and adolescents impacted by COVID-19 pandemic and enforcement of nationwide or regional lockdowns to prevent further spread of infection. Major findings were categorized under the thematic areas of impact on young children, school and college going students, children and adolescents with mental health challenges, economically underprivileged children, impact due to quarantine and separation from parents and the advisories of international organizations. They concluded that there is a need to ameliorate children and adolescents' access to mental health support services geared towards providing measures for developing healthy coping mechanisms during the current crisis. For this innovative child and adolescent mental health policies policies with direct and digital collaborative networks of psychiatrists, psychologists, paediatricians, and community volunteers are deemed necessary.

De Miranda et al. (2020) made a comprehensive and non-systematic search in four databases (PubMed, Scopus, SciELO, and Google Scholars) to answer the question: What are children's and adolescents' mental health effects of the pandemic? Seventy-seven articles were selected for full text read, and 51 were included. Children answer stress differently, depending on the development stage. High rates of anxiety, depression, and post-traumatic symptoms were identified among children. Symptoms were as expected. New supportive strategies have appeared during this pandemic, but there is no measure of its effectiveness. Some groups seem to be more vulnerable to the

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mental health burden of the COVID-19 pandemic, and the mitigation actions should prioritize them. The school's role appears to be revalued by society.

Jones et al. (2021) performed a systematic analysis aims to evaluate the impact of the pandemic on adolescent mental health. It followed the PRISMA guidelines for systematic reviews of 16 quantitative studies conducted in 2019–2021 with 40,076 participants. Globally, adolescents of varying backgrounds experience higher rates of anxiety, depression, and stress due to the pandemic. Secondly, adolescents also have a higher frequency of using alcohol and cannabis during the COVID-19 pandemic. However, social support, positive coping skills, home quarantining, and parent–child discussions seem to positively impact adolescent mental health during this period of crisis. Whether in the United States or abroad, the COVID-19 pandemic has impacted adolescent mental health. Therefore, it is important to seek and to use all of the available resources and therapies to help adolescents mediate the adjustments caused by the pandemic.

Rao and Rao (2021) used a survey-based approach along with robust statistical analyses to identify key stressors from a set of students in a high school in Midwest United States. Their survey included a broad range of stressors (15 explanatory variables) specific to high schoolers, controls (4 factors for pre-existing conditions), and mental health estimators (7 dependent variables) to identify changes in mental wellbeing during the pandemic. The results ($n = 107$) show good consistency in our estimators (Cronbach's $\alpha = 0.78$) and statistically significant ($t = 0.636$, $p \ll 0.001$) degradation in the mental health. Correlation ($r = 0.2$, $p = 0.034$) and regression analysis showed that online learning ($\beta 1 = -0.96$, $p = 0.004$) has the most influence on degradation in mental health, with some race-based differences. Exercise time helps reduce mental health degradation ($\beta 3 = -0.153$, $p = 0.037$). Many other factors such as gender, homework time, school time, pre-existing mental health issues, and therapy did not have a significant influence on mental health degradation. Analysis of freeform feedback identified the following three recurring themes: increased stress due homework (13.2%), social isolation or lack of social interactions (8.5%), and lack of support for mental wellbeing (12.3%).

Tee et al. (2021) compared the levels of psychological impact and mental health between people from the Philippines (LMIC) and China (UMIC) and correlated mental health parameters with variables relating to physical symptoms and knowledge about COVID-19. The survey collected information on demographic data, physical symptoms, contact history, and knowledge about COVID-19. The psychological impact was assessed using the Impact of Event Scale-Revised (IES-R), and mental health status was assessed by the Depression, Anxiety, and Stress Scale (DASS-21). The study population included 849 participants from 71 cities in the Philippines and 861 participants from 159 cities in China. Filipino (LMIC) respondents reported significantly higher levels of depression, anxiety, and stress than Chinese (UMIC) during the COVID-19 ($p < 0.01$) while only Chinese respondents' IES-R scores were above the cut-off for PTSD symptoms. Filipino respondents were more likely to report physical symptoms resembling COVID-19 infection ($p < 0.05$), recent use of but with lower confidence on medical services ($p < 0.01$), recent direct and indirect contact with COVID ($p < 0.01$), concerns about family members contracting COVID-19 ($p < 0.001$), dissatisfaction with health information ($p < 0.001$). In contrast, Chinese respondents requested more health information about COVID-19. For the Philippines, student status, low confidence in doctors, dissatisfaction with health information, long daily duration spent on health information, worries about family members contracting COVID-19, ostracization, and unnecessary worries about COVID-19 were associated with adverse mental health. Physical symptoms and poor self-rated health were associated with adverse mental health in both countries ($p < 0.05$).

Mental health of children and adolescents in the Philippines

Malolos et al. (2021) analyzed the state of mental health and well-being of children in the Philippines. They found that while children are more vulnerable to these detriments, there remains the absence of unified and comprehensive strategies in mitigating the deterioration of the mental health of Filipino children. Existing interventions focus on more general solutions that fail to acknowledge the circumstances that a Filipino child is subjected under. While there is increasing awareness for mental health, children-centered interventions remain deficient (Sanchez, Sanchez & Sanchez, 2023). Moreover, these strategies also fail to address the multilayered issues faced by a lower-middle-income country, such as the Philippines. As the mental well-being of Filipino children continues to be neglected, a subsequent and enduring mental health epidemic can only be expected for years to come (Sanchez, 2022).

During the early phase of the pandemic in the Philippines, Tee et al. (2020) conducted a total of 1879 online surveys from March 28-April 12, 2020, intending to examine the prevalence of psychiatric symptoms and identified the factors contributing to psychological impact. They found that a fourth reported moderate to severe anxiety, while

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about a sixth (1/6) reported moderate to severe depression and psychological impact. Being female, young, single, student and having experienced quarantine, prolonged home-stay, poor health, and being worried and concerned for family were significantly associated with higher levels of stress, anxiety and depression.

Filipinos were referred as the most resilient race as attested by their great adaptability in foreign shores (Dizon & Sanchez, 2020; Regala, 2019a; Regala, 2019b; Salendab & Dapitan, 2021a; Salendab & Dapitan, 2021b), but oftentimes many cannot cope with various stresses in life. Take for example the 2007 assessment of the Philippine mental health system where a 16% prevalence of mental disorders among children were found. Recent NSO surveys revealed that between 17-20% of Filipino adults experience psychiatric disorders, while 10-15% of Filipino children, aged 5 to 15, suffer from mental health problems (Magtubo, 2016). In addition, the latest 2019 Global School-based Student Health Survey found that 16.8% of Filipino students aged 13 to 17 attempted suicide one or more times during the 12 months before the survey (Estrada et al., 2020).

Almost everyone will agree that the current COVID-19 situation is very stressful as Social Weather Stations (SWS) survey dated June 25 said nearly 90% of Filipinos believe it is the primary cause of stress (Marquez, 2020; Sanchez, et al., 2022). This has overinflated in the recent months as news from World Health Organization (WHO, 2020) found it hard to believe that Filipinos, who consistently ranked in the Top 5 of the global optimism index, are now becoming less optimistic. The National Center for Mental Health (NCMH) revealed a significant increase in monthly hotline calls regarding depression, with numbers rising from 80 calls pre-lockdown to nearly 400.

During the pandemic, authors Rocha et al. (2021) noted how the Philippines, a disaster-prone country in Asia, was hit by 22 tropical cyclones during the coronavirus disease (COVID-19) pandemic. Among these, one is recorded as the strongest tropical cyclone that made a landfall in world history. The simultaneous existence of natural disasters and pandemic has caused devastating and detrimental effects to the mental health of Filipinos (Sanchez, 2023a; Sanchez, 2023b).

Malaluan et al. (2022) stated that Filipino adolescents face multiple threats to mental health, including natural disasters, poverty and the risk of child abuse, neglect and exploitation thus putting them at higher risk of mental health disorders if infected with the coronavirus. Despite passing the Philippine Mental Health Act (RA 11036) back in 2017 after three years of deliberation in the Senate, access to mental health care remains limited. Most paediatricians, adolescent medicine specialists, and psychiatrists practice in urban areas in the country. Moreover, payment for mental health consultation remains an out-of-pocket expense for Filipinos. Even before the 2017 Mental Health Act, the country's Department of Health (DOH) still conveyed to make mental health a top priority. Measures that have been executed thus far included the establishment of a national suicide prevention line called Hopeline, the signing of an administrative order rolling out mental health on the local levels, and the proposed increase of the mental health budget program for 2017 from PhP36 million to Php220 million. In an investigation of mental health issues faced by teenagers and their coping mechanisms, Ramirez et al. (2021) using the phenomenological approach found out that all the participants encountered issues regarding their mental health such as restlessness, fatigue, poor concentration, and sleep disturbances during the quarantine period.

In an article by Visco (13 Oct 2021), Dr. Cornelio Banaag Jr. Professor Emeritus, Child and Adolescent Psychiatry, University of the Philippines- Philippine General Hospital (UP-PGH) noted that even before the pandemic, an alarming global increase in mental health problems was already noted. "Social Media Envy" was also alluded to as a moderate significant predictor of symptoms of depression among Filipino high school students. Then came an emerging mental health crisis with a serious lack of mental health facilities (only 60) in the country, and only about 7 percent of all public and private hospitals have a psychiatric ward, and the ratio of mental health workers (psychiatrists, psychologists, social workers) with only two per 100,000 population. Thereafter, the pandemic's impact on Filipino students' mental health in terms of stress, depression, anxiety and impact of the event itself, based on a study by the Philippine One Health University Network and the Southeast Asian One Health University Network released in August 2021, revealed around 19 to 22 percent in NCR admitted feeling depressed, 36 percent admitted to anxiety, and close to 26 percent admitted to having terrible time coping. Compared to other students from other areas, the numbers did not change much but when compared to non-students, the numbers dropped to about 50 percent, which showed that students are the most stressed group, even higher than other groups like employees, farmers, and others.

What teens faced during the pandemic was called "languishing". Nubla-Gestuvo during a July webinar held by the Philippine Society for Child and Adolescent Psychiatry (PSCAP) said that "languishing" was the best term to describe that feeling: "It's a state of not being depressed but also not thriving. It's not that you're sick and not that you're having a disorder, but also not that you're feeling well. It's a feeling of stagnation and emptiness." The article by Lacsamana (28 July 2021) cited a 2020 study by Shuquan Chen and George A. Bonanno on psychological

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adjustment during the global COVID-19 outbreak found that "the vast majority of individuals are resilient, and that outcomes depend on a combination of resilience factors including exposure severity, individual differences, family context, and community characteristics." Even when stress levels were high, teens eventually did devise their own coping mechanisms over time: watching movies and TV shows during weekends, riding bikes, or playing video games and scheduling video calls with friends.

The importance of staying connected and the necessity of the smartphone made the technology crucial in protecting the mental health needs of children. The USAID RenewHealth Project – in collaboration with the Philippine Department of Health (DOH) – launched the first ever mobile application to support Filipinos' mental health needs (URC, 2021). The app was made available in both English and Filipino by the end of 2021. The Lusog-Isip app, which means healthy minds in Filipino, meets people where they are – and puts mental health in their hands – literally. The app offers evidence-based tools and materials to the user, including Workbooks, Exercises, Audio guides, Journaling, Mood tracking and Self-care reminders. Michelle Lang-Alli, USAID Philippines Office of Health Director, says, "we hope that Lusog-Isip will provide access to self-help tools and materials for improving clients' mental health, and address substance use – one of USAID's key priorities." The results of the pilot test indicated that users had several take-away messages after using the app, including: Active management of mental health is important, Self-awareness is the first step to improve well-being, Building a strong social support system can improve mental health, Healthy coping mechanisms for stress can improve our well-being, and Journaling is an important tool to identify patterns in mental health stressors.

UAE Studies on Mental Health of Children and Adolescents during the Pandemic

Abdelrahman & Ismail (2022) evaluated the psychological impact of lockdowns during the pandemic on the people in the UAE. Using a questionnaire with 35-items. Multivariate Linear regression was used to find the outcomes between independent variables. The mean value of social phobia was 2.56 ± .620, followed by the mean score of anxiety (2.47 ± .666), stress (2.44 ± .631), and depression (2.42 ± .682). The higher the respondents experienced the scores, the more depression, anxiety, and stress. Demographics such as marital status, age, and occupation and education level have a statistically significant association with social phobia, anxiety, depression, and stress. The study concludes that the lockdown more psychologically impacted males, older people, and unemployed individuals during the pandemic.

