

How COVID-19 Expanded the Family Dinner Table: Greater Frequency Linked With Improved Quality and New Ways of Eating Together

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While the predominance of previous family dinner research has focused on family dinner frequency, the quality of the mealtime atmosphere also accounts for impactful mental health and nutritional benefits to children and adults. COVID-19 lockdowns dramatically increased the frequency of meals eaten at home, providing a unique opportunity to examine whether the qua

Public Significance Statement

This study took advantage of the increase in shared family meals during COVID-19 lockdowns to investigate associations between frequency changes and changes in the quality of family dinners. Having more meals was linked with a rise in positive emotional interactions at the table and more family support with preparing meals. Although more dinners were also associated with more negative behaviors, there were more positive associations. Most strikingly, families used remote technology during dinner more often to connect with others during dinner, a qualitative shift in family dinners that is likely to continue to transform family meals postpandemic.

Keywords: family dinner quality, family dinner frequency, COVID-19, remote technology, postpandemic

The COVID-19 pandemic forced families to eat more meals at home due to school, work, and

opportunities for children to talk, and enjoyment of the meal has been shown to reduce obesity rates (Berge et al., 2014) and asthma symptoms (Fiese et al., 2011), protect youth from disordered eating behaviors (Neumark-Sztainer et al., 2008), lower levels of soft drink consumption, and lead to higher levels of physical fitness (Harbec & Pagani, 2018). When the atmosphere is warm and positive, children are less likely to engage in emotional eating (Dallacker et al., 2019). In a study of 1,492 children ages 6–10, a positive meal environment predicted lower levels of oppositional behaviors and physical aggression (Harbec & Pagani, 2018).

On the other hand, when family meals are punctuated by stony silence, arguing, or everyone staring at their own phone or television (TV) screens, the benefits of family dinner are likely to go unrealized. For example, one study found that when parents' interactions at the table were marked by hostility and inconsistent discipline, the children exhibited increased prevalence of weight issues (Berge et al., 2014). Similarly, when the TV was frequently on during mealtime, children ate fewer fruits and vegetables and more pizza, soda, and snack foods than in families where eating meals and watching TV were separate activities (Coon et al., 2001). Alternatively, when the TV was turned off, children were more attuned to satiety cues and had better overall dietary quality (Trofholz et al., 2017).

In addition to a warm atmosphere around the table, having help with the preparation of family meals can make the nightly routine of making dinner more enjoyable and less burdensome (Carlson, 2022). When hundreds of families were asked what gets in the way of regular family dinner, the time and effort were at the top of the list (Middleton et al., 2020). During the pandemic, with everyone eating all meals at home, the burden of cooking and preparing meals and cleaning up may have increased even further. Fortunately, more fathers and mothers were also working from home during the pandemic, providing ample opportunity to share the "invisible labor" of cooking. Although meal preparation is still not gender equitable, men are far more likely to help today than in previous decades (Smith et al., 2013). Similarly, with children spending more time at home, there may have been more time for them to participate in cooking. The Guelph Family Health Study, for example, reported a 50% increase in children

helping with food preparation at the start of the pandemic (Carroll et al., 2020).

The pandemic also brought a whole new quality to family dinner, in that, many families turned to video conferencing to visit virtually with friends and family members during the lockdowns (Luchetti et al., 2020). Extended family members who were staying socially distant from each other increasingly relied on technology to stay in touch. This greater prevalence of remote dinners with extended family could add to the quality of dinner in myriad ways. Since a consistent finding about the benefits of family dinner has been that children are more resilient and have higher self-esteem when they have a sense of belonging to a larger family system and when they know their family's stories (Duke et al., 2003, 2008; Fishel, 2015), the opportunity to connect with extended family while dining "together" remotely with family could help facilitate these connections with the larger family system.

In addition to telling stories about the family and what happened at school, the dinner hour is also a key time to discuss the news and other current events in the outside world. In light of the prevalent updates about COVID-related health, education, and workplace issues, the dinner table could provide a prime opportunity to discuss information and news during this time. Therefore, we anticipated that another new, important quality during the COVID-19 pandemic was how families brought in the outside world through discussing

commonly used internet surveys and in-person recruiting (Casler et al., 2013).

Measures

Analytic Strategy

We summarized the changes in family dinner frequency and quality using SPSS v. 28 (International Business Machines Corporation, 2021). Correlations between the variables were also examined in bivariate analyses to ensure lack of multicollinearity between the variables.

Before testing whether changes in the frequency of family dinner were associated with changes in the quality of family dinner, we sought to assess reliability and validity of the FDQS (Fishel, 2015). Internal constancy reliability of the 10-item measure was assessed using Cronbach's α . Factorial validity (also called structural validity) of the FDQS was examined using confirmatory factor analysis in Mplus v. 8.7 (Mokkink et al., 2010; Muthén & Muthén, 1998). The 10 items included made up three types of family dinner qualities: (a) positive emotional interactions during family dinner, (b) negative mealtime behaviors, and (c) incorporation of the outside world into family dinner. We examined the chi-square statistic (ideally nonsignificant to suggest good fit), as well as other goodness-of-fit measures including the comparative fit index (CFI) and the Tucker-Lewis index (TLI), the standardized root-mean-square residual (SRMR), and the root-mean-square error of approximation (RMSEA) with confidence intervals (Byrne, 2012; Hox et al., 2017). A CFI and TLI of 1 indicates perfect fit, .95 or above indicates a good fit, and below .90 indicates a poor fit (Byrne, 2012; Hox et al., 2017). The SRMR should be .05 or less in a good-fitting model, an RMSEA of .05 indicates a good fit, and an RMSEA between .08 and .10 indicates a moderate fit (Byrne, 2012; Hox et al., 2017). Although when creating a new measure standardized factor loadings should ideally be $>.70$, a cutoff of $.32$ has been suggested by some statisticians (Tabachnick & Fidell, 2000), and others have said that over $.45$ is acceptable (Comrey & Lee, 1992).

