Patterns of Stress and Wellbeing Among Families Enrolled in Early Head Start/Head Start During COVID-19

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Abstract
The COVID-19 pandemic disproportionately affected low-income families in the U.S., particularly those with young children (Kalluri et al., 2021). This longitudinal study describes the resources, stress, and health and wellbeing of low-income families enrolled in an Early Head Start/Head Start program for two cumulative program years before and during the height of the COVID-19 pandemic. We found having more resources (higher income, higher education levels, full time employment) prior to the onset of COVID-19 was correlated with better wellbeing and lower stress throughout the pandemic. Implications and directions for future research include understanding the specific types of supports that programs like EHS/HS provided during COVID-19 and how families benefitted from them.

Keywords family wellbeing · resources · COVID-19 · stress

The COVID-19 pandemic disproportionately affected low-income families in the U.S., particularly those with young children (Kalluri et al., 2021). Families with fewer financial resources available to meet their needs reported increased challenges from very early in the U.S. (Russell et al., 2020), including exacerbated stress and mental health symptoms reported as early as April 2020 (Russell et al., 2022). Families with young children at home faced additional challenges, with disruptions to child care and schooling, job loss, and difficulty accessing unemployment benefits (Alonzo et al., 2021; Fielding-Miller et al., 2020; Hibel et al., 2021). These findings were forecast by previous studies of widespread community disasters that suggest a heightened set of risks for lower income families with fewer resources to meet the demands of a crisis (Russell & Lowe, 2014; Kerns et al., 2014). Given the role parents play as the primary source of coping socialization for children (Maccoby, 1992), and evidence of the negative impact of poor parental mental health on responsive, sensitive parenting (Christie et al., 2019; Samuelson et al., 2017), particular attention to the experiences of vulnerable subgroups with fewer resources and reduced access to social supports is warranted. Many federal funding initiatives provided social service support for families from low-income backgrounds during the COVID-19 pandemic. For example, Early Head Start/Head Start (EHS/HS) is a federally funded comprehensive early care and education program that provides parent education, referrals to services, and health and development screenings to families with young children. EHS/HS programs received an influx of additional funding during the pandemic (Office of Head Start, 2019); and as such may be uniquely situated to build upon their pre-existing work and relationships to help support and provide resources to vulnerable families during times of crisis. It is crucial for policy and practice to have plans in place for supporting vulnerable families in such situations, as evidenced by the ongoing nature of the
COVID-19 pandemic and associated needs families have experienced.

The Present Study

This study aimed to describe the resources, stress, and health and wellbeing of low-income families enrolled in an EHS/HS program before and during the height of the COVID-19 pandemic. The specific research questions that guided this work include:

1. What patterns are evident in the health and wellbeing and general and/or COVID-specific stress experienced by families enrolled in EHS/HS before and during the COVID-19 pandemic?
2. Are families’ resources prior to the COVID-19 pandemic correlated with their health and wellbeing and stress over the study period?

Methods

Participants

The analytic sample in the present study consists of 108 adult caregivers of children enrolled in home- or center-based Early Head Start (for families with children ages birth to three) or Head Start (for families with children ages three to five) continuously for two program years, 2019–2020 and 2020–2021. Participants were drawn from one EHS/HS program in the northeastern United States. Demographic data on the sample are shown in Table 1.

| Table 1  | Demographics of Primary Caregivers (N = 108) |
|----------|---------------------------------------------|
|          | M (SD) or %                                  |
| Age (years) | 33.49 (8.32)                                |
| Gender    |                                             |
| Female    | 97.09                                       |
| Male      | 2.91                                        |
| Race/Ethnicity |                                       |
| Asian     | 1.98                                        |
| Bi-racial or multi-racial | 4.95                                |
| Black or African-American | 1.98                               |
| Hispanic  | 58.42                                       |
| White     | 32.67                                       |
| Primary language |                                      |
| English   | 52.43                                       |
| Spanish   | 38.83                                       |
| Other     | 8.74                                        |
| Relation to child |                                   |
| Biological/adopted/step | 96.12                                |
| Foster    | 2.91                                        |
| Grandparent | 0.97                                    |
| Single parent | 56.31                               |
| Total people in household | 3.62 (1.50)                               |

Note. Other languages include Arabic, Kiche, Nepali, Twi, and Urdu.

Measures

Resources. Participating caregivers reported their income, employment status, and education level in the Fall of 2019. Income was reported in continuous units ($) to the EHS/HS program. Caregivers also reported their employment status, which was coded as full-time (35 or more hours/week), part-time (less than 35 h/week), unemployed (including retired or disabled), or job training or school (which was combined with those who were working and enrolled in job training or school). Lastly, caregivers’ education levels were categorized as less than a high school diploma, high school diploma or GED, some college or Associate’s degree, or Bachelor’s degree or higher.