Saddik et al. (2021) explored anxiety levels among adults and children in the UAE and to identify potential risk and protective factors for well-being during the COVID-19 pandemic. Using a web-based cross-sectional survey we collected data from 2200 self-selected, assessed volunteers and their children. Demographic information, knowledge and beliefs about COVID-19, generalized anxiety disorder (GAD) using the (GAD-7) scale, emotional problems in children using the strengths and difficulties questionnaire (SDQ), worry and fear about COVID-19, coping mechanisms and general health information were collected. The overall prevalence of GAD in the general population was 71% with younger people (59.8%) and females (51.7%) reporting highest levels of anxiety. Parents who were teachers reported the highest percentage of emotional problems in children (26.7%). Adjusted multivariable logistic regression for GAD-7 scores showed that being female, high levels of worry associated with COVID-19, intention to take the COVID-19 vaccine and smoking were associated with higher levels of anxiety. Adjusted multivariable logistic regression for SDQ showed that higher emotional problems were reported for children in lower and higher secondary education, and parents who had severe anxiety were seven times more likely to report emotional problems in their children.

Cheikh et al. (2021) investigated the impact of COVID-19 and societal lockdown measures on the mental health of adults in the UAE. A cross-sectional study was conducted using an English and Arabic online questionnaire between May and June 2020. The psychological impact was assessed by the Impact of Event Scale-Revised (IES-R), and the social and family support impact was evaluated using questions from the Perceived Support Scale (PSS). A total of 4,426 participants (3,325 females and 1,101 males) completed the questionnaire. The mean IES-R score was 28.0 ± 14.6, reflecting a mild stressful impact with 27.3% reporting severe psychological impact. Over 36% reported increased stress from work, home and financial matters. Also, 43–63% of the participants felt horrified, apprehensive or helpless due to COVID-19. Females, younger participants, part-timers, and college or University graduates were more likely to have a high IES-R score ($p < 0.05$). The majority of participants reported receiving increased support from family members, paying more attention to their mental health, and spending more time to rest and relax.

Saravanan et al. (2020) assessed the level of knowledge, anxiety, and psychological distress concerning COVID-19 and their association with fear, gender, age, history of mental illness, time spent reading about COVID-19, program of study, and type of dwelling among students in the United Arab Emirates (UAE). 433 students participated

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in a web-based survey. These were students at the University of Sharjah, coming from all the emirates of the UAE. Demographic scale, COVID-19 knowledge, anxiety, fear, and psychological distress scales were used to screen these problems. Of the 433 students, 278 (64.2%) were male and 155 (35.8%) were female. Overall, 353 (81.5%) exhibited adequate knowledge of COVID-19. Sixty-nine (15.9%) of students were anxious and 221 (51%) were in psychological distress. Students who exhibited anxiety concerning COVID-19 anxiety (odds ratio [OR]: 2.98) and fear (OR: 1.27), and who spent more than 4 h reading about COVID-19 (OR: 11.20) were more psychologically distressed. Students with a history of mental illness showed adequate knowledge of COVID-19; however, they were more psychologically distressed (OR: 5.93). Older students were less likely to have psychological distress (OR: 0.87). Students possess adequate knowledge concerning COVID-19; however, they are psychologically distressed. Age, dwelling status, history of mental illness, anxiety, and fear significantly predicted psychological distress. Frequent web-based workshops that include insight, guidance, online counseling, scheduled activity, and coping mechanisms for COVID-19 were highly recommended.

Kharaba et al. (2021) investigated the psychological health status in terms of perceived stress and depression among the UAE population in response to the COVID-19 pandemic. This is a cross-sectional questionnaire-based study in the UAE during the lockdown period of the COVID-19 pandemic. Validated assessment tools (PHQ-9 and PSS) were used to assess depression and perceived stress, respectively. Their findings revealed that the pandemic has significantly influenced daily routines and psychological health. Depressive symptoms were prevalent in 47.8% of the participants. A concerned percent of participants around 84% were anxious. Age, gender, school attendance, and the impact of the pandemic on work performance were the major factors of developing depression and perceived stress symptoms. Almost half of the participants in this study suffered from depression. Also, approximately 85% of the same were anxious during the lockdown.

Al Miskry et al. (2021) identified the prevalent psychological difficulties experienced by university students, faculty members, and staff during COVID-19 lockdown and the coping strategies used. 737 participants were electronically surveyed. Participants included students, faculty members, and staff from universities in the UAE. The General Health Questionnaire (GHQ-12) was used to measure general distress, Penn State Worry Questionnaire (PSWQ-16) was used to measure worry, and the Coping Inventory for Stressful Situations (CISS-48) was administered to measure coping strategies used by participants during the COVID-19 pandemic lockdown. Data were collected during May to June 2020. The results indicated that 60.4% of students, 57.4% of the faculty members, and 52.3% of the staff experienced mild psychiatric problems. About 32.9% of students, 33.7% of the faculty members, and 25% of the staff experienced high levels of worry during the COVID-19 lockdown. Changes in eating patterns, worsening chronic health problems, change in sleep patterns, and concentration difficulties were reported. Furthermore, significant differences were observed in worry and coping strategies among participants. Women use more avoidance and emotion-focused coping compared to men.

Synthesis of the State-of-the Art

Meta-analyses of the impact of COVID-19 on the mental health of the general population projected higher than usual rates of stress, anxiety and depression (Salari et al., 2020; Chew et al., 2020; Jones et al., 2021). The current pandemic paralleled the phenomena observed during previous pandemics like the 2014-2016 Ebola outbreak where posttraumatic stress surfaced among survivors and relatives of victims (Stawicki et al., 2020) and H1N1 outbreak (Chew et al., 2020). However, depending on types of restrictions and ameliorations by governments and researcher's sampling and bias, rates can vary. One year after, Racine et al. (2021) showed anxiety and depression fell by a few percentages to 25% and 20% respectively. Two years after, the meta-analysis by Theberath et al. (2022) found an uptick to 28% and 23%. Notably, stress hovered only at low levels along with fear, and a small fraction for tension, anger, fatigue, confusion and worry. Still, the COVID-19 pandemic was a risk factor in its first year (Octavius et al., 2020; De Miranda et al., 2020) for children and adolescents and so is long-term exposure to stress, anxiety and depression especially among the most vulnerable (Singh et al., 2020) which can cause considerable damage to their development.

Life events scales and stress measurements enabled researchers to quickly assess the mental health of a population (Wethington, 2016; Regala, 2020; Salendab & Dapitan, 2020). Current COVID-19-related stress scales (Taylor, 2020; Ahorsu et al., 2020; Harper et al., 2020; Sakib et al., 2020; Qiu et al., 2020; Tzur Bitan et al., 2020) measuring impact on mental health modified currently accepted constructs, such as the the DASS-21 by Lovibond & Lovibond (1994), while some researchers validated their own constructs, like the 11-item Coronavirus Pandemic Anxiety Scale (CPAS-11) by Bernardo et al. (2020).

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Constructed by Szabo & Lovibond (2022), a version of DASS-21 constructed specifically for children and adolescents was developed and validated. The authors found similarities along core symptoms of SAD (stress, anxiety and depression) with the adult population. For testing posttraumatic stress disorder (PTSD) symptoms, various scales also exist. The researcher found reliable and valid measures but the Children's Revised Impact of Events Scale (CRIES) had the most development, especially in terms of result validation (Deeba, Rapee & Prvan, 2014). These two open-access instruments can adequately measure the mental health of children and adolescents as purposefully crafted. Several studies used variations of the two, combining them and other measures to triangulate the findings. There are some studies of parents' perception on the impact of COVID-19 on a sample of the population (Schnaiderman et al., 2021) but the most common is to capture their self-perception (De Figueiredo et al., 2021) All studies confirmed multifactorial impact on populations. Overall, most researchers concluded a statistically significant degradation in mental health for children and adolescents during this pandemic (Rao & Rao, 2021).

Tee et al. (2021) compared the mental health of the general population in two countries across a good sample of cities in the Philippines and China. Cross-comparing mental health impact of COVID-19 on the population of two very different countries, specifically UAE and the Philippines, the researcher found relevant studies with very defining conclusions relative to economic status. Studies done in the Philippines regarding the mental health impact of the pandemic on children and adolescents confirmed resilience (Malaluan et al., 2022) was the defining factor for its population's high rating in the optimism index. Yet, as the pandemic lingered, SAD levels mirrored the global phenomenon known as "languishing". In the UAE, researchers focused on the impact of lockdowns and other restrictions using scales (Abdelrahman & Ismail, 2022; Saddik et al., 2021; Cheikh et al., 2021; Saravanan et al., 2020; Kharaba et al., 2021; Al-Miskry et al., 2021). The effect was more pronounced on marginalized and vulnerable children and adolescents as confirmed by individual studies in these two different parts of the world.

Gap Bridged by the Study

The only study found comparing the mental health impact of COVID-19 on two populations was the study by Tee et al. (2021) comparing two very different LMICs, China and the Philippines. However, they focused on the general population. As such this study could be the first to assess adolescents who are now in their third year experiencing the effects of the pandemic on their lives. Additionally, this could be the first investigation into the population differences between an LMIC and a High-Income Country: Philippines and United Arab Emirates. Stress, anxiety, depression, post-traumatic stress disorder (PTSD) symptoms remained as the most common determinants. Most importantly, this study could uniquely discover the relationship between traumatic events other than COVID-19 and the four most commonly measured mental health impact measures, aside from the normally assessed sociodemographic factors.

Theoretical Framework

This study was based on the transdisciplinary model of stress by Epel et al (2018). Selye's (1930) general adaptation syndrome (GAS) and Lazarus and Folkman's (1984) transactional theory of stress and coping supported the main theory. Furthermore, grand theories such as Engel's (1977) biopsychosocial model and Bronfenbrenner's (1974) Ecological Systems Theory provided a broader perspective in understanding the complex interaction between various factors that contribute to the mental health impact of the pandemic on adolescents.

The recent analysis by Epel and his colleagues (2018) offered a unified view of stress measurement for studying populations. First, they concluded that stress influence trajectories of aging and health. In order to find out that effect, stress must be measured in context. Context includes individual and environmental factors, personal histories of stressor exposure (stress in childhood in particular but also cumulative life stress), current chronic stressors, and existing protective factors. Secondly, context must also be examined together with stressor exposures and stress responses, taking into account (both analytically and theoretically) the recursive and multilevel processes that link stress to health. According to their transdisciplinary model, all contextual factors combine to determine the baseline allostatic state of physiological regulation, and the lens through which stressors are perceived and assigned meaning. Contextual factors and habitual processes together influence psychological and physiological responses to acute and daily stressors. These responses, if dysregulated, are thought to lead to allostatic load and ultimately biological aging and early disease.

The transdisciplinary model was carefully constructed based on previous accepted theoretical models. In fact, Epel et al. (2018) regarded each and everyone involved in the stress research community as contributors in the greater enlightenment of regulating modern-day stress to improve allostasis – the process of achieving stability or

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homeostasis. The following theories serve to back up this model: General adaptation syndrome (GAS), transactional theory of stress and coping (TTSC).

Hans Selye, father of stress theory, found through a rat experiment that a body displays a set of physical responses to several different stressors. General adaptation syndrome (GAS) for him was the body's way of adapting to a perceived threat to better equip it to survive (Medical News Today, 2020). The three stages of GAS are: 1) alarm reaction; 2) resistance and 3) exhaustion. The first stage is the "fight or flight" response. During the resistance stage, the body tries to counteract the physiological changes that happened during the alarm reaction stage. If the stressful situation comes to an end, during the resistance stage, the body will then return to normal. However, if the stressor remains, the body will stay in a state of alert, and stress hormones continue to be produced. This physical response can lead to a person struggling to concentrate and becoming irritable. After an extended period of stress, the body goes into the final stage of GAS, known as the exhaustion stage. If a person runs out of "gas" and cannot find ways to manage stress levels at this stage, they are at risk of developing stress-related health conditions. Though Selye's study was limited to physical stressors, such as cold temperatures and physical over-exertion. It is now understood that life events that induce psychological stress cause the same physical reactions (Burrows, 2015).

Lazarus and Folkman in 1984 endorsed Selye's idea that stress is a process and expanded it. In their transactional theory of stress and coping, individuals filter potentially emotional experiences by appraising the extent to which they believe they can reduce loss, minimize harm, or address challenge and engage in behaviors that specifically affect outcomes (Dillard, 2019). Our experience of stress is ultimately a system of appraisal, response and adaptation (Frings, 2017). First, a person goes through two stages of appraisal before feeling and responding to stress. In these appraisals, the person decides if he has the ability to cope with the situation – usually by examining the balance of situational demands (risk, uncertainty, difficulty etc.) and perceived resources (things such as social support, expertise etc.). If demands outweighed resources, the person experiences negative stress. At this point, the person starts to engage in coping strategies. Coping with the stress requires the person to adopt problem focused or emotion focused coping styles. Coping strategies can be classed as adaptive if they help manage stress responses in the long term (for instance, changing the problem, or focusing on the good in a situation). In contrast, maladaptive coping behaviors reduces it only in the short term, actually exacerbating the problem in the longer term. For example, drinking (alcohol) to cope is a maladaptive behavior. The process then begins again – with stress and coping being transactional.

