Morgan Stanley

Assessing the Mental Health Impacts of the COVID-19 Pandemic

and paving the way for targeted individual and communitywide interventions.

Introduction

COVID-19 is taking an enormous toll on human life and is set to become the leading cause of death in many countries, including the U.S. Along with the immediate health impacts, the virus and prevention strategies have altered the structure of daily life, disrupting financial security, work, school, recreation and social interactions.

MORGAN STANLEY
ALLIANCE
FOR CHILDREN'S
MENTAL HEALTH

Studies of catastrophic events, such as terrorist attacks, mass shootings, and natural and environmental disasters, show an increase in mental health disorders. These include depression, posttraumatic stress disorder, substance use and generalized anxiety disorder.[1,2,3,4,5] However, these studies were conducted primarily in the aftermath of the catastrophes. Much less is known about risks to well-being during prolonged threats and the potential mitigating factors.

As COVID-19 continues to upend the daily lives of children and adults around the world, we must increase our understanding of factors that exacerbate mental health symptoms and what alleviates them, and then provide targeted support for vulnerable populations.

Identifying drivers of mental health amid COVID-19

A growing number of international surveys show that COVID-19 has produced high levels of anxiety and depression symptoms across society, but the specific threats to mental health during the crisis remain largely unexplored.[6,7,8]

To address this gap in research, investigators from the Child Mind Institute, National Institute of Mental Health and the NYS Nathan Kline Institute developed the CoRonavIruS Health and Impact Survey (CRISIS). CRISIS was validated by a rigorous scientific review and tested on a large population to identify key factors affecting mental health among adults and youth during the pandemic.

In an initial study underwritten by Morgan Stanley, CRISIS surveyed a sample of 5,646 participants, roughly half from the U.S. and half from the U.K. Data were collected online from April 7-17, 2020 — relatively early in the pandemic — targeting regions that had been significantly impacted by COVID-19, including New York State, California, London and Manchester. Half of each country's sample completed adult self-reports and half completed parent reports on their children ages 5 to 17.

The review of this work that follows is based on the article, "The Coronavirus Health and Impact Survey (CRISIS) reveals reproducible correlates of pandemic-related mood states across the Atlantic," which has been submitted for peer review (**click here for the text**).

Key study measures

CRISIS assesses a variety of areas associated with mental health outcomes in prior research:

1. **Mood States**, which characterize mental health during the pandemic ("**Current Mood States**") and mental health three months prior to the pandemic ("**Prior Mood States**");
2. **COVID-19 Worries**, including worry about oneself and others;
3. **Life Changes** due to the pandemic;
4. **COVID-19 Impact**, including virus exposure and infection;
5. **Daily Behaviors**, such as sleep, exercise and media usage;
6. **Substance Use**; and
7. **Background**, such as demographic characteristics and physical health.

FIGURE 1 lists the variables measured in each of these areas.

FIGURE 1: Columns contain the variables measured in each of the individual areas.

MOOD STATES	COVID-19 WORRIES	LIFE CHANGES	COVID-19 IMPACT	DAILY BEHAVIORS	SUBSTANCE USE	BACKGROUND
• Worry	• Worried About Self	• Frequency of Outside Contacts	• Any Family Impact	• Bedtime, Weekdays	• Alcohol	• Age
• Happy vs. Sad	• Worried About Others	• Family Relationships	• Family Member Diagnosed	• Bedtime, Weekends	• Vaping	• Child Age
• Enjoy Activities	• Physical Worries	• Friends Relationships	• Two-Week Exposure	• Hours of Sleep, Weekdays	• Tobacco	• Sex
• Relaxed vs. Anxious	• Mental Worries	• In-Person Conversation	• Two-Week Symptom Count	• Hours of Sleep, Weekends	• Marijuana	• Race
• Fidget	• Reading and Talking	• Positive Changes	• School Closed	• Exercise	• Opiates	• Physical Health
• Fatigue	• Hopefully End	• Time Outside Home	• Job Loss	• Time Outdoors	• Other Substances	• Urbanicity
• Focus		• Difficulty Distancing		• TV and Media	• Sleeping Meds	• Insurance
• Irritability		• Event Cancelation Stress		• Video Games		• Government Assistance
• Loneliness		• Stay-at-Home Stress		• Social Media		• Essential Workers
• Negative Thoughts		• Family Change Stress				• Rooms in House
		• Friend Change Stress				
		• Food Insecurity				
		• Financial Difficulty				
		• Housing Instability Concern				

Children and adults experience a variety of mood states

CRISIS revealed that the children and adults surveyed in the U.S. and the U.K. exhibited a range of negative Current Mood States during the COVID-19 outbreak (see **FIGURE 2**):

- A majority (about 70%) of children and adults felt lonely, irritable and fidgety;

- A much higher proportion (55%) of children felt very or moderately sad, depressed or unhappy than adults (25%); and
- Adults tended to be more worried, anxious, fatigued, and distracted than children.