Stress. Participants reported both general perceived stress levels and COVID-specific stress (both exposure to a range of events and appraisal of how stressful each event was) in Fall 2021 after the pandemic had arrived and it was prudent to expand the earlier assessments to capture experiences of stress with particular detail. Families completed the Perceived Stress Scale as a measure of general stress (Cohen et al., 1983, 1994). Individuals were asked to rate 10 items on a scale from 0 (never) to 4 (very often), in response to: in the last month, how often have you... Sample items include “Felt that things were going your way?” and “Found that you could not cope with all the things that you had to do?” Four items are reverse coded, and sum scores calculated (α = 0.81).

COVID-specific stress was measured by the adapted version of the COVID-Specific Stress Scale, which assesses stressors across four conceptual groupings: infection-related, daily activity-related, financial/resource-related, and family routine-related (Russell et al., 2021b). The adapted version assesses exposure to 29 stressors via dichotomous response; for each stressor experienced, participants rated its perceived stressfulness on a 5-point scale (“not at all stressful” to “extremely stressful”). Total appraisal scores are the sum of stress ratings across all items (α = 0.95).

Health & Wellbeing. The Connecticut Family Outcomes Matrix (CT Matrix), a tool adapted from the Florida Family Outcomes Matrix (ChildPlus, 2019), was originally created by a state workgroup as a method of tracking family engagement outcomes as determined by the Head Start Parent, Family, and Community Engagement (PFCE) Framework (U.S. DHHS, 2018). The CT Matrix identifies family needs on an extensive set of 25 family functioning items aligned with the PFCE Framework and is completed with families at the start and end of each program year. Each item
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is rated on a 5-point Likert scale from 1 – crisis, indicating a high level of needs, to 5 – empowered, indicating little to no needs. The present study uses an 11-item Health & Wellbeing subscale from this measure, which includes items on physical and mental health and health care access, mobility, and safety. This subscale is included at four timepoints in the current study: at baseline pre-COVID-19 in Fall 2019 (α = 0.81), in Spring 2020 (α = 0.84), in Fall 2020 (α = 0.81), and finally in Spring 2021 (α = 0.78). A complete list of the items and their means and standard deviations at each timepoint are found in Table S1.

### Procedures

For the Fall 2019 data collection, families completed assessments with their EHS/HS home visitor (for families enrolled in home-based programming) or family advocate (for families enrolled in center-based programming) during a home visit, a typical part of EHS/HS programming. All subsequent data collection occurred after the social distance guidelines to prevent the spread of COVID-19 were in effect during 2020, thus data from Spring 2020 onward were collected via phone/video conferences with the home visitor or family advocate who read the questions to families. EHS/HS program staff conducted these home visits and/or phone/video conferences in either English or Spanish, depending on the family’s primary language. EHS/HS staff entered all data into Head Start’s data management system, from which data for the present study were drawn.

### Analytic Plan

In order to address research question 1, we examined descriptive statistics on the family resource indicators and variables of interest, namely, families’ stress and health and wellbeing before and during the COVID-19 pandemic. Because health and wellbeing were measured at four timepoints among this sample, paired samples t-tests were used to test for statistically significant differences in these scores among the different timepoints. Next, to address research question 2, we examined pairwise bivariate correlations between the family resource indicators (income, employment status, and education level) and the variables of interest. For the t-tests and correlations, the conventional level for statistical significance, \( p < .05 \), was used. Descriptive statistics are reported for all families for whom each measure was available, and the correlations were conducted using listwise deletion to include only those families who had complete data on all measures.

### Results

See Table 2 for descriptive statistics on participants’ resources, stress, and wellbeing and Table 3 for the correlation matrix of variables of interest. Participants’ average family income in Fall 2019 was $18,517.14 (SD = 21,177.23), which is unsurprising given the income guidelines for participation in EHS/HS that stipulate family income must be below the federal poverty line (Head Start Early Learning &

### Table 2 Descriptive Statistics of Variables of Interest

| Family Resources | M (SD) or % | min. | max. | n  |
|------------------|-------------|------|------|----|
| Income ($10,000s) | 1.85 (2.12) | 0.00 | 9.73 | 80 |
| Employment Status |  |  |  | 102 |
| Full-time        | 33.33       |      |      |    |
| Part-time        | 9.80        |      |      |    |
| Job training     | 10.78       |      |      |    |
| Unemployed       | 46.08       |      |      |    |
| Education Level  | 101         |      |      |    |
| Less than high school | 28.71 |      |      |    |
| High school diploma or GED | 36.63 |      |      |    |
| Some college or Associate’s | 27.72 |      |      |    |
| Bachelor’s or higher | 6.93 |      |      |    |
| Stress           |             |      |      |    |
| Perceived Stress Scale | 15.59 (5.53) | 5   | 32   | 101 |
| COVID-Specific Stressors Scale | 77.06 (22.11) | 31  | 130  | 83  |