In the context of this study, stress is transactional, transdisciplinary, and adaptive. Stress and its physiological and psychological symptoms occur instantaneously but it goes through a looping process. It is also subjective which means each person reacts to stress differently. Managing stress is therefore both a science and an art. By acknowledging the different processes involved in appraising the stressor and coping with it, the researchers could finally be assured of the complex but simple premise of studying stress: to achieve balance, allostasis, homeostasis, equilibrium. Whatever the term is, for children and adolescents, appraising their reactions toward stressful situations could better help public health initiatives assess the situation of this vulnerable demographic especially after experiencing a traumatic event like the COVID-19 pandemic isolation policies and lockdowns. Current stress research is ripe with a solid approach towards identification of stressors and coping with it, developing stress management skills along the way. Children and adolescents may not be at risk for contracting severe COVID-19 symptoms but they are likely experiencing high levels of stress due to the impact of COVID-19 restrictions hindering development, which then could lead to chronic anxiety and depression.

Engel's (1977) biopsychosocial model reflects the development of illness through the complex interaction of biological factors (genetic, biochemical, etc.), psychological factors (mood, personality, behavior, etc.) and social factors (cultural, familial, socioeconomic, medical, etc.). Despite criticisms over the years, the BPS model today is still widely used as a psychological model to help physicians better understand the patient. This model remains relevant to topics such as health, medicine, and development. One particular advantage of applying the BPS model to developmental psychology is that it allows for an intersection within the nature versus nurture debate. It provides developmental psychologists, those studying how and why humans change, a theoretical basis for the interplay of both hereditary and psychosocial factors on an individuals' development. It is most commonly used to address chronic pain. Wijma et al. (2016) provided a practical guide to take biopsychosocial data using the PSCEBSM (Pain–Somatic and medical factors–Cognitive factors–Emotional factors–Behavioral factors–Social factors–Motivation) model. Evidence-based patient-centered interviewing method further makes BPS model reproducible, therefore scientific (Smith et al., 2013).

Finally, the Ecological Systems Theory views the child as interacting with the environment at different levels or systems: Microsystem, Mesosystem, Exosystem, Macrosystem and Chronosystem. Urie Bronfenbrenner (1974)

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expounded the ecologic systems theory of development (Berman, Snyder & Frandsen (2016). He viewed the child as interacting with the environment at different levels, or systems. Bronfenbrenner believed each child brings a unique set of genes—and specific attributes such as age, gender, health, and other characteristics—to his or her interactions with the environment. The environment is defined as five layers of concentric circles affecting the child. The microsystem includes close relationships the child has daily (e.g., home, school, friends). The mesosystem level includes relationships of microsystems with one another (e.g., the relationship between family and school). The exosystem includes those settings that may influence the child but with which the child does not have daily contact (e.g., parent's job, local school board). The macrosystem level includes the actions, attitudes, and beliefs of the child's culture and society. Finally, the chronosystem involves the time in which the child is growing up (e.g. COVID-19 restrictions). According to the theory, if the relationships in the immediate microsystem break down, the child will not have the tools to explore other parts of his environment. Bronfenbrenner particularly sees the instability and unpredictability of family life as a potent force influencing children's development.

Figure 1 shows the researcher's theory developed from stress theories and impact systems discussed above. The impact of COVID-19 on the mental health of children and adolescents revolved around determining levels of stress, anxiety and depression as well as the presence of traumatic events. Such traumatic events are not exclusive to COVID-19 restrictions alone. Any prohibitive event affecting the normal development of children and adolescents can be considered as such. Instead, a wider set of systems like the micro-, exo-, and macro-systems create traumatic instances which indirectly impact processes in human development. A death of a loved one for example can affect the psychological and social processes, which in turn, may affect the mental health of the child or adolescent positively or negatively, depending on other variables under the transdisciplinary nature of stress and the coping strategies the child uses throughout the whole ordeal.

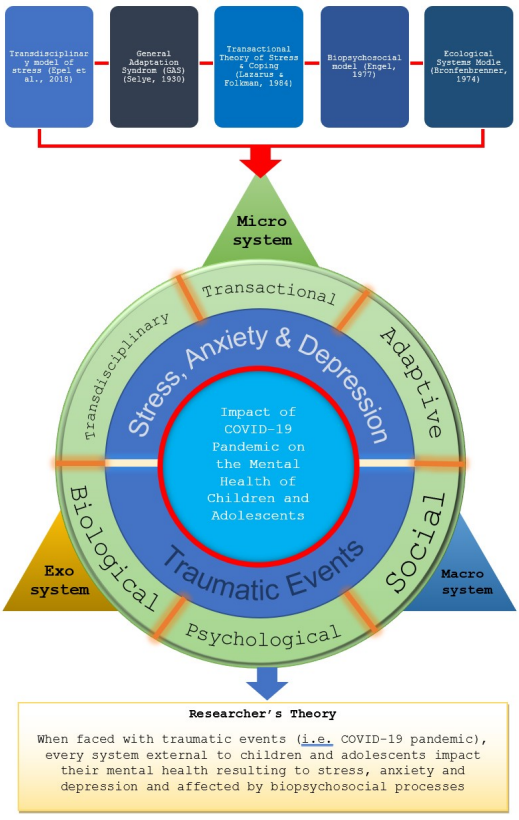

Figure 1. Theoretical Paradigm

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Conceptual Framework

This study aims to investigate the mental health impact of the COVID-19 pandemic among children and adolescents aged 12 to 18 years old in two countries, namely Philippines and United Arab Emirates (UAE). Figure 2 illustrates the conceptual framework to be followed throughout the remainder of the study.

Input. The main objective is to do a cross-cultural comparative study comparing the mental health impacts of the COVID-19 peri-pandemic on children and adolescents in the Philippines and in the United Arab Emirates (UAE). However, due to circumstances preventing the equal representation of study samples in the study, the researcher instead put major focus on adolescents from the Philippines to compose a Filipino-centric assessment as opposed to the school culture in the UAE.

Literature and studies delineated the primary variables needed for assessing mental health level, which lies on four (4) interrelated concepts, namely: stress, anxiety, depression, and post-traumatic stress disorder or PTSD. Legal bases from each country's mental health laws and similar laws will serve as guiding principles. The theories selected will help in processing the data, making sure the approach is in line with current knowledge of the concepts. Meanwhile, a research instrument to measure the variables will be crafted.

Process. Through the use of a survey instrument relayed through online survey form (Google Forms), the researcher surveyed a representative sample of children and adolescents from the largest city in the two countries (Dubai City in UAE and Manila, Philippines).

Despite efforts to reach out to schools in the UAE and Manila, return rates of web-based survey forms were less than the required samples. Seeing this scenario, the researcher meanwhile decided to ask for the help of private schools in her home province (Camarines Sur, Philippines) to enable her to continue the research.

Independent variables consisted of age, sex, religion, and frequency of traumatic events. Dependent variables were their reactions to traumatic events associated with COVID-19, specifically, their stress, anxiety and depression levels (SAD) and post-traumatic stress disorder (PTSD) risk. Both were assessed using tested open-sourced questionnaires (CRIES & DASS-Y). Gathered data were statistically scrutinized and was interpreted accordingly.

Output. The result of the investigation was a summary of the findings, researcher conclusions, and a set of recommendations. The tangible outcome of this study was a set of mental health interventions for the various stakeholders of this study.

The feedback loop allowed the researcher to continue despite initial sampling and systematic errors by providing a mechanism for continuous improvement. By doing so, the researcher was able to identify and correct any sampling errors or bias that may have initially existed in the study. Additionally, the feedback loop also allowed for improvements to be made to the mental health interventions that were developed as a result of the study. This ensured that the interventions were tailored to the specific needs and preferences of the stakeholders, making them more effective in addressing mental health issues among Filipino adolescents in the Philippines and, less crucially, among Filipino adolescents living in the UAE. Overall, the feedback loop was decisive in ensuring the success of the study and the effectiveness of the interventions developed.

Scope and Delimitation

Under the UAE education system adopted by its Ministry of Education, 8–18-year-old adolescents are enrolled across three tiers, namely: primary school (Grade 3 to 6, 8-11 y/o), preparatory stage (Grade 7 to 9, 12-14 y/o), and secondary school (Grade 10-12, 15-17 y/o). The curriculum of the Philippines has almost similar system. Under the Philippine K-12 system, the age by grade system describes a range, where typical Grade 3 learners can be 7-8 years of age while typical senior high school student can be 17-18 years old. Combining both curriculums, this study focused on Grade 7 up to Senior High school or Grade 12, which thus excludes tertiary level (college freshmen) adolescents. Instead of using age as basis for their development, respondents will be described in terms of their Grade level. Also excluded from this study were learners at the primary school stage and below and 18-year-old students in their first year of tertiary education (1st year college, freshman) and above. Excluded also were out-of-school (OOS) children and adolescents. The most populous city in each country represented the study samples, particularly the city of Abu Dhabi (pop. 3,386,900, 2021) in UAE and Quezon City (pop. 2,960,048, 2020) in the Philippines. Major participants were from the home province of the researcher, Camarines Sur, Philippines. Variables measured were levels of Stress (S), Anxiety (A), Depression (D), and Post-Traumatic Stress Disorder (PTSD) symptoms using established tools. Surveys were conducted online starting the first week of December 2022 up to the final week of January 2023.

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Definition of Terms

The following terms are defined conceptually and operationally in the context of this study:

Adolescent. An adolescent, often associated with the teenage years, is in the transition stage of physical and psychological development from puberty to adulthood or the age of majority. It generally spans from age 10 to 19 but was expanded up to 24 years old to account for a more comprehensive understanding of this phase in life. In this study, only those up to 18 years old will be included under the term. This excludes those in tertiary levels as 17-18 years old adolescents are in their 12th Grade or Senior High under the K-12 system. In this study, eligible adolescents comprised of students in six grade levels from Grade 7 up to Senior High School or Grade 12.

Mental health impact. According to the CDC, mental health includes a person's emotional, psychological, and social well-being. Mental health impact in this study assumes that the global COVID-19 pandemic, which started in the first quarter of 2020 and still is considered a health concern, along with government responses has impacted the mental health of children and adolescents. The World Health Organization's (2022) Mental Health Report attested that plenty of people became more anxious and has sparked or amplified much more serious mental health problems as many have reported psychological distress and symptoms of depression, anxiety and post-traumatic stress. In this study, mental health impact will be assessed using self-reported levels along measures of stress, anxiety, depression, and post-traumatic disorder (PTSD) symptoms.

Stress. The term generally refers to two things: the psychological perception of pressure, on the one hand, and the body's response to it, on the other, which involves multiple systems, from metabolism to muscles to memory. In this study, it refers to how adolescents mentally and physically react to traumatic events during the COVID-19 pandemic.

Traumatic event. According to the CDC, any event, or series of events, that causes a lot of stress on the individual is a traumatic event. These events are usually marked by a sense of horror, helplessness, serious injury, or threat of serious injury or death. Large studies supported the idea that the COVID-19 global pandemic is a collective traumatic event generating symptoms related to post-traumatic stress disorder (PTSD) (Bridgland et al., 2021; Sanchez-Gomez, et al., 2021). In this study, several traumatic events were identified as occurring side-by-side with the COVID-19 pandemic. The adolescent respondents had to choose only one major event that have caused significant trauma on their persons.

Anxiety. Muskin (2021) defined anxiety as a normal reaction to stress that can be beneficial in some situations as it can alert people to prepare and pay attention to dangers. The American Psychological Association (APA) defined it as "an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure". However, when an individual regularly feels disproportionate levels of anxiety, he/she might developed anxiety disorders like panic disorders (separation anxiety disorder), phobias, selective mutism, and social anxiety disorder (social phobia).

Depression. According to Torres (2020) of APA, depression or major depressive disorder is a common and serious medical illness that negatively affects thinking, feeling, and acting out causing one to feel sad or lose interest in activities once enjoyed. This can lead to a variety of emotional, physical and functional problems at work or at home. Researchers from China compared anxiety and depression levels pre- (October 2019) and post-pandemic (April 2020) in Chinese provinces among university students and saw a 1413% increase in depression, compared to just 181.94% increase in anxiety levels. In fact, WHO's mental health report confirmed that between 25-27% rise in the prevalence of depression and anxiety were seen during the initial months of the pandemic.

Post-Traumatic Stress Disorder. Abbreviated as PTSD, this is a psychiatric disorder that may occur in people who have experienced or witnessed a traumatic event, series of events or set of circumstances. This study is specifically interested in the symptoms associated with PTSD among children and adolescents during the COVID-19 pandemic crisis. A valid and reliable questionnaire will be used that is designed to screen children at risk of PTSD.

Objectives

This cross-cultural comparative study assessed the mental health impacts of the COVID-19 peri-pandemic on adolescents in the Philippines and in the United Arab Emirates (UAE), with a primary focus on Filipino students. The following questions will be addressed:

1. What is the demographic profile of adolescents in these two countries along:
    a. Grade level
    b. Sex
    c. Religion
2. What major traumatic events have been experienced by the respondents during the COVID-19 pandemic?

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3. What are the levels of stress, anxiety, and depression (SAD), and post traumatic stress disorder (PTSD) risk of the adolescents?