FIGURE 2: Percentage of children and adults surveyed in the U.S. and the U.K. reporting various mood states.
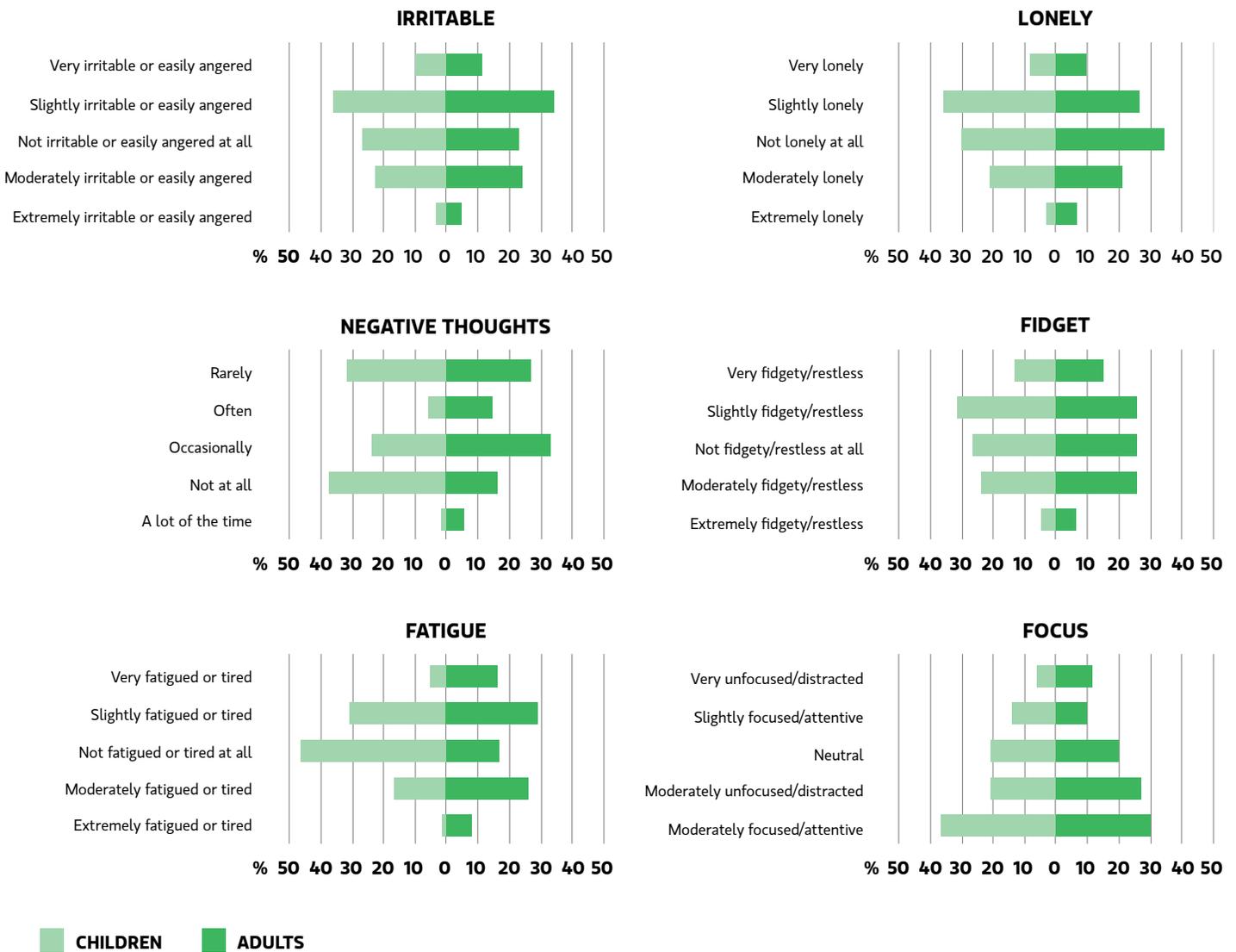
IRRITABLE

Very irritable or easily angered	
Slightly irritable or easily angered	
Not irritable or easily angered at all	
Moderately irritable or easily angered	
Extremely irritable or easily angered	

% 50 40 30 20 10 0 10 20 30 40 50

LONELY

Very lonely	
Slightly lonely	
Not lonely at all	
Moderately lonely	
Extremely lonely	