To test whether frequency changes in family dinner were associated with quality changes, multivariate regressions were run in a structural equation model framework in Mplus. Mplus uses MLR, maximum likelihood estimation with robust standard errors, which accounts for missing data (Baraldi & Enders, 2010). MLR estimation also allows for weighting to increase the representativeness of the sample and is robust to nonnormality in the variable distribution (Muthén & Muthén, 1998). Standardized estimates and adjusted R^2

(adjusted for the number of terms in the model) were reported while controlling for gender, race, age of the participant, age of the child, income, and education (<https://www.educba.com/adjusted-r-squared-formula/>).

We also examined whether the raw changes in the descriptives of positive family dinner qualities across the pandemic showed greater increases than the raw changes in negative family dinner qualities using difference tests via model constraints in Mplus. These were reported as unstandardized z-score estimates with two-tailed p values and 95% confidence intervals.

Finally, using data from the 255 respondents who increased the frequency of remote dinners during the COVID-19 pandemic, we investigated how many of those wanted to continue those increases, or do even more, after the pandemic.

Results

Family Dinner Frequency Changes During the COVID-19 Pandemic

As shown in Table 2, of the 456 respondents, 60.1% said they had family dinner more often or much more often 14 months into the pandemic as compared to prepandemic levels.

Psychometric Properties of the FDQS

The three-factor confirmatory factor analysis had an excellent fit to the data: Model chi-square was not statistically significant ($\chi^2 = 30.395$, $p = .547$), CFI and TLI were 1.000, SRMR .185 ($P(2e)-7.2(e31).18d$

during family dinner was significantly associated

in Family Support. Notably, as seen in Table 2, the largest percentage (68.4%) of respondents reported an increase in remote dinners as compared to all other survey items. Although less than the reported changes on the other three subscales, 44.5% also reported increases in Negative Mealtimes Behaviors.

Regressions Between Frequency and Quality of Family Dinner

The multivariate regressions from changes in frequency of family dinner to changes in each of the three quality subscales were significant, even while controlling for participant employment, income, education, age (parent and child), gender, and race. More Positive Emotional Interactions

particularly given the concomitant improvement in the quality of those dinners. This study took advantage of an otherwise impossible natural phenomenon to vastly increase the frequency of family dinners for a large portion of U.S. families, allowing for examination of precise associations between the frequency and qualities of family dinners.

Even though parents did not purposely sign up to have more shared mealtimes, increases in family dinners were largely linked with improvements in the quality of pandemic-era family dinners. There were increases in positive behaviors like expressing gratitude, laughing, and feeling connected, as well as with new qualities like sharing meals remotely and sharing news and politics at the table. Given that the dinner table is a canvas for all the dynamics of a family, the rise of negative along with positive qualities is not surprising. As families spend more time together, they may also experience more arguing and tension, as well as more time laughing at the table. Still, when comparing the raw changes in the qualitative categories, all the positive qualities increased more than negative mealtime behaviors. Furthermore, there were significant differences between each of the positive subscales and the negative subscale, but not between the positive subscales themselves. These findings suggested that even though increased frequency of family dinner can bring out both beneficial and less favorable qualities during family dinner

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cooking, during the pandemic. This is also in line with previous studies of parents' division of domestic responsibilities during COVID-19 which found that mothers and fathers reported a shift toward more equal divisions of household labor (Carlson et al., 2022).

As with all cross-sectional studies, the findings could also be interpreted the other way around—that increased quality of family dinner could lead to increased frequency. However, given that COVID-19 forced people to eat at home more often, it is likely that increased frequency came first. On the other hand, when families started having more dinners together, it would also make sense that experience put into motion a virtuous cycle, where an increase in frequency led to better quality of mealtime, and this improved experience led to having more shared dinners. In comments offered on the survey, parents reflected on their experiences of having more frequent family meals. One parent wrote, “I love eating dinner at the table more now. Life slowed down a lot during the pandemic and was kind of nice for all of us to be together each night.” Others discovered that being forced to cook more led to better eating habits. Another parent stated,

I plan to eat out less, and more at home. My family will likely follow suit for our health, as we found over the pandemic that it was easier to be healthy if we ate at home and avoided junk food as we used to do before the pandemic.

Future studies could further investigate these positive reciprocity cycles between the frequency and quality of family dinners.

Another limitation was that our study did not measure the exact number of meals that families were having before the COVID-19 pandemic: Some families might have started at few or none and moved to two or three during the pandemic, while others might have had several a week pre-pandemic and moved to every night during the pandemic. Both types of respondents would have accurately reported eating dinner together more

Clinicians may also want to capitalize on some of the ways that the dinner table expanded during the pandemic. Given that many families grew accustomed to using remote technology to dine with distant loved-ones, therapists may discuss the use of technology to create a sense of belonging and to bond with an extended family. In light of the increase of the dinner table as a time to talk about news in the outside world, clinicians may

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