4. Do major traumatic events associated with the COVID-19 pandemic experienced by adolescents have a significant relationship with levels of stress, anxiety, and depression (SAD), and post-traumatic stress disorder (PTSD) risk?

5. Is there a significant difference in levels of stress, anxiety, and depression (SAD), and post-traumatic stress disorder (PTSD) risk by demographic profile of adolescents?

6. What mental health interventions can be proposed based on the results in order to improve the mental health of adolescents?

Assumptions

This study assumed the following:

1. The demographic profile of the sample of adolescents in the Philippines and in the United Arab Emirates vary along grade level, sex, and religion.

2. Adolescents react to traumatic events associated with the COVID-19 pandemic differently.

3. Adolescents from both countries experience stress, anxiety, depression, and post-traumatic disorder effects due to the COVID-19 pandemic differently.

4. There are mental health interventions which can help mitigate the impact of COVID-19 pandemic on adolescents.

Hypotheses

1. Major traumatic events experienced by adolescents are not associated with stress, anxiety, depression, and PTSD risk levels peri-pandemic.

2. There are significant differences in the distribution of levels of stress, anxiety, and depression (SAD), and post-traumatic stress disorder (PTSD) risk across demographic profile categories (grade level, sex, religion).

METHODS

Research Design

This study employed the descriptive-correlation research design. The descriptive approach will determine the mental health impacts of the COVID-19 peri-pandemic on adolescents living in two countries, specifically the Philippines and the United Arab Emirates (UAE). Eligible measures to determine mental health impacts along stress, anxiety, depression and PTSD were used. Moreover, this study included demographic characteristics such as grade level, sex, and religion, as well as an additional category major traumatic event experienced. The study also aimed to determine the extent to which the characteristics correlate with mental health impacts, along stress, anxiety, depression and PTSD.

The study conducted a descriptive research design to describe and understand the mental health and wellbeing of Filipino adolescents during the pandemic in two countries: the Philippines and the United Arab Emirates (UAE). In this study, the researcher aimed to describe the impacts of the pandemic on Filipino adolescents' mental health and wellbeing, as well as the strategies and interventions that can be implemented to promote resilience and psychological empowerment. The research focused on collecting data through surveys to gather information about the experiences of Filipino adolescents during the pandemic.

The descriptive research design allowed the researcher to collect and analyze data from a broad range of sources and methods, providing a comprehensive understanding of the impacts of the pandemic on Filipino adolescents' mental health. While the study encountered some sampling problems, the descriptive research design enabled the researchers to describe the experiences and perspectives of the Filipino adolescents who participated in the study, despite the sampling bias.

The correlation aspect of the research design enabled the researcher to examine the relationships between mental health impacts and demographic characteristics such as grade level, sex, religion, and major traumatic event experienced. By examining these relationships, the study can provide insights into the factors that influence mental health impacts among adolescents during the COVID-19 peri-pandemic.

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Population

Children and adolescents between 12 and 18 years old from the topmost populous city from each country represented the study population. Quezon City in the Philippines and Dubai City in the United Arab Emirates were selected as the research locale, while an additional area was considered after systematic errors occurred. The province of Camarines Sur, the researcher's hometown, was selected as the secondary research locale. Educational institutions in private secondary schools in those three areas with the highest enrolment figures for 2022 were selected.

Sampling Technique

The simple random sampling technique was employed. The private educational institution with the highest enrolment figures were considered in each of the two countries examined. As shown in Table 1, a total of 567 adolescents from Grade 7 to Grade 12 participated in the study. An overwhelming majority came from Camarines Sur province representing 94.2% of the total sample.

The table revealed a sampling bias and systematic error. An insufficient or small sample size may not be able to demonstrate the desired difference, or estimate the frequency of the event of interest with acceptable precision (Martinez- Mesa et al., 2014). The sample size skewed towards Filipinos living in a province outside Manila (Quezon City in particular) made a clear systematic error because it did not represent the overall population of Filipino adolescents living in the Philippines and UAE. The sample size was limited to only those residing in the selected area, which could result in biased findings and limited generalizability of the study's results to the larger population. To remedy this error, the researcher instead focused the study on Filipinos living outside major cities.

Table 1. Study Samples by Geographic Area

Area	*f*	%
Quezon City	4	0.7
Camarines Sur Province	534	94.2
Dubai City	29	5.1
TOTAL	567	100

Research Instruments

This study used established measures on mental health impacts. The first one is the Depression Anxiety Stress Scales for Youth (DASS-Y) developed and tested by Szabo & Lovibond (2022) as appropriate for assessing negative emotional states among children and adolescents aged 7–18. The DASS-Y utilizes the same 21-item format under a three-factor model. The authors made it a public domain instrument. The DASS-Y was a new measure constructed from the famous DASS-21 so it has yet to be used by researchers interested in generating a comprehensive assessment of the impact of COVID-19 on mental health exclusively for children and adolescents.

The second measure is the Children's Revised Impact of Events Scale (CRIES) developed by Deeba, Rapee and Prvan (2014). The CRIES is a reliable and valid measure to assess reactions to traumatic events among young people aged 9–17 years. The measure has two brief versions (13 items and 8 items) which provide quick and psychometrically sound assessment of symptoms of PTSD among children and adolescents. The CRIES-13 was used for this particular study. There is an Arabic translation but no Filipino translation of the CRIES-13 available on the Children and War Foundation website: https://www.childrenandwar.org/projectsresources/measures/. CRIES-13 have been used by various researchers to assess the traumatic effects of the COVID-19 pandemic in children and adolescents in different countries (Terzioglu & Buber, 2021; Claudet et al., 2022; Zhang, 2021; Shek, 2021; among others).

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Validity and Reliability

Tests of validation included face and content validation by a panel of experts and through interviews with primary stakeholders, psychologists and teachers. Several experts were consulted to assess whether each survey item is measuring what is intended. These experts consisted of teachers, psychologists, and Department of Education officials or their representatives. In addition, the researcher also asked the opinion of several parents or guardians of children and adolescents.

Despite having been proved reliable by DASS-Y and CRIES-13 creators and researchers, the measures have not been tested yet for Emirati and Filipino children adolescents. As such, this study considered three types of measuring consistency: over time (test-retest reliability), across items (internal consistency), and across different researchers (inter-rater reliability)(Chiang, 2015). Both measures were tested using the first and second types.

The researcher measured results from five (5) samples across the three geographic areas, use it again on the same group after about a week, and then did a test-retest correlation between the two sets of scores using Pearson's r. he The calculated test-retest correlation coefficient for the DASS-Y was r = 0.982 while for CRIES-13, r = 0.897, indicating a high degree of consistency.

To measure the consistency of responses across the items, a split-half correlation was executed. According to Chiang (2015), this involved splitting the items into two sets, then a score is computed for each set of items, and the relationship between the two sets of scores is correlated, using Cronbach's α. A split-half correlation of +.80 or greater is generally considered good internal consistency. Using Cronbach's α, the split-half correlation between the two sets of scores was computed as +.86, which indicates good internal consistency.

Research Procedure

This study will commence using the following general research procedures:

1. Presenting the proposal
2. Reflecting the suggestions and recommendations
3. Finalizing the research instrument
4. Developing permits to conduct study to appropriate authorities
5. Validating the research instrument and performing pilot test
6. Conducting the online survey throughout December 2022 to January 2023.
7. Organizing collected data
8. Performing statistical analyses.
9. Creating the first draft.
10. Performing preliminary until final data analysis
11. Submitting manuscript for Pre-Oral Defense
12. Transferring Pre-Oral Defense suggestions
13. Submitting manuscript for Final Oral Defense.
14. Reflecting suggestions
15. Submitting final edited manuscript to thesis committee
16. Acquiring Special Order
17. Presenting the findings to appropriate authorities, including Peer Reviews
18. Applying for copyright
19. Publishing of the dissertation

Statistical Tools

The researcher used descriptive statistics of the data collected for presenting results. Standard descriptive statistics was employed to present the profile of the respondents, major traumatic event experienced, and stress, anxiety, depression (SAD) and posttraumatic stress disorder (PTSD) risk levels.

To describe the demographic profile of adolescents along grade level, sex, and religion, the researchers used frequency, percentage and ranking. An additional categorization by country was utilized for the tabulation.

Major traumatic event experienced by the respondent adolescent was analyzed similarly.

Regarding the levels of stress, anxiety, and depression (SAD), and post-traumatic stress disorder (PTSD) risk of the adolescents, the same statistics were used.

Regarding the test of significant association between adolescents' traumatic event experiences and their levels of stress, anxiety, depression, and PTSD risk, ANOVA F-test was conducted.

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To test for significant differences in levels of SAD and PTSD risk by demographic profile, two nonparametric tests were employed: the Mann-Whitney U and Wilcoxon W tests. The IBM SPSS statistical software automatically used appropriate statistics for this purpose.

RESULTS and DISCUSSION

Demographic Profile

Tables 1 to 3 displays the demographic profile of the respondents in each of the two countries being examined (UAE and Philippines) under the three (3) primary categories of grade level, sex, and religion.

Grade level

Table 1 provides information on the distribution of respondents by grade level and country. The table shows the number of respondents, percentage, and rank for each grade level in the Philippines and the UAE. The total number of respondents was 556, with 532 from the Philippines and 24 from the UAE.

The highest number of respondents in both countries came from Grade 10, with 23.68% in the Philippines and 4.17% in the UAE. The second-highest number of respondents in the Philippines came from Grade 7, while in the UAE it was Grade 12. The lowest number of respondents in both countries came from Grade 9, with only 9.02% in the Philippines and 8.33% in the UAE. Additionally, the table also indicates that there are missing values for six respondents in the Philippines and five in UAE.

The table shows that the distribution of respondents varied by grade level and country. The highest number of respondents came from Grade 10, while the lowest came from Grade 9. The table also shows that the distribution of respondents varied between the Philippines and the UAE, with a larger number of respondents from Grade 7 and 10 in the Philippines, and Grade 12 in the UAE.

Table 1
Demographic Profile by Grade Level of Respondents
N=556

Grade Level	Country						Total		
	Philippines			UAE					
	f	%	Rank	*f*	%	Rank	*f*	%	Rank
Grade 7	119	22.37	2	8	33.33	1	127	22.84	1.5
Grade 8	84	15.79	4	5	20.83	3	89	16.01	4
Grade 9	48	9.02	6	2	8.33	4	50	8.99	6
Grade 10	126	23.68	1	1	4.17	5.5	127	22.84	1.5
Grade 11	101	18.98	3	1	4.17	5.5	102	18.35	3
Grade 12	54	10.15	5	7	29.17	2	61	10.97	5
TOTAL	**532**	**100.00**			**100.00**		**556**	**100.00**	
Excluded (Missing values)	6	1.13		5	20.83		11	1.98	

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Sex

Table 2 presents the demographic profile by sex of the respondents. The major finding is that there is a higher proportion of male respondents than female respondents in both countries, with 63.38% of respondents from the Philippines and 55.17% of respondents from the UAE being male. Additionally, this category received a hundred percent response rate.

Table 2
Demographic Profile by Sex of Respondents
N=567

Religion	Country						Total		
	Philippines			UAE					
	f	%	R	*f*	%	R	*f*	%	R
male	341	63.38	1	16	55.17	1	357	62.96	1
female	197	36.62	2	13	44.83	2	210	37.04	2
TOTAL	538	100.00		29	100.00		567	100.00	

This table highlights the need for caution when comparing the demographic profiles of the two countries, as the data is skewed in favor of Philippine high school students. The higher proportion of male respondents may also have implications for the interpretation of mental health outcomes, as gender is a known factor in the prevalence and experience of mental health issues. It will be important for further analyses to explore any potential gender differences in the mental health impacts of the COVID-19 pandemic on adolescents in these two countries.

Religion

Table 3 presents the demographic profile by religion of the respondents. The major finding is that the majority of respondents in both countries identified as Roman Catholic, with 90.32% of respondents from the Philippines and 65.52% of respondents from the UAE belonging to this category. This suggests that Catholicism is the dominant religion among adolescents in both countries. The second most common category were other Christian denominations, with 9.12% of respondents from the Philippines and 6.90% of respondents from the UAE identifying as such.

The Muslim category is the third most common in the UAE, with 20.69% of respondents identifying as Muslim. However, only 0.19% of respondents from the Philippines identified as Muslim. The "Not specified" and "Agnostic" categories had very low response rates in both countries, indicating that very few respondents chose to identify themselves as such. The "Hindu" category received a relatively low response rate in both countries, with only 0.19% of respondents from the Philippines and 3.45% of respondents from the UAE identifying as Hindu.

Overall, this table provides insights into the religious diversity among adolescents in the Philippines and the UAE. It suggests that Catholicism is the dominant religion in both countries, but there is also a significant presence of other Christian denominations and Islam in the UAE.