% 50 40 30 20 10 0 10 20 30 40 50

NEGATIVE THOUGHTS

Rarely	
Often	
Occasionally	
Not at all	
A lot of the time	

% 50 40 30 20 10 0 10 20 30 40 50

FIDGET

Very fidgety/restless	
Slightly fidgety/restless	
Not fidgety/restless at all	
Moderately fidgety/restless	
Extremely fidgety/restless	

% 50 40 30 20 10 0 10 20 30 40 50

FATIGUE

Very fatigued or tired	
Slightly fatigued or tired	
Not fatigued or tired at all	
Moderately fatigued or tired	
Extremely fatigued or tired	

% 50 40 30 20 10 0 10 20 30 40 50

FOCUS

Very unfocused/distracted	
Slightly focused/attentive	
Neutral	
Moderately unfocused/distracted	
Moderately focused/attentive	

% 50 40 30 20 10 0 10 20 30 40 50

CHILDREN   ADULTS

FIGURE 2 CONTINUED: Percentage of children and adults surveyed in the U.S. and the U.K. reporting various mood states.

Preexisting mood states, perceived COVID-19 risk and lifestyle changes are key determinants of mental health in the pandemic

Using rigorous statistical analysis, CRISIS results demonstrated that preexisting mood states were strongly associated with negative mood states during the pandemic, in adults and children across the U.S. and the U.K. These preexisting mood states include anxiety, depression, lack of pleasure, loneliness and irritability. This suggests that those previously struggling with their mental health are now among the most severely affected and most in need of intervention and support. CRISIS also revealed that perceived COVID-19 risk and lifestyle changes, such as social isolation, restriction of movement, and food and financial insecurity, are key mental health drivers (see **FIGURES 3 AND 4**).

COVID-19 Worries and related life changes affect adults

Among adults, COVID-19 Worries, defined as worry for oneself, worry for others, physical health worries and mental health worries were either the first (in the U.K.) or second (in the U.S.) most important driver of Current Mood States, followed by pandemic-associated Life Changes, such as social isolation, restriction of movement, and food and financial insecurity. These results suggest that fear and worry about COVID-19 and resulting changes in routines and daily life are significant drivers of adverse mental health outcomes associated with the pandemic, consistent with previous data on the impact of other catastrophes, such as the Fukushima nuclear disaster.[9,10]

This argues for assessing COVID-19-related fears and worries as a risk factor for adverse mental health outcomes. It also implies that active steps by social, governmental or other agencies to offset the impact and lessen the burden of lifestyle changes could have a significant impact in improving or preventing negative mental health outcomes.[11] Future studies, including longitudinal assessments, could shed light on the long-term impact of such policies and societal interventions on mental health, and weigh the possible costs and benefits of each intervention.

Children are impacted by disruptions and family stressors

Conversely, the study indicated that Current Mood States among children were more closely related to Life Changes than COVID-19 Worries (**FIGURE 3**). This finding is consistent with what we know about the importance of regular, predictable, daily routines for pediatric mental health.[12,13] It suggests that changes in children's lives may be key in identifying which children are and will be most at risk of negative psychological impact during and after the pandemic.

This study further revealed that adults and children with greater family and social isolation stress in both the U.S. and the U.K. had significantly higher Current Mood States scores, an indicator of negative mental health outcomes. Importantly, children with high stress related to financial and food insecurity, as well as higher family and social isolation stress, experienced the most negative mental health during the pandemic (see **FIGURE 4**).

CRISIS thus highlights the convergence of multiple physical, emotional, interpersonal, social and financial stressors to produce worse overall mental health outcomes. The links between Life Changes, COVID-19 Worries and Mood States establish the significance of these stressors and their potential to be targets for pandemic-related interventions.

FIGURE 3: Most important drivers of negative mood states during COVID-19

ADULTS (U.S.)	ADULTS (U.K.)	CHILDREN (U.S.)	CHILDREN (U.K.)
1. Prior Mood States	1. COVID-19 Worries	1. Prior Mood States	1. Prior Mood States
2. COVID-19 Worries	2. Prior Mood States	2. Life Changes	2. Life Changes
3. Life Changes	3. Life Changes	3. COVID-19 Worries	3. COVID-19 Worries
4. Age	4. Age	4. Physical Health	4. Physical Health