**Note:** Head Start does not require income from families who are homeless, fostering, or on public assistance (n = 28).
Lastly, the two measures of stress (perceived general stress related with perceived general stress (\(r = 0.30\)), and family health and well-being were positively correlated with the measures of wellbeing (\(r = 0.38\)), but also with the presence of COVID-19 Stressors (\(r = 0.38\)). Indicators of employment status also had several significant correlations, specifically, having full-time employment in Fall 2019 was positively correlated with wellbeing in Fall 2019, Fall 2020, and Spring 2021 (\(r = 0.28\) to \(r = 0.30\)). Being unemployed in the Fall of 2019 was negatively correlated with all wellbeing measures (\(r = -0.29\) to \(r = -0.34\)), and positively correlated with perceived general stress in Fall 2020 (\(r = 0.41\)). A similar pattern was seen with education level, such that having less than a high school diploma in Fall 2019 was negatively correlated with all wellbeing measures (\(r = -0.43\)), while having a college degree or higher was positively correlated with the measures of wellbeing (\(r = 0.25\) to \(r = 0.34\)). The four measures of wellbeing were all positively correlated with one another (\(r = 0.68\) to \(r = 0.87\)) and negatively correlated with perceived general stress (\(r = -0.35\) to \(r = -0.45\)).

### Correlations Between Resources, Stress, and Wellbeing

Income was significantly (\(p < 0.05\)), positively correlated with all four wellbeing measures (\(r = 0.25\) to \(r = 0.39\)), but also with the presence of COVID-19 Stressors (\(r = 0.38\)). Indicators of employment status also had several significant correlations, specifically, having full-time employment in Fall 2019 was positively correlated with wellbeing in Fall 2019, Fall 2020, and Spring 2021 (\(r = 0.28\) to \(r = 0.30\)). Being unemployed in the Fall of 2019 was negatively correlated with all wellbeing measures (\(r = -0.29\) to \(r = -0.34\)), and positively correlated with perceived general stress in Fall 2020 (\(r = 0.41\)). A similar pattern was seen with education level, such that having less than a high school diploma in Fall 2019 was negatively correlated with all wellbeing measures (\(r = -0.43\)), while having a college degree or higher was positively correlated with the measures of wellbeing (\(r = 0.25\) to \(r = 0.34\)). The four measures of wellbeing were all positively correlated with one another (\(r = 0.68\) to \(r = 0.87\)) and negatively correlated with perceived general stress (\(r = -0.35\) to \(r = -0.45\)).

Lastly, the two measures of stress (perceived general stress...
and COVID-19 stressors) were positively correlated with one another \((r = .27)\).

**Discussion**

Families with young children continue to face extensive difficulties surrounding COVID-19, particularly in the context of economic insecurity (Alonzo et al., 2021; Hibel et al., 2021). Heightened attention to these experiences is warranted in part because of the established enduring disparities exacerbated during the COVID-19 pandemic (Lopez et al., 2021), but also because of the known impacts these disparities have for young children in particular (Bambra et al., 2020). In this short report we describe patterns of health and wellbeing among adult caregivers of young children enrolled in EHS/HS programming before and during COVID-19, and correlations with families’ resources prior to COVID-19 and stress during the pandemic.

Using a measure of health and wellbeing across a number of areas, we found that the adult caregivers participating in this study had relatively high wellbeing prior to the start of the COVID-19 pandemic, followed by drops both at the onset of the pandemic - with its associated restrictions, employment challenges, and school format changes - and continuing into the Fall of 2020. However, by Spring 2021, families’ wellbeing had started to improve again, which aligned with the timing of wide-spread access to vaccines and returns to in-person work and school and broader economic recovery (U.S. Bureau of Labor Statistics, 2021). Similar patterns were seen in a study conducted in rural Pennsylvania, with families’ food insecurity and moods worsening following initial school closures in Spring 2020, but then improvements were seen by the end of the school year in parental depression and food insecurity, particularly for families receiving food assistance (Steimle et al., 2021). Participation in social service programs during COVID-19 may be an important consideration for families’ long-term wellbeing.