The table shows that Muslims make up a very small proportion of the respondents, with only 1.24% of respondents from the UAE identifying as Muslim, and none from the Philippines. The reason for this could be due to several factors such as cultural differences, language barriers, or the sampling method used for the study. It is also possible that some Muslims chose not to participate in the study due to personal or religious beliefs.

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Table 3
Demographic Profile by Religion of Respondents
N=566

Religion	Country						Total		
	Philippines			UAE					
	f	%	R	*f*	%	R	*f*	%	R
Roman Catholic	485	90.32	1	19	65.52	1	504	89.05	1
Other Christian Denominations	49	9.12	2	2	6.90	3	51	9.01	2
Muslim	1	0.19	4	6	20.69	2	7	1.24	3
Not specified	1	0.19	4	0	0.00	6	1	0.18	5.5
Agnostic	0	0.00	6	1	3.45	4.5	1	0.18	5.5
Hindu	1	0.19	4	1	3.45	4.5	2	0.35	4
TOTAL	**537**	**100.00**		**29**	**100.00**		**566**	**100.00**	
Missing values	2	0.37		0	0.00		2	0.35	

Major Traumatic Events Experienced by Adolescents

Table 4 shows the frequency distribution of major traumatic events experienced by the respondents, with rankings for each event based on the percentage of respondents who reported experiencing it. The major finding is that fear of harm or high stress environment is the most commonly reported traumatic event in both countries, with 22.68% of respondents from the Philippines and 17.24% of respondents from the UAE reporting this event. Verbal or emotional abuse and cyberbullying were also reported frequently, ranking 2nd and 3rd in both countries. On the other hand, witnessing bodily harm or death and gang/community violence were the least reported traumatic events, with only 0.74% and 0.93% of respondents reporting them, respectively. Additionally, physical or sexual abuse was reported by a small percentage of respondents in both countries, ranking 9.5 in the Philippines and 14.5 in the UAE. The table also reveals some differences in the traumatic events experienced by respondents from the two countries. For instance, being in an accident or natural disaster was reported more frequently by respondents from the Philippines, ranking 2nd, while witnessing domestic abuse or violence and sudden death of a parent or trusted caregiver were reported more frequently by respondents from the UAE, ranking 9.5 and 5, respectively.

TABLE 4

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Frequency Distribution of Major Traumatic Events Experienced by Respondents
N=567

Major Traumatic Event Experience	Country						Total		
	Philippines			UAE					
	f	%	Rank	*f*	%	Rank	*f*	%	Rank
Being in an accident or natural disaster	102	18.96	2	2	6.90	5	104	18.34	2
Verbal or emotional abuse	83	15.43	4	6	20.69	1.5	89	15.70	4
Physically attacked or assaulted	25	4.65	5	1	3.45	9.5	26	4.59	5
Witness domestic abuse or violence	12	2.23	11.5	1	3.45	9.5	13	2.29	12
Sudden death of a parent or trusted caregiver	12	2.23	11.5	2	6.90	5	14	2.47	10.5
Hospitalization	14	2.60	9.5	1	3.45	9.5	15	2.65	9
Physical or sexual abuse	14	2.60	9.5	0	0.00	14.5	14	2.47	10.5
Gang/community violence	5	0.93	13	0	0.00	14.5	5	0.88	13
War	15	2.79	8	1	3.45	9.5	16	2.82	8
Terrorist events	1	0.19	16	1	3.45	9.5	2	0.35	16
Being neglected as a child	16	2.97	7	2	6.90	5	18	3.17	7
Experiencing spiritual or religious abuse	2	0.37	15	1	3.45	9.5	3	0.53	15
Witness bodily harm or death	4	0.74	14	0	0.00	14.5	4	0.71	14
Exposure to school violence	23	4.28	6	0	0.00	14.5	23	4.06	6
Fear of harm or high stress environment	122	22.68	1	5	17.24	3	127	22.40	1
Cyberbullying	88	16.36	3	6	20.69	2	94	16.58	3
TOTAL	538	100.00		29	100.00		567	100.00	

The findings suggest that fear of harm or high stress environment, verbal or emotional abuse, and cyberbullying are significant traumatic events experienced by adolescents in both the Philippines and the UAE. These events have been linked to various mental health problems, including depression, anxiety, and post-traumatic stress disorder (PTSD) among adolescents. The high prevalence of these events underscores the need for interventions and programs that address them to prevent or reduce their negative impact on adolescent mental health. It is also worth noting that the prevalence of physical or sexual abuse was relatively low in both countries, which could be attributed to cultural and societal factors that discourage reporting of such events. However, the relatively low prevalence of these events does not negate their negative impact on mental health when they occur. Moreover, the differences in the traumatic events experienced by respondents from the two countries may reflect the differences in their social and cultural contexts. For instance, being in an accident or natural disaster was more frequently reported by respondents from the Philippines, which could be attributed to the country's high susceptibility to natural disasters. Meanwhile, witnessing domestic abuse or violence and sudden death of a parent or trusted caregiver were reported

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more frequently by respondents from the UAE, which could reflect the country's sociocultural norms and practices. Overall, the findings suggest that traumatic events are prevalent among adolescents in both countries, and interventions to address them are necessary to promote mental health and well-being.

Based on the given information, it highlighted that fear of harm or high-stress environment, verbal or emotional abuse, and cyberbullying were the most commonly reported traumatic events in both countries. These findings are consistent with the results of prior studies on traumatic events experienced by individuals in various contexts.

The results indicating that fear of harm or high-stress environment, verbal or emotional abuse, and cyberbullying are the most commonly reported traumatic events in both countries can be understood in the context of the COVID-19 pandemic and its impact on mental health. Several studies highlight the widespread fear and anxiety caused by the pandemic, which is reflected in the high prevalence of anxiety and other mental health issues reported by various studies among adolescent populations. In fact, data from CDC (2021) reported that more than a third (37%) of high school students reported they experienced poor mental health during the COVID-19 pandemic, and 44% reported they persistently felt sad or hopeless during the past year.

Chew et al. (2020) found that anxiety and fears were among the common psychological responses to the pandemic. Similarly, Saddik et al. (2021) reported high levels of anxiety in the general population, with younger people and females reporting the highest levels. Saravanan et al. (2020) found that students who exhibited anxiety and fear related to COVID-19 were more psychologically distressed.

The fear of COVID-19 has been shown to be associated with negative psychological outcomes, including psychological distress and reduced preventive COVID-19 infection behaviors (Chang et al., 2020). The fear and anxiety caused by the pandemic can also lead to a range of emotional responses, including depression, anger, guilt, grief, and post-traumatic stress (Chew et al., 2020).

The impact of the pandemic on children and adolescents is particularly significant, with Chawla et al. (2021) noting that fear of the illness or social isolation related to COVID-19 can have a significant psychological impact on this population. De Figueiredo et al. (2021) also highlighted the multifactorial impact of the pandemic on children and adolescents, including changes in their diets and school dynamics, fear, and anxiety.

The high prevalence of fear of harm or high-stress environment, verbal or emotional abuse, and cyberbullying reported in this particular study reflect the increased stress and anxiety caused by the pandemic and the resulting social and economic disruption. The studies cited suggest that fear and anxiety related to the pandemic are associated with a range of negative psychological outcomes and may exacerbate pre-existing mental health issues.

Stress, Anxiety, and Depression

Table 5 provides the results of the DASS-Y (Depression Anxiety Stress Scales for Youth) survey in terms of stress, anxiety, and depression scores. The dimensions are interpreted using cutoff values provided at the bottom of the table. For stress, the majority of respondents (82.2%) scored in the normal range, while 11.6% had mild symptoms, and 6.2% had moderate symptoms. No respondents had severe or extremely severe symptoms. For anxiety, 55.6% of respondents scored in the normal range, while 12.5% had mild symptoms, 22.6% had moderate symptoms, 8.3% had severe symptoms, and 1.1% had extremely severe symptoms. For depression, the majority of respondents (71.3%) scored in the normal range, while 12.5% had mild symptoms, 15.0% had moderate symptoms, 1.2% had severe symptoms, and no respondents had extremely severe symptoms.

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TABLE 5
Stress, Anxiety and Depression Scores under the DASS-Y Survey

Dimensions	Interpretation									
	Normal		*Mild*		*Moderate*		*Severe*		*Extremely Severe*	
	f	%	*f*	%	*f*	%	*f*	%	*f*	%
Stress	466	82.2	66	11.6	35	6.2	0	0	0	0
Anxiety	315	55.6	71	12.5	128	22.6	47	8.3	6	1.1
Depression	404	71.3	71	12.5	85	15.0	7	1.2	0	0
AVERAGE	**395**	**69.7**	**69.33**	**12.2**	**82.67**	**14.6**	**18**	**3.17**	**2**	**0.37**

Cutoff Values:

Meaning	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely severe	28+	20+	34+

The results of the DASS-Y survey suggest that the mental health during the COVID-19 pandemic of the adolescents who participated in the survey is generally good. The majority of respondents scored in the normal range for stress (82.2%), anxiety (55.6%), and depression (71.3%). However, a significant minority of respondents did report mild or moderate symptoms of anxiety (35.1%) and depression (27.5%), indicating that some adolescents may be experiencing mental health difficulties. Additionally, a small proportion of respondents reported severe or extremely severe symptoms of anxiety (9.4%) and depression (1.2%), suggesting that there may be a small subset of adolescents who are struggling with significant mental health problems.

This particular DASS-Y survey indicates that most adolescents who participated in the survey are doing well mentally during the COVID-19 pandemic. However, a significant minority of respondents reported mild to moderate symptoms of anxiety and depression, suggesting that some adolescents may be experiencing mental health difficulties. This finding highlights the importance of addressing the mental health needs of adolescents during the pandemic. It is important to note that the DASS-Y survey is a self-report measure, and may not capture the full range of mental health problems that adolescents may be experiencing. This limitation highlights the need for a comprehensive approach to assessing adolescent mental health during the pandemic, which may include both self-report measures and clinical assessments by mental health professionals.

There are several reasons why the pandemic may have a greater impact on the mental health of adolescents compared to adults. First, adolescents may have difficulty understanding and coping with the changes and uncertainty brought about by the pandemic, which can lead to anxiety and stress. They may also feel isolated and disconnected from their friends and usual activities due to social distancing and remote learning measures, which can lead to feelings of loneliness and depression. Second, adolescents may be more vulnerable to the negative consequences of disrupted routines and social support systems, such as school closures and the cancellation of

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extracurricular activities, which can have a significant impact on their mental health. Third, the pandemic may exacerbate pre-existing mental health issues in adolescents, and the lack of access to mental health services and support during the pandemic may make it more difficult for them to manage their symptoms. Overall, the unique developmental needs and vulnerabilities of adolescents, combined with the ongoing impact of the pandemic, may contribute to increased long-term adverse consequences on their mental health.

Interestingly, the results of the study closely resemble the findings released by the Philippine One Health University Network and the Southeast Asian One Health University Network in August 2021. Around 19 to 22 percent in NCR as well as in surrounding provinces admitted feeling depressed, 36 percent admitted to anxiety, and close to 26 percent admitted to having terrible time coping. When compared to non-students, the numbers dropped by 50 percent, which meant that students bear the brunt of the mental health effects of the COVID-19 pandemic. In a web-based survey by Saravanan et al. (2020) of 433 students in the emirates of the UAE, about 16% displayed anxiety symptoms with 51% being in psychological distress. Interestingly, they reported that older students were less likely to be distressed. Older adolescents (e.g., those in late adolescence) may have better coping skills and a more mature perspective on stressful situations, which could make them less likely to experience psychological distress compared to younger adolescents. However, older adolescents may be at higher risk for certain types of mental health problems, such as substance abuse or mood disorders. Ultimately, the relationship between age and psychological distress is complex and may vary depending on the specific circumstances and individual factors involved.

A comprehensive and non-systematic search conducted by de Miranda et al. (2020) affirmed that symptoms of anxiety, depression, and post-traumatic stress were as expected among children from all development phases. In this present study whose respondents are composed mostly of Filipinos (>95%), the evidence suggests that the vast majority of Filipino children and adolescents are resilient (Lacsamana, 2021 on citing a 2020 study by Chen & Bonnano). Filipino teens managed to come up with their own ways of coping with stress, such as engaging in leisure activities like watching movies and TV shows, riding bikes, or playing video games, and setting up video calls with their friends, even if their stress levels remained elevated.

The results of the DASS-Y survey, which found that a significant minority of adolescents reported symptoms of anxiety and depression, could be linked to the findings of the recent study by Richard et al. (2023) on the impact of the COVID-19 pandemic on the wellbeing of children and adolescents. The study suggests that the pandemic has had a persistent impact on the mental health of children and adolescents, particularly among those with health and family vulnerabilities. It is possible that the stress and anxiety caused by the pandemic may have contributed to the mental health difficulties reported by the adolescents in the DASS-Y survey. However, their study only focused on children and adolescents in a highly developed country (Geneva, Switzerland). According to a systematic review of 16 quantitative studies, there is a lack of sufficient data on the psychological toll of the COVID-19 pandemic on adolescent mental health (Jones et al., 2021). Despite the lack of comprehensive evidence, Meherali et al. (2021) surmised that compared to adults, this pandemic may continue to have increased long term adverse consequences on children's and adolescents' mental health.