FIGURE 4: Responses to different Life Changes for adults and children with most negative Current Mood States surveyed in the U.S. and the U.K.
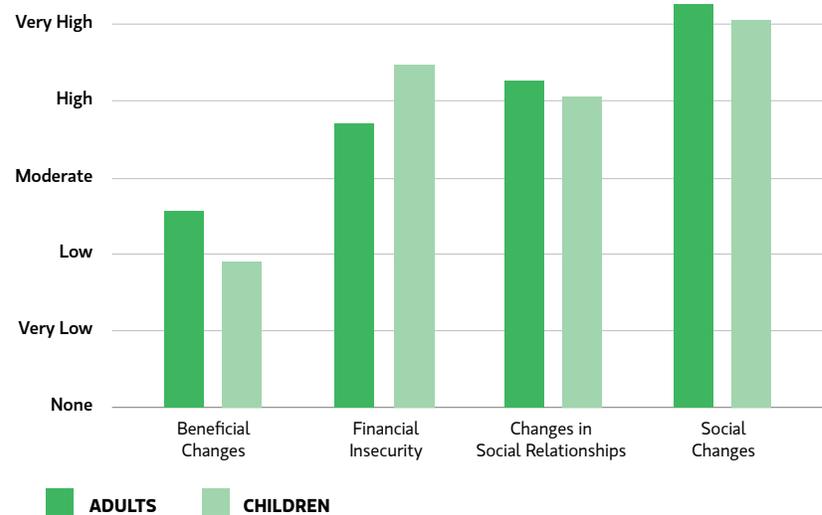
ADULTS   CHILDREN

This indicates that adults and children with the most negative mental health outcomes are showing similar trends in stressors affecting their lives, with children being more concerned about financial and food insecurity than adults, and showing less beneficial changes, such as better relationships with friends and family, or other positive outcomes.

Conclusion

CRISIS fills an important gap in research and increases our understanding of the main drivers of mental health outcomes during the pandemic, in turn, helping us identify those in need of intervention and support. This robust empirical work builds on an earlier study led by the Morgan Stanley Alliance for Children's Mental Health (the "Alliance"), "The Impact of the COVID-19 Pandemic on Children's Mental Health: An Initial Assessment," and lays the groundwork for targeted individual and communitywide interventions.

Overall, the COVID-19 pandemic has exerted significant mental health strains on children, especially in vulnerable populations. Children's mental well-being is particularly impacted by disruptions of daily life, such as social isolation, restriction of movement, and food and financial insecurity, in addition to widespread worries related to COVID-19. Those with preexisting mental health conditions are more negatively impacted during the pandemic. Now more than ever, we need urgent, coordinated efforts to prevent the existing global crisis in children's mental health from escalating. The pandemic continues to create disruption, with COVID-19 cases surging in different places at different times.

The Alliance and its nonprofit affiliate organizations have stepped up their support for children and families in these unsettling times, maintaining their focus on educational initiatives, especially in secondary and higher education. For instance:

- Morgan Stanley made an additional grant to the Child Mind Institute to provide digital mental health resources for children, adolescents and young adults in the U.S., with a focus on vulnerable communities that traditionally lack access to these resources.

- Morgan Stanley supported Place2Be in the launch of their free online training program for U.K. teachers. It will build skills and capacity to support positive mental health in school communities after the COVID-19 lockdown.

- The Alliance hosted its inaugural convening to engage educators, school administrators and mental health professionals virtually across the U.S. in a discussion of mental health effects on young people and the importance of building communities of wellness and healing.

To foster resilience in their children, parents and caregivers may need to assess lifestyle changes and maintain clear communication, regular daily routines, and educational progress. It is also important to identify and address any prior mental health symptoms.

At the societal level, more consideration and assessment are needed to evaluate the effects of social isolation and restrictions on children's mental health. More support is also needed for families that face food and financial insecurity as a major cause of stress.

For researchers, information on mental and behavioral health prior to the pandemic significantly enhances their ability to assess the impact of the pandemic on mental health outcomes. It enables evaluation of (1) changes in the mental health of research participants during the pandemic and (2) the potential for preexisting characteristics to mitigate pandemic-related stressors. The results set the stage for future work on the potential risks of targeted interventions to ameliorate the effects of the pandemic and the impact of such interventions.

Like many other online surveys, the study is subject to potential sample selection bias, but this is unlikely to significantly affect CRISIS findings. Another limitation is that this study covers only U.S. and U.K. populations. To address this, CRISIS is now being administered in 30 studies in 12 countries, with translations in 11 languages for a broader global perspective that encompasses middle- and low-income countries.

In a follow-up study funded by Morgan Stanley, we will ask previous participants to complete the survey two more times. This will enable us to identify changes in behavioral and mental health among children and adults as the pandemic continues, and provide insight into potential long-term effects. These findings will be critical to identifying those most at risk, creating targeted immediate and preventive interventions, and informing disaster-preparedness measures for future crises.

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Disclosure