We found having more resources (higher income, higher education levels, full time employment) prior to the onset of the COVID-19 was correlated with better wellbeing and lower stress throughout the pandemic, which is unsurprising given the protective nature of these types of resources (Masten et al., 2013). Additionally, stress was negatively correlated with wellbeing. Parents generally, and those with young children or limited resources in particular, faced heightened stress and challenges around mental health and general wellbeing (Coller & Webber, 2020). While the current study focused only on parents’ outcomes, previous research conducted in late Spring 2020 found associations between maternal and child wellbeing (Martiny et al., 2021), and as such understanding how to best support parents during crisis is of crucial importance – be it through financial supports, mental/health care access, child care, or other supportive resources. Family science indicates a powerful spill-over effect within the family, such that parents’ stress is often transmitted to their children, especially during times of crisis (Russell et al., 2021b); parents model both adaptive resilient behavior and maladaptive behaviors as they cope with prolonged stressors. Studies of families with young children are especially useful, as parents are often the primary or sole source of coping socialization for children, modeling responses to adversity with the potential to have particularly potent impacts on children (Russell et al., 2021a; Shipman et al., 2007).

**Limitations**

It is important to consider these findings in the context of the limitations of this study. This study contains a small sample, isolated to one geographic region of the U.S. This small sample size limits our ability to conduct any subgroup comparisons by child age, race/ethnicity, or other family characteristics. However, there are notable strengths of this sample in that it consists of families who were continuously enrolled in the same EHS/HS program for two program years. Unfortunately, we did not collect pre-COVID stress data, so it is unknown whether the stress levels during the pandemic were heightened in this sample from pre-pandemic times.

**Conclusion**

Previous research has found that resources can serve as protective factors in times of crisis (Masten, 2013). Here, we find that having more resources prior to the onset of the COVID-19 pandemic were correlated with lower stress and wellbeing during the height of the pandemic, indicating a similar pattern. Notably, the sample in this brief report are families who were enrolled in an EHS/HS program for two cumulative program years. It may be that social service programs like EHS/HS provide additional supports to families from low-income backgrounds during times of crisis that serve to buffer harm as well, and are able to adapt to meet their unique families’ changing needs. Understanding the types of supports that programs like EHS/HS provide during COVID-19 (e.g., locating food bank resources, navigating unemployment benefits, and identifying available resources to utilize telehealth and virtual education supports if needed), and how families benefitted from them is important for future policy and practice decision-making in times of crisis.
The authors have no conflicts of interest/competing interests.

Declarations

Conflicts of interest/Competing Interests: The authors have no conflicts of interest/competing interests.

Ethics Approval: The University of Connecticut’s IRB approved the project as exempt from review (IRB Protocol #H03129).

Consent to Participate: not applicable.

Consent for Publication: not applicable.

References

Alonzo, D., Popescu, M., & Ioannides, P. Z. (2021). Mental health impact of the COVID-19 pandemic on parents in high-risk, low income communities. International Journal of Social Psychiatry, 0020764021991896. https://doi.org/10.1177/0020764021991896

Bambra, C., Riordan, R., Ford, J., & Matthews, S. (2020). The COVID-19 pandemic and health inequalities. Journal of Epidemiology & Community Health, 74(11), 964–968. https://doi.org/10.1136/jech-2020-214401

ChildPlus (2019). Measurable family outcomes. https://www.childplus.com/outcomes/

Christie, H., Hamilton-Giachritsis, C., Alves-Costa, F., Tomlinson, M., & Halligan, S. L. (2019). The impact of parental posttraumatic stress disorder on parenting: A systematic review. European Journal of Psychotraumatology, 10, 1550345. https://doi.org/10.1080/20080198.2018

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24, 386–396. https://doi.org/10.2307/2136404

Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived stress scale. Measuring stress: A Guide for Health and Social Scientists, 10, 1–2.

Coller, R. J., & Webber, S. (2020). COVID-19 and the well-being of children and families. Pediatrics, 146(4), e2020022079. https://doi.org/10.1542/peds.2020-022079

Fielding-Miller, R. K., Sundaram, M. E., & Brouwer, K. (2020). Social determinants of COVID-19 mortality at the county level. PLoS One, 15(10), e0240151. https://doi.org/10.1371/journal.pone.0240151

Fussell, E., & Lowe, S. R. (2014). The impact of housing displacement on the mental health of low-income parents after hurricane Katrina. Social Science & Medicine, 113, 137–144. https://doi.org/10.1016/j.socscimed.2014.05.025

Head Start Early Learning & Knowledge Center. (2021). Poverty guidelines and determining eligibility for participation in Head Start programs. https://eclkc.ohs.acf.hhs.gov/eligibility-ersea/article/poverty-guidelines-determining-eligibility-participation-head-start-programs