According to a systematic review of 16 quantitative studies (Jones et al., 2021), there is a lack of sufficient data on the psychological toll of the COVID-19 pandemic on adolescent mental health. However, it was found that pandemics cause stress, worry, helplessness, and social and risky behavioral problems among children and adolescents (e.g., substance abuse, suicide, relationship problems, academic issues, and absenteeism from work). Interventions such as art-based programs, support services, and clinician-led mental health and psychosocial services effectively decrease mental health issues among children and adolescents.

Another study found that the COVID-19 pandemic and associated public health measures have disrupted the lives of people around the world (Meherali et al., 2021). It is already evident that the direct and indirect psychological and social effects of the COVID-19 pandemic are insidious and affect the mental health of young children and adolescents now and will in the future. Anxiety, depression, disturbances in sleep and appetite, as well as impairment in social interactions are the most common presentations. It has been indicated that compared to adults, this pandemic may continue to have increased long term adverse consequences on children's and adolescents' mental health.

Post-Traumatic Stress Disorder (PTSD)

Table 6 presents the results of the CRIES-13 survey, which measures symptoms of post-traumatic stress disorder (PTSD) in children. The survey has three dimensions: intrusion, avoidance, and arousal.

In the intrusion dimension, 71.1% of respondents scored in the range of 1-10, while 28.9% scored in the range of 11-20. In the avoidance dimension, 67.2% of respondents scored in the range of 1-10, while 32.8% scored

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in the range of 11-20. In the arousal dimension, 40.6% of respondents scored in the range of 1-10, while 59.4% scored in the range of 11-20. The average percentage distribution for all three dimensions were 59.63 and 40.37 for scores of 1-10 and 11-20, respectively. The Children and War Foundation's recommended CRIES-13 cutoff value is a sum of 17 or higher for the intrusion and avoidance dimensions, which indicates a high probability of obtaining a PTSD diagnosis. Using this cutoff value, adolescents who are at risk of PTSD diagnosis number at more than half with 319 (56.3%) of the respondents.

TABLE 6
Results of the CRIES-13 Survey

PTSD Dimensions	Score of 1-10		Score of 11-20		At risk for PTSD Diagnosis	
	f	%	*f*	%	*f*	%
Intrusion	403	71.1	164	28.9	319	56.3
Avoidance	381	67.2	186	32.8		
Arousal	230	40.6	337	59.4		
AVERAGE	**338**	**59.63**	**229**	**40.37**		

Children and War Foundation's Recommended CRIES-13 Cutoff Value:

IF Sum of Intrusion and Avoidance is ≥ 17

= High probability of obtaining PTSD diagnosis

The results of the CRIES-13 survey suggest that a significant proportion of the surveyed adolescents are at risk of PTSD diagnosis. The sum of the intrusion and avoidance dimensions showed that more than half of the respondents (56.3%) scored above the recommended cutoff value of 17, indicating a high probability of obtaining a PTSD diagnosis. In the arousal dimension, almost 60% of the respondents scored in the range of 11-20, which is considered a moderate-to-severe range of symptoms.

These results indicate that a considerable proportion of the surveyed adolescents may have experienced traumatic events that have resulted in symptoms of PTSD. It is important to note that the CRIES-13 survey does not provide a definitive diagnosis of PTSD, but rather identifies individuals who are at risk for PTSD and require further evaluation. As such, it is recommended that these adolescents receive appropriate mental health support and interventions to address their symptoms and reduce the risk of further psychological distress.

The results draw similarities with the Beirut port explosion impact study by Maalouf et al. (2022) who found that 52% of the children aged 8 to 17 years old screened positive for probable PTSD using CRIES-13 after the Beirut Port explosion. The study also identified factors associated with higher odds of PTSD, such as sustaining physical injury, witnessing casualties, having a family member injured in the blast, and temporary displacement. The study underscores the critical need for an emergency mental health response, particularly for disadvantaged communities and children with prior mental health problems. The second study focusing on the onset of post-traumatic stress symptoms in children who have recently been victimized by sexual assault, found that over two-thirds of the children showing severe post-traumatic stress symptoms at four weeks post-assault, indicating a high risk for PTSD (Pijpers et al., 2021).

The study on changes in PTSD among children who survived the Wenchuan earthquake is related to the finding that more than half of adolescent respondents are at high risk for PTSD diagnosis because it highlighted the long-term impact of traumatic events on mental health. In the earthquake study, 80% of the children still had some

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PTSD symptoms 2 years after the event, and 66.25% had symptoms that lasted 3 years (Chen et al., 2021). However, in a study by Davico et al. (2021) that 30.9% of children are at high risk for post-traumatic stress disorder (PTSD) due to the COVID-19 pandemic tells a milder impact. Still, it is in line with previous research that suggests that exposure to disasters or traumatic events can have a significant impact on mental health. It is important to note that the study was conducted in Italy during the early stages of the pandemic, and the results may not be generalizable to other populations or contexts. Meanwhile in a Malaysian study, Zainudeen et al. (2021) also found lower impact, with only seven (15.6%) CRIES-13 respondents reporting a total score >17. A Turkish study also found similar CRIES-13 scores as the one in Italy, with 20.9% of the children having scores of ≥30 (Terzioğlu & Buber, 2021).

In summary, the study on the impact of the Beirut port explosion on children draws similarities with the study on adolescent PTSD risk, as both studies found high rates of PTSD symptoms in their respective populations. The study on sexual assault victimization also found high rates of severe post-traumatic stress symptoms, indicating a high risk for PTSD. The study on the Wenchuan earthquake highlights the long-term impact of traumatic events on mental health, with a significant number of children still experiencing PTSD symptoms years after the event. The study on the COVID-19 pandemic found a lower impact, with a smaller proportion of children at high risk for PTSD. These findings emphasize the importance of providing emergency mental health response and trauma-informed practices to mitigate the negative impact of traumatic events on mental health, particularly for disadvantaged communities and children with prior mental health problems. However, the generalizability of the results may vary depending on the population and context of the study.

Test of Significant Association between Major Traumatic Event Experiences and SAD & PTSD Levels

Table 7 showed the results of an analysis of variance for four different dependent variables (stress level, anxiety level, depression level, and PTSD risk level) with the independent variable (major traumatic event experienced). The table shows the sum of squares, degrees of freedom, mean square, F-value, and significance level for each variable.

TABLE 7
Tests of Significant Association between Adolescents' Traumatic Event Experiences and their Levels of Stress, Anxiety, Depression, and PTSD Risk

		Sum of Squares	df	Mean Square	F	Sig.	Dec.
stress level	Between Groups	5.493	15	.366	1.202	.266	Accept
	Within Groups	167.887	551	.305			
	Total	173.379	566				
anxiety level	Between Groups	28.279	15	1.885	1.606	.068	Accept
	Within Groups	646.801	551	1.174			
	Total	675.079	566				
depression level	Between Groups	18.379	15	1.225	2.018	.013	Reject
	Within Groups	334.556	551	.607			
	Total	352.935	566				

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PTSD risk	Between Groups	5.378	15	.359	1.473	.110	Accept
	Within Groups	134.149	551	.243			
	Total	139.527	566				

For the stress level variable, the between-groups sum of squares is 5.493, with 15 degrees of freedom and a mean square of .366. The within-groups sum of squares is 167.887, with 551 degrees of freedom and a mean square of .305. The F-value is 1.202 and the significance level is .266. Similarly, for anxiety level, the between-groups sum of squares is 28.279, with 15 degrees of freedom and a mean square of 1.885. The within-groups sum of squares is 646.801, with 551 degrees of freedom and a mean square of 1.174. The F-value is 1.606 and the significance level is .068. For depression level, the between-groups sum of squares is 18.379, with 15 degrees of freedom and a mean square of 1.225. The within-groups sum of squares is 334.556, with 551 degrees of freedom and a mean square of .607. The F-value is 2.018 and the significance level is .013. Finally, for PTSD risk, the between-groups sum of squares is 5.378, with 15 degrees of freedom and a mean square of .359. The within-groups sum of squares is 134.149, with 551 degrees of freedom and a mean square of .243. The F-value is 1.473 and the significance level is .110.

In summary, the ANOVA table indicates that there are some differences between the groups by adjusting for major traumatic event experience for depression level, but not for stress level, anxiety level, or PTSD risk level, based on the significance levels. However, the results are based on the specific sample (who are primarily composed of Filipino high school students living outside NCR) and methodology (web-based survey) used in the study, and may not be generalizable to other populations or contexts.

Peri-pandemic studies do provide information on the psychological impact of traumatic events, such as the COVID-19 pandemic, on individuals and their mental health. Abdelrahman & Ismail (2022) found that depression, anxiety, and stress were all associated with the experience of lockdown during the COVID-19 pandemic in the UAE. Meanwhile, Saddik et al. (2021) found that younger people and females reported higher levels of anxiety during the pandemic, and that parents who had severe anxiety were more likely to report emotional problems in their children. Cheikh et al. (2021) also found that the COVID-19 pandemic had a mild to severe stressful impact on participants, with females, younger participants, part-timers, and college or university graduates more likely to report a high level of psychological impact. In a Philippine study, it seems that there is a strong correlation between major traumatic events and depression, as well as stress, anxiety, and PTSD symptoms. For example, Tee et al. (2020) found that being worried and concerned for family was significantly associated with higher levels of stress, anxiety, and depression. Additionally, the impact of the COVID-19 pandemic on the mental health of Filipinos, including stress, depression, and anxiety, has been well-documented in the literature.

There are some studies that agree with the finding that major traumatic events and depression are quite related, while stress, anxiety, or PTSD symptoms are not. However, most are not specifically related to traumatic events or PTSD, but they do explore the impact of COVID-19 pandemic on the mental health of children and adolescents, which can be a source of major stress and anxiety for many. Theberath et al. (2022) conducted a systematic review of 35 survey studies with a total of 65,508 participants, ranging from 4 to 19 years of age. The authors found that anxiety (28%), depression (23%), loneliness (5%), stress (5%), fear (5%), tension (3%), anger (3%), fatigue (3%), confusion (3%), and worry (3%) were the most common mental health issues reported. Octavius et al. (2020) conducted a systematic search of studies on the effect of COVID-19 and its related causes, such as lockdown, on adolescents' mental health. The authors found that COVID-19 was a risk factor for mental health problems in adolescents. Ahmed et al. (2021) conducted a cross-sectional study on 148 children aged 6-12 years old and found that children with COVID-19 infection had a higher percentage of clinical rating than the other group regarding withdrawal, anxious/depressed, somatic, internalizing, externalizing, and total problems. Daniunaite et al. (2021) conducted a longitudinal study on a Lithuanian community sample of 331 adolescents aged 12-16 years old. The authors found a small but significant increase in hyperactivity/inattention and emotional symptoms during the COVID-19 outbreak. Shoshani & Kor (2021) conducted a study on 1,537 Israeli children and adolescents and found that there was a significant increase in anxiety, depression, and panic symptoms during the COVID-19 outbreak.

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While the above studies do not directly address the relationship between major traumatic events and depression, they do suggest that stress and anxiety related to the COVID-19 pandemic can also have a significant impact on the mental health of children and adolescents. It is important to note that these results are based on the specific sample and data analyzed and may not generalize to other populations or contexts.

Test of Significant Difference in Levels of SAD and PTSD by Demographic Profile

Table 8 presents the results of nonparametric tests for different groupings of the variables. The Mann-Whitney U and Wilcoxon W tests were used for the grouping variable sex, while the Kruskal-Wallis H test was used for the grouping variables grade level, and religion. The stress level, anxiety level, depression level, and PTSD risk were the dependent variables.

For the grouping variable sex, the Mann-Whitney U test showed significant differences in stress level, anxiety level, and depression level between male and female adolescents. However, there was no significant difference in PTSD risk. The Wilcoxon W test also showed significant differences in stress level, anxiety level, and depression level between male and female adolescents. For the grouping variable grade level, the Kruskal-Wallis H test showed significant differences in stress level, anxiety level, and depression level among different grade levels. However, there was no significant difference in PTSD risk. For the grouping variable religion, the Kruskal-Wallis H test showed no significant differences in stress level, anxiety level, depression level, and PTSD risk among different religions.

