Health Starting Points: Continuity and Change in Physical and Mental Health before and during the Pandemic

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Abstract
The pandemic has created multiple changes in the lives of Americans, with growing and widespread concerns about the implications for the nation’s health and well-being. Most empirical examinations of the physical and mental health implications of the pandemic have rested on aggregate comparisons of prepandemic and pandemic indicators of health. The authors contribute to this body of work by considering continuity and change in health and well-being over time. The authors draw on respondents in a population-based sample with repeated health measures of physical health, depressive symptoms, and anxiety collected prior to the pandemic and subsequently during the pandemic. Using Sankey figures, the authors illustrate their health pathways and as a result highlight the importance of a longitudinal lens on assessments of health. The authors find health starting points are critical to understanding distribution and levels of physical and emotional health issues during the pandemic.

Keywords
physical health, depressive symptoms, anxiety, pandemic

For most Americans, it seems that the pandemic has altered their lives, and this includes changes in their physical and emotional well-being. To move beyond broad-strokes conclusions about the physical and emotional health implications of the coronavirus disease 2019 pandemic, empirical investigations need to account for individuals' health status before the pandemic. We provide a visual illustration of continuity and change in individuals' self-reports of physical health, depression, and anxiety across time. Sankey figures are well suited to demonstrate changes in health from before the pandemic and during the pandemic.

Our analyses draw on 788 respondents from the longitudinal Toledo Adolescent Relationships Study (see Supplement for details), a study of men and women who were, on average, age 34 during the pandemic interview. The Toledo Adolescent Relationships Study is a population-based data collection of students listed on school rosters in public schools in Lucas County, Ohio. Respondents were interviewed when they were adolescents (grades 7, 9, and 11) in 2001 and subsequently interviewed at seven time points as they transitioned into adulthood. The sociodemographic characteristics of respondents in the recent wave mirrors that of similarly aged adults in the nation. The results that we present include repeated self-reports of physical health, depression and anxiety before the pandemic (April 2018 to March 2020) and during the pandemic (June to November 2020). Health indicators are coded into four descriptive categories reflecting physical health as fair or poor, good, very good, or excellent and depression and anxiety levels as high, moderate, low, or none.

Figure 1A shows patterns reflecting both continuity and change in physical health from before the pandemic and during the pandemic. Although the distributions of individuals across the physical health categories demonstrate a pattern of continuity (i.e., individuals' reports of fair or poor to excellent health are relatively similar over time), nevertheless, offsetting changes occurred as about half the sample reported changes in their physical health. Among respondents in poor or fair health before the pandemic, just over half (55 percent)

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reported improved health. Conversely, nearly two fifths (38 percent) of those in excellent health before the pandemic reported poorer health during the pandemic.

Figure 1B presents continuity and change in depressive symptoms. The share of respondents reporting high or moderate levels of depression increased from about half (52 percent) before the pandemic to more than two thirds (69 percent) during the pandemic. Although there are substantial increases in depressive symptoms over time, nevertheless, 15 percent of the respondents reported declines in depressive symptoms. The majority (75 percent) of individuals who reported high levels of depression before the pandemic reflected a consistent pattern; they continued to experience high levels of depression during the pandemic. A substantial share (40 percent) of respondents with moderate prepandemic depression reported high levels of depressive during the pandemic, but 41 percent continued to report moderate depression. Notably, the majority (65 percent) of individuals with no depressive symptoms prior to the pandemic experienced increases in depression during the pandemic.

The third panel illustrates continuity and change in anxiety, with a trend toward increased anxiety, shifting from 26 percent of individuals reporting high anxiety prior to the pandemic increasing to 40 percent during the pandemic. A small share (12 percent), however, experienced declines in anxiety. Demonstrating continuity, 75 percent of respondents reporting high anxiety pre-pandemic continued to report high anxiety during the pandemic. Overall, about 20 percent of respondents’ reported moving into the high anxiety category during the pandemic. The majority of individuals (60 percent) with no pre-pandemic anxiety experienced some anxiety during the pandemic.

Implications

The pandemic has altered Americans’ lives, including changes in physical and emotional well-being for some individuals and continuity for others. Analyses using longitudinal data show variability and demonstrate the importance of taking into account health starting points. Prepandemic levels of health appear to set the groundwork for health responses to the pandemic. Changes in emotional well-being are especially striking, but areas of continuity are also evident. Although this age group, individuals in their mid-30s, typically experiences only slight increases in depressive symptoms (Chen and Harris 2019), increases in self-reports of depression during the pandemic are particularly striking. The figures offer a useful tool for demonstrating continuity and change in these and potentially other challenges to well-being and the value of attending to these prospective health starting points. Questions about whether these changes in health are due to the pandemic are difficult to address because the pandemic has been a universal experience. Analysis of whether the pandemic caused changes in health requires comparisons of changes in health for those who have and have not lived through the pandemic, and unfortunately the ubiquity of the pandemic renders this type of analysis impossible. Moving forward research will focus on variability in emotional health responses to the pandemic and the extent to which these elevated levels of depression and anxiety persist in the upcoming months and years.

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