Hibel, L. C., Boyer, C. J., Buhler-Wassmann, A. C., & Shaw, B. J. (2021). The psychological and economic toll of the COVID-19 pandemic on Latina mothers in primarily low-income essential worker families. Traumatology, 27(1), 40–47. https://doi.org/10.1037.trm0000293

Kerns, C. E., Elkins, R. M., Carpenter, A. L., Chou, T., Green, J. G., & Comer, J. S. (2014). Caregiver distress, shared traumatic exposure, and child adjustment among area youth following the 2013 Boston marathon bombing. Journal of Affective Disorders, 167, 50–55. https://doi.org/10.1016/j.jad.2014.05.040

Lopez, L., Hart, L. H., & Katz, M. H. (2021). Racial and ethnic health disparities related to COVID-19. Journal Of The American Medical Association, 325(8), 719–720. https://doi.org/10.1001/jama.2020.26443

Maccoby, E. E. (1992). The role of parents in the socialization of children. Developmental Psychology, 28, 1006–1017. https://doi.org/10.1037/0012-1649.28.6.1006

Martiny, S. E., Thorsteinsen, K., Parks-Stamm, E. J., Olsen, M., & Kvalo, M. (2021). Children’s well-being during the COVID-19 pandemic: Relationships with attitudes, family structure, and mothers’ well-being. European Journal of Developmental Psychology, 1–21. https://doi.org/10.1080/17405629.2021.1948398

 Masten, A. S. (2013). Risk and resilience in development. In P. D. Zelazo (Ed.), Oxford Handbook of Developmental Psychology (pp. 579–607). Oxford University Press.

Office of Head Start (2019). Head Start Programs. https://www.acf.hhs.gov/ohs/about/head-start

Park, C. L., Russell, B. S., Fendrich, M., Finkelstein-Fox, L., Hutchinson, M., & Becker, J. (2020). Americans’ COVID-19 stress, coping, and adherence to CDC guidelines. Journal of General Internal Medicine, 35(8), 2296–2303. https://doi.org/10.1007/s11606-020-05898-9

Russell, B. S., Hutchison, M., Park, C. L., Fendrich, M., & Finkelstein-Fox, L. (2022). Short-term impacts of COVID-19 on family caregivers: Emotion regulation, coping, and mental health. Journal of Clinical Psychology, 78(2), 357-374. https://doi.org/10.1002/jclp.23228

Russell, B. S., Hutchison, M., Tambling, R., Tomkunas, A. J., & Horton, A. L. (2020). Initial challenges of caregiving during COVID-19: Caregiver burden, mental health, and the parent-child relationship. Child Psychiatry & Human Development, 51(5), 671-682. https://doi.org/10.1007/s10578-020-01037-x

Russell, B. S., Tomkunas, A. J., Hutchison, M., Tambling, R. R., & Horton, A. L. (2021a). The protective role of parent resilience on mental health and the parent-child relationship during COVID-19. Child Psychiatry & Human Development, 53, 183-196. https://doi.org/10.1007/s10578-021-01243-1

Russell, B. S., Tambling, R. R., Horton, A. L., Hutchison, M., & Tomkunas, A. J. (2021b). Clinically significant depression among parent worker families. https://doi.org/10.1007/s10578-021-01243-1

Russell, B. S., Tambling, R. R., Horton, A. L., Hutchison, M., & Tomkunas, A. J. (2021b). Clinically significant depression among parent worker families. https://doi.org/10.1007/s10578-021-01243-1

Russell, B. S., Tambling, R. R., Horton, A. L., Hutchison, M., & Tomkunas, A. J. (2021b). Clinically significant depression among parent worker families. https://doi.org/10.1007/s10578-021-01243-1

Russell, B. S., Tambling, R. R., Horton, A. L., Hutchison, M., & Tomkunas, A. J. (2021b). Clinically significant depression among parent worker families. https://doi.org/10.1007/s10578-021-01243-1
emotion regulation. Social Development, 16(2), 268–285. https://doi.org/10.1111/j.1467-9507.2007.00384.x

Steimle, S., Gassman-Pines, A., Johnson, A. D., Hines, C. T., & Ryan, R. M. (2021). Understanding patterns of food insecurity and family well-being amid the COVID-19 pandemic using daily surveys. Child Development, 92(5), e781–e797. https://doi.org/10.1111/cdev.13659

U.S. Bureau of Labor Statistics. (2021). Labor Force Statistics from the Current Population Survey. https://www.bls.gov/web/empsit/cpsee_e16.htm

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