TABLE 8
Non-Parametric Test of Significant Difference in Distribution of Levels of Stress, Anxiety, Depression, and PTSD Risk Grouped by Demographic Profile

Grouped by **SEX**	**STRESS LEVEL**	**ANXIETY LEVEL**	**DEPRESSION LEVEL**	**PTSD RISK**
Mann-Whitney U	32934.000	30818.000	33188.000	33474.000
Wilcoxon W	55089.000	52973.000	55343.000	55629.000
Z	-3.630	-3.922	-2.867	-2.478
Asymp. Sig. (2-tailed)	.000	.000	.004	.013
Decision	**Accept**	**Accept**	**Accept**	Reject
Grouped by **GRADE LEVEL**				
Kruskal-Wallis H	21.146	20.158	15.941	10.953
Asymp. Sig.	.001	.001	.007	.052
Decision	**Accept**	**Accept**	**Accept**	Reject
Grouped by **RELIGION**				
Kruskal-Wallis H	4.291	1.975	6.946	5.645
Asymp. Sig.	.232	.578	.074	.130

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Decision	Reject	Reject	Reject	Reject

*Decision: at 0.05 Significance Level

The results of the nonparametric tests suggest that there are significant differences in stress level, anxiety level, and depression level among different groups of adolescents based on their sex and grade level. The Mann-Whitney U and Wilcoxon W tests indicate that female adolescents have higher stress, anxiety, and depression levels compared to male adolescents. This finding is consistent with previous research indicating that females are more vulnerable to mental health issues, such as depression and anxiety.

The Kruskal-Wallis H test for grade level also suggests that older adolescents have higher levels of stress, anxiety, and depression compared to younger adolescents. This finding may be due to the increased academic and social pressures that come with higher grade levels. It is important for educators and parents to be aware of these pressures and provide appropriate support and resources for students.

Interestingly, the Kruskal-Wallis H test did not find any significant differences in mental health outcomes based on religion. This suggests that religion may not play a significant role in the mental health of adolescents in this sample. However, it is important to note that this study only looked at four major religions, so further research is needed to examine the relationship between mental health and religion across different religious groups. This finding suggests that mental health issues affect adolescents regardless of their religious affiliation.

According to the studies, it is evident that females and older adolescents have higher levels of stress, anxiety, and depression during the COVID-19 pandemic. Gilsbach et al. (2021) found that female children and individuals with a depressive disorder are at an increased risk of suffering from pandemic-associated psychological distress. Similarly, Racine et al. (2021) reported that prevalence rates were higher in older adolescents and girls. Chawla et al. (2021) also found that anxiety symptoms were more severe among females and older adolescents. Rao & Rao (2021) identified that being female and young was significantly associated with higher levels of stress, anxiety, and depression. On the other hand, Abdelrahman & Ismail (2022) found that males were more psychologically impacted during the pandemic, which contradicts the other studies. Saravanan et al. (2020) reported that older students were less likely to have psychological distress, which is also contradictory to the other studies' findings.

The studies cited indicate that females and older adolescents are more likely to experience stress, anxiety, and depression during the COVID-19 pandemic. These findings are consistent with previous research on mental health disparities, which suggests that women and girls are more vulnerable to psychological distress. One potential explanation for this disparity is that women and girls may be more likely to experience social and economic stressors associated with the pandemic, such as job loss, caregiving responsibilities, and increased risk of exposure to COVID-19 due to frontline work. Additionally, girls and women may face unique societal pressures, such as gender-based violence, that can exacerbate mental health problems during times of crisis.

However, it is important to note that not all studies agree on the specific demographic groups most impacted by pandemic-related stressors. For example, Abdelrahman & Ismail (2022) found that males were more psychologically impacted by the pandemic, which contradicts the other studies. Furthermore, Saravanan et al. (2020) reported that older students were less likely to have psychological distress, which is contradictory to the other studies' findings. These discrepancies may be due to differences in study populations, methodologies, and measurement tools. It is also possible that the pandemic's psychological impact varies by context, with different demographic groups experiencing different levels of stress and anxiety depending on factors such as geographic location, cultural background, and socioeconomic status.

Overall, the findings of these studies underscore the need for targeted mental health interventions during the pandemic, particularly for those most at risk for psychological distress (Regala, 2022; Salendab & Cogo, 2022). Health care providers should be aware of the potential mental health disparities among different demographic groups and be prepared to offer tailored support and treatment to those in need. Additionally, policymakers should prioritize funding for mental health resources and services to ensure that all individuals have access to the support they need during this challenging time. These results emphasize the importance of addressing mental health concerns in adolescents, particularly among females and older students. Schools, families, and healthcare providers should work together to identify and support adolescents who may be at risk for mental health issues, and provide appropriate interventions to promote their well-being.

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Proposed Psychological Health Intervention

Based on the above findings, a psychological health intervention could be proposed that focuses on addressing the mental health needs of adolescents who may be experiencing mental health difficulties. The intervention could be tailored to address the specific traumatic events that are most commonly reported in both countries, such as fear of harm or high-stress environments, verbal or emotional abuse, and cyberbullying. Given that some Muslims did not participate in the study due to personal or religious beliefs, it may be important to consider cultural and religious factors in the design and implementation of the intervention to ensure that it is accessible and appropriate for all participants. The results also suggest that there may be a significant number of adolescents at risk of PTSD diagnosis. Therefore, the intervention could include components that focus on managing and reducing symptoms of PTSD, such as cognitive-behavioral therapy and mindfulness-based interventions.

In addition, the nonparametric test results suggest that there are significant differences in mental health levels among different groups of adolescents based on their sex and grade level. Therefore, the intervention could be tailored to address the unique mental health needs of these subgroups. Overall, the psychological health intervention could involve a combination of individual and group-based interventions, such as counseling, support groups, and mindfulness-based interventions, to address the mental health needs of adolescents in both countries.

From foreign studies, several interventions were recommended to address mental health impacts of COVID-19 on various populations. This included providing mental health support for the general population through problem-focused coping, seeking social support, and positive appraisal of the situation. (Chew et al., 2020). To address the psychological impact of COVID-19 among children and adolescents, interventions should address anxiety, depressive symptoms, reduced physical activity, delayed sleep time, increased screen time, and sedentary habits while addressing bias and increase sample size in research studies. (Chawla et al., 2021). Another is to provide mental health support for children and adolescents with mental illnesses, particularly depressive disorders, due to an increased risk of pandemic-associated psychological distress. (Gilsbach et al., 2021). Moreover, interventions should be able to address emotional and behavioral changes in children and adolescents during COVID-19 lockdown, such as boredom, irritability, and reluctance, by encouraging outdoor physical activity such as biking, walking, and skiing. (Schnaiderman et al., 2021). Finally, interventions should provide mental health support for children and adolescents impacted by the pandemic, particularly those who experienced domestic violence, social isolation, and changes in their diet and school dynamics (De Figueiredo et al., 2021), in addition to neuroinflammation and behavioral interventions.

Several psychological health interventions can be gleaned from Philippine literature and studies, too, to help improve the mental well-being of Filipino children and adolescents (Malolos et al., 2021; Tee et al., 2020; Magtubo, 2016; Estrada et al., 2020; Rocha et al., 2021; Malaluan et al.; 2022; Ramirez et al., 2021; and Visco, 2021). One intervention is to develop children-centered interventions that acknowledge the circumstances Filipino children are subjected to. Another intervention is to address multilayered issues faced by lower-middle-income countries, such as the Philippines. A third intervention is to increase access to mental health care, especially in rural areas, and provide financial support for mental health consultation. Additionally, it may be helpful to establish more mental health facilities and increase the number of mental health workers in the country.

Based on the research findings in this particular study and from foreign and local studies, a program for a psychological health intervention for Filipino adolescents living in the Philippines and UAE could include the following components:

1. Psychoeducation on traumatic events: The program should include a psychoeducational component on traumatic events, including fear of harm or high-stress environment, verbal or emotional abuse, and cyberbullying. This component should aim to increase awareness and understanding of what constitutes traumatic events, their effects on mental health, and strategies for coping with them.

2. Mindfulness and relaxation techniques: The program should include training in mindfulness and relaxation techniques, such as deep breathing, progressive muscle relaxation, and guided imagery. These techniques can help adolescents regulate their emotions and manage stress, anxiety, and depression symptoms.

3. Cognitive-behavioral therapy (CBT): The program should include CBT sessions that focus on identifying and challenging negative thought patterns and replacing them with more positive and adaptive ones. This component can help adolescents develop coping skills and increase resilience in the face of stress and trauma.

4. Support groups: The program should include support groups for adolescents who have experienced traumatic events. These groups can provide a safe and supportive space for adolescents to share their experiences, receive validation and empathy, and learn from one another's coping strategies.

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5. Family involvement: The program should involve families of the adolescents in the intervention. This component can help parents understand their children's experiences and mental health needs, provide emotional support, and help reinforce the skills and strategies learned in the intervention.

6. Continued follow-up and monitoring: The program should include continued follow-up and monitoring to ensure that the adolescents are continuing to apply the skills and strategies learned in the intervention and to identify any ongoing mental health needs that may require further support.

Overall, the researcher proposes the program entitled "Building Resilience: A Psychological Health Program for Filipino Adolescents in the Philippines and UAE". This program aims to equip mental health professionals, educators, and parents with the necessary knowledge and skills to provide effective psychological interventions and support for Filipino adolescents. With a combination of training, counseling services, awareness campaigns, curriculum development, and support groups, the program seeks to promote resilience among Filipino adolescents and reduce the stigma surrounding mental health issues in their communities. The program attempts to be culturally sensitive and tailored to the specific needs and experiences of Filipino adolescents living in the Philippines and UAE. It should involve collaboration with community leaders, schools, and other stakeholders to ensure that it is accessible and effective in reaching the target population.

Table 9 presents this comprehensive program aimed at improving the mental health and well-being of Filipino adolescents who may be experiencing various psychological difficulties such as anxiety, depression, and post-traumatic stress disorder.

TABLE 9

Intervention: "Building Resilience: A Psychological Health Program for Filipino Adolescents in the Philippines and UAE"

Activity	Objectives/Strategies	Timeframe	Persons Involved	Budget (in Philippine Pesos)
1. Training for mental health professionals	To equip mental health professionals with knowledge and skills to provide effective psychological interventions for Filipino adolescents.	6 months	Mental health professionals in the Philippines and UAE	PHP 500,000
2. Online counseling services	To provide online counseling services for Filipino adolescents who may be experiencing mental health difficulties.	Ongoing	Licensed counselors and psychologists	PHP 1,000,000
3. Awareness campaign on mental health	To increase awareness and reduce stigma around mental health issues in Filipino communities.	1 year	Community leaders, educators, parents, and students	PHP 500,000
4. Development of mental health curriculum for schools	To provide a structured way of teaching students about mental health and how to take care of their own mental well-being.	1 year	Mental health professionals, educators, and school administrators	PHP 1,000,000
5. Support groups for adolescents	To provide a safe and supportive environment for adolescents to connect with others who may be going through similar experiences.	Ongoing	Trained facilitators and peer mentors	PHP 500,000

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Note: These are rough estimates and the actual budget required may vary depending on the specifics of the program implementation.

Activity 1 aims to provide training for mental health professionals to equip them with knowledge and skills in providing effective psychological interventions for Filipino adolescents. However, the objective/strategy can be improved by specifying the specific areas of training needed, such as trauma-focused therapy, cognitive-behavioral therapy, and other evidence-based interventions for common mental health issues experienced by Filipino adolescents. The timeframe for the training is set at 6 months, which is reasonable for a comprehensive training program. The persons involved are mental health professionals in the Philippines and UAE, which is appropriate since the program targets to increase the capacity of mental health professionals in both countries. The budget allocated for this activity is PHP 500,000, which may be sufficient depending on the number of participants and training materials needed.

Activity 2 aims to provide online counseling services for Filipino adolescents who may be experiencing mental health difficulties. This objective/strategy is clear and specific, with the aim of providing accessible mental health services for Filipino adolescents who may have limited access to traditional face-to-face counseling services. The timeframe for this activity is ongoing, which means that the online counseling services will be available for Filipino adolescents in need of mental health support beyond the initial program period. The persons involved are licensed counselors and psychologists, which is appropriate to ensure the quality and effectiveness of the online counseling services. The budget allocated for this activity is PHP 1,000,000, which may be reasonable depending on the number of counselors and psychologists needed to provide the services and the platform used for online counseling.

Activity 3 aims to increase awareness and reduce stigma around mental health issues in Filipino communities. This objective/strategy is critical in promoting mental health literacy and reducing the negative attitudes and beliefs associated with mental illness. The timeframe for this activity is set at 1 year, which is appropriate to allow for sustained efforts in promoting mental health awareness and addressing stigma. The persons involved are community leaders, educators, parents, and students, which is a broad range of stakeholders that can effectively reach and influence the target audience. The budget allocated for this activity is PHP 500,000, which may be sufficient to cover the costs of organizing awareness campaigns, creating and distributing mental health materials, and conducting training for community leaders, educators, and parents.

Activity 4 aims to develop a mental health curriculum for schools to provide a structured way of teaching students about mental health and how to take care of their own mental well-being. This objective/strategy is crucial in promoting mental health literacy and awareness among young people and in equipping them with skills and strategies to manage their mental health. The timeframe for this activity is set at 1 year, which is reasonable considering the need to develop a comprehensive and evidence-based curriculum. The persons involved are mental health professionals, educators, and school administrators, which is appropriate to ensure that the curriculum is grounded in evidence-based interventions and can be effectively integrated into the school system. The budget allocated for this activity is PHP 1,000,000, which may be sufficient to cover the costs of developing and piloting the curriculum, training educators and school administrators, and creating and distributing teaching materials.

Activity 5 aims to provide support groups for adolescents to connect with others who may be going through similar experiences. This objective/strategy is critical in providing a safe and supportive environment for adolescents to share their experiences, learn from one another, and build a sense of community. The timeframe for this activity is ongoing, which means that the support groups will be available beyond the initial program period. This activity will require a budget of PHP 500,000 to cover the costs of training facilitators and peer mentors, as well as materials and resources for the support group sessions.

The study aimed to assess the mental health impacts of the COVID-19 peri-pandemic on adolescents in the Philippines and UAE, with a primary focus on Filipino students. The study used the Depression Anxiety Stress Scales for Youth (DASS-Y) and the Children's Revised Impact of Events Scale (CRIES-13) to measure levels of stress, anxiety, depression, and PTSD risk. The researcher hypothesized that major traumatic events were not significantly related to levels of stress, anxiety, depression, and PTSD risk during the COVID-19 pandemic. Additionally, the researcher aimed to test significant differences in the distribution of levels of stress, anxiety, and depression (SAD), and post-traumatic stress disorder (PTSD) risk across demographic profile categories (grade level, sex, religion). This study employed the descriptive-correlation research design. Initial methodological rigor was disrupted by systematic errors during the distribution of web-based surveys. The resulting feedback prevented the researcher from tackling a

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cross-country comparison as completed research instruments were returned by Filipino adolescents representing more than 95% of the samples (N=567), with the overwhelming majority coming from the province of Camarines Sur, Philippines, instead of the two cities primarily chosen to represent the two countries. Despite the inherent biases in this present study, the results can be particularly beneficial to a range of stakeholders in the education systems of both countries and in the area of post-traumatic adolescent mental health interventions, especially in the rural areas.

Problem No. 1. What is the demographic profile of adolescents in these two countries along: a) Grade level, b) Sex, and c) Religion?

Findings

- In the Philippines, grade 10 had the highest percentage of participants (23.68%), followed by grade 7 (22.37%), grade 11 (18.98%), grade 8 (15.79%), grade 12 (10.15%), and grade 9 (9.02%). In the UAE, grade 8 had the highest percentage of participants (33.33%), followed by grade 7 (22.84%), grade 10 and 11 (4.17%), and grade 12 (29.17%).
- In both the Philippines and the UAE, males had a higher percentage of participants than females (63.38% and 62.96% respectively).
- In the Philippines, the majority of participants were Roman Catholic (90.32%), followed by Other Christian Denominations (9.12%), Muslim (0.19%), Not specified (0.19%), and Hindu (0.19%). In the UAE, the majority of participants were also Roman Catholic (89.05%), followed by Other Christian Denominations (9.01%), Muslim (1.24%), Agnostic (0.18%), and Hindu (0.35%).

Conclusion

- The highest percentage for grade level was in grade 10 in the Philippines, and grade 8 in the UAE. The lowest percentage for grade level was grade 9 in the Philippines, and grades 10 and 11 (tied) in the UAE.
- Males represent more than half of the respondents in both countries.
- The highest percentage based on religion was Roman Catholic in both countries with an overwhelming majority.

Recommendations

- The study showed that there were differences in the percentage of participants across different grade levels in the Philippines and the UAE. Schools can use this information to develop targeted mental health programs for students in specific grades. Additionally, schools can prioritize providing mental health resources and support to male students, who had a higher percentage of participants in both countries.
- Parents can use this study's findings to better understand the mental health impacts of the pandemic on their adolescent children. They can also communicate with their children's school and healthcare providers to ensure that they have access to appropriate mental health resources and support.
- Mental healthcare providers can use this information to develop and target mental health interventions for adolescents in both countries. They can also prioritize providing resources and support for Roman Catholic adolescents, who made up the majority of participants in both countries.
- Policymakers can use the study's findings to inform the development of mental health policies and programs aimed at supporting adolescents during and after the pandemic. This includes developing targeted mental health programs for students in specific grade levels, as well as ensuring that mental health resources are accessible to all students regardless of their religion.
- Future research can build on this study's findings by exploring additional factors that may impact the mental health of adolescents during the pandemic. For example, researchers could examine the impact of socioeconomic status, ethnicity, or family structure on mental health outcomes. This could help identify additional groups of adolescents who may be particularly vulnerable to the pandemic's mental health impacts.

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Problem No. 2. What major traumatic events have been experienced by the respondents during the COVID-19 pandemic?

Findings:

- Fear of harm or high stress environment was the most common traumatic event experienced by respondents in both countries, with a percentage of 22.68% and 22.40%, respectively. Verbal or emotional abuse and cyberbullying were the second and third highest ranked traumatic events experienced in both countries. On the other hand, the three lowest ranked were terrorist events, gang/community violence, and witness bodily harm or death. The percentages for these three traumatic events range from 0.19% to 3.17%.

Conclusion

- These findings suggest that adolescents in both countries are more likely to experience psychological trauma rather than physical trauma. They are vulnerable to various forms of traumatic events that can negatively impact their mental health and well-being.

Problem No. 3. What are the levels of stress, anxiety, and depression (SAD), and post-traumatic stress disorder (PTSD) risk of the adolescents?

Findings

- Using the DASS-Y tool, the stress level of the majority of respondents (82.2%) were normal, while 11.6% had mild levels, and 6.2% had moderate levels. None of the respondents had severe or extremely severe levels of stress.
- For anxiety, the majority of respondents (55.6%) had normal levels, while 12.5% had mild levels, 22.6% had moderate levels, and 8.3% had severe levels. A small percentage (1.1%) had extremely severe levels of anxiety.
- For depression, the majority of respondents (71.3%) had normal levels, while 12.5% had mild levels, 15.0% had moderate levels, and only 1.2% had severe levels. None of the respondents had extremely severe levels of depression.
- Using the Children and War Foundation's recommended CRIES-13 cutoff value of ≥ 17, 319 or 56.3% of the respondents are at risk for PTSD diagnosis.

Conclusion

- Based on the findings of the study, it can be concluded that a significant number of adolescents in the surveyed areas are at risk for PTSD diagnosis. More than half of the respondents (56.3%) scored above the recommended cutoff value for PTSD on the CRIES-13 survey. This suggests that the traumatic events experienced by these adolescents have had a lasting impact on their mental health.
- However, the DASS-Y survey results showed that the majority of respondents had normal levels of stress, anxiety, and depression. This could indicate that despite the traumatic events they have experienced, many adolescents are resilient and able to cope with stressors in a healthy way.
- It is important to note, however, that a significant minority of respondents did report mild to moderate levels of stress, anxiety, and depression. This highlights the need for mental health support services for adolescents who have experienced traumatic events, even if they appear to be coping well. Overall, the findings of the study emphasize the importance of addressing the mental health needs of adolescents who have experienced trauma.

Recommendations

- Education stakeholders, including schools and universities, should prioritize mental health education and awareness campaigns. This can help to reduce stigma and increase knowledge of mental health issues, which may encourage more adolescents to seek help if needed.
- Mental health professionals should develop and implement trauma-focused therapies and interventions that are specifically tailored to the needs of adolescents who have experienced traumatic events. These interventions should be culturally sensitive and should take into account the unique experiences of Filipino adolescents in the UAE and the Philippines.

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- Healthcare providers should conduct routine screenings for PTSD among adolescents who have experienced traumatic events, even if they appear to be coping well. This can help to identify individuals who may benefit from early intervention or treatment.
- Governments and policymakers should allocate resources towards the development of mental health services and support systems for adolescents who have experienced traumatic events. This may include increasing the availability of mental health professionals, providing funding for mental health programs, and improving access to mental health services in underserved areas.
- Finally, parents and caregivers should be educated on the signs and symptoms of PTSD, stress, anxiety, and depression, and should be encouraged to seek help for their children if they notice any concerning changes in behavior or mood. They should also be provided with resources and support to help them cope with the effects of trauma on their children.

Problem No. 4. Do major traumatic events associated with the COVID-19 pandemic experienced by adolescents have a significant relationship with levels of stress, anxiety, and depression (SAD), and post-traumatic stress disorder (PTSD) risk?

Hypothesis 1: Major traumatic events experienced by adolescents are not associated with stress, anxiety, depression, and PTSD risk levels peri-pandemic

Findings

- The ANOVA F-test found a significant association between traumatic event experiences and depression levels ($p=0.013$). There is also a trend towards a significant association between traumatic event experiences and anxiety levels ($p=0.068$) and PTSD risk ($p=0.110$), but these results did not reach statistical significance. There was no significant association found between traumatic event experiences and stress levels ($p=0.266$).

Conclusion

- Based on the findings, the null hypothesis should be rejected. The test found a significant association between traumatic event experiences and depression levels ($p=0.013$), indicating that experiencing major traumatic events is significantly associated with higher levels of depression among adolescents. While there was no significant association found between traumatic event experiences and stress levels ($p=0.266$), there was a trend towards a significant association between traumatic event experiences and anxiety levels ($p=0.068$) and PTSD risk ($p=0.110$), suggesting that experiencing major traumatic events may also be associated with higher levels of anxiety and PTSD risk, although these results did not reach statistical significance.
- The alternative hypothesis that can be proposed based on these findings is that there is a significant association between experiencing major traumatic events and higher levels of depression, anxiety, and PTSD risk among adolescents.

Recommendations

- The high prevalence of PTSD risk and the significant association between traumatic events and depression levels highlight the urgent need for mental health support services for affected adolescents. Stakeholders can establish support programs that offer counseling and therapy to help adolescents cope with traumatic experiences.
- There is a need to increase awareness and education about the mental health impacts of traumatic events. Stakeholders can develop campaigns to educate the public, particularly parents, teachers, and health professionals, about the signs and symptoms of trauma and how to seek help.
- It is important to improve access to mental health care services for adolescents who have experienced trauma. Stakeholders can collaborate with healthcare providers to ensure that mental health care services are accessible and affordable to all adolescents.
- Despite the high prevalence of PTSD risk, many adolescents have demonstrated resilience and positive coping skills. Stakeholders can encourage and support activities that promote resilience, such as sports, hobbies, and social activities.

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- The findings of this study suggest that there is a need for further research to understand the mental health impacts of traumatic events on adolescents. Stakeholders can fund and support further research to inform the development of effective mental health policies and programs.

Problem No. 5. Is there a significant difference in levels of stress, anxiety, and depression (SAD), and post-traumatic stress disorder (PTSD) risk by demographic profile of adolescents?

Hypothesis 2: There are significant differences in the distribution of levels of stress, anxiety, and depression (SAD), and post-traumatic stress disorder (PTSD) risk across demographic profile categories (grade level, sex, religion).

Findings

- There was a significant difference in levels of stress, anxiety, depression, and PTSD risk between males and females ($p<0.05$), with females reporting higher levels in all four measures. There is also a significant difference in levels of stress, anxiety, and depression by grade level ($p<0.01$), with higher levels reported by older students. However, there was no significant difference in any of the measures by religion ($p>0.05$).

Conclusion

- Based on the findings, the null hypothesis can be rejected for sex and grade level, indicating that there are significant differences in the distribution of SAD and PTSD risk levels across these demographic categories.
- The alternative hypothesis should be that there are significant differences in the distribution of SAD and PTSD risk levels across the demographic categories of sex and grade level, and there are no significant differences in the distribution of SAD and PTSD risk levels across religious groups.

Recommendations

- Schools and education systems should prioritize the mental health needs of female students and older students, who were found to have higher levels of stress, anxiety, depression, and PTSD risk. This may involve providing targeted mental health support services or programs.
- Mental health professionals should be aware of the higher prevalence of mental health issues among female students and older students and tailor their interventions to meet the unique needs of these groups.
- Parents and caregivers should be educated about the potential impact of traumatic events on the mental health of adolescents, especially among female and older students. They should also be encouraged to seek professional help if they notice any signs of mental health problems in their children.
- Policy makers and government officials should prioritize funding for mental health programs and services in schools and communities, particularly in areas where the prevalence of mental health issues among adolescents is high.
- Future studies should consider collecting data on other demographic variables, such as socioeconomic status and ethnicity, to better understand how these factors may impact the mental health of Filipino adolescents in the UAE and the Philippines.

Problem No. 6. What mental health interventions can be proposed based on the results in order to improve the mental health of adolescents?

Proposed Health Intervention

Based on the results of the study, the researcher proposed the "Building Resilience" program for Filipino adolescents in the Philippines and UAE. The program includes five interventions: training for mental health professionals, online counseling services, an awareness campaign on mental health, development of a mental health curriculum for schools, and support groups for adolescents. The program will involve mental health professionals, licensed counselors and psychologists, community leaders, educators, parents, students, school administrators, trained facilitators, and peer mentors. The estimated budget for the program is 3 million Philippine Pesos, but the actual budget may vary depending on the specifics of the program implementation. Details of the proposed intervention is discussed in the last few pages of the previous chapter.

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