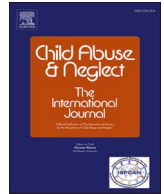




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journal homepage: www.elsevier.com/locate/chiabunegThe impacts of COVID-19 on LGBTQ+ foster youth alumni[☆]Micki Washburn^{a,*}, Miao Yu^a, Catherine LaBrenz^a, Ashley N. Palmer^{a,b}^a University of Texas at Arlington, 211 S. Cooper St., Arlington, TX 76019, United States of America^b Texas Christian University

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ABSTRACT

Background: LGBTQ+ youth frequently experience disparities in outcomes related to permanency and overall well-being while in out-of-home care. These negative outcomes often persist after youth have transitioned out of care, particularly in the domains of housing, education, employment, and mental health. Initial research has found that the ongoing COVID-19 pandemic has exacerbated negative physical and mental health outcomes, as well as decreased economic stability among transition age youth.

Objective: This study seeks to determine if COVID-19 has resulted in unique impacts on foster care alumni, and if these impacts are the same for LGBTQ+ and non-LGBTQ+ transition age youth. **Participants and Setting.**

This study used data from the 2020 Jim Casey Youth Opportunities Initiative Opportunity Passport Survey to explore these questions.

Methods: This survey was administered electronically to a national sample of 1223 youth ages 18–26 with lived experience in foster care.

Results: Results indicate that relative to non-LGBTQ+ foster care alumni, LGBTQ+ foster care alumni experienced more negative outcomes in housing stability, employment, and mental health/trauma due to COVID-19. No significant differences were found for education-related impacts. Outcomes varied by sex assigned at birth, ethnicity, and sexual orientation, gender identity and expression (SOGIE) of respondents, with female respondents, black, indigenous and other people of color (BIPOC) youth and LGBTQ+ youth being most frequently impacted.

Conclusions: Results indicate that relative to non-LGBTQ+ foster care alumni, LGBTQ+ foster care alumni experienced more negative outcomes in housing stability, employment, and mental health/trauma due to COVID-19. No significant differences were found for education-related impacts. Outcomes varied by sex assigned at birth, ethnicity, and sexual orientation, gender identity and expression (SOGIE) of respondents, with female respondents, BIPOC youth and LGBTQ+ youth being most frequently impacted. Implications for practice and policy are explored.

[☆] These data are drawn from the restricted use Jim Casey Youth Opportunities Initiative <https://www.childtrends.org/project/jim-casey-youth-opportunities-initiative>.

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1. Introduction

It is well established that LGBTQ+ youth are overrepresented within child welfare systems nationwide, and experience negative outcomes related to permanency, mental health and wellness at significantly higher rates than their non-LGBTQ+ peers (Annie E. Casey Foundation, 2016; Craig et al., 2020; Dettlaff et al., 2018; Fish et al., 2019; McCormick et al., 2017; Poirier et al., 2018; Wilson et al., 2014; Wilson & Kastanis, 2015). Once they transition out of care, LGBTQ+ foster youth alumni are also at high risk of experiencing homelessness (Choi, et al., 2015; Shelton et al., 2018; Wilson & Kastanis, 2015), low educational attainment (Mountz et al., 2020; Pearson & Wilkinson, 2017), and poverty (Badgett et al., 2019; Kia et al., 2020)

Black, indigenous and other youth of color (BIPOC) youth are also consistently overrepresented in child welfare systems and often experience disparities in outcomes relative to their White peers (Dettlaff & Boyd, 2021; Harris & Hackett, 2008). For example, BIPOC youth are more likely to be placed in out of home care (Edwards et al., 2021; Harris, 2014; Maguire-Jack et al., 2020) and are less likely to be reunified with their birth families (Miller, 2008)—significantly increasing their risk of child welfare related trauma (Mitchell and Kuczynski, 2010; Sankaran et al. 2018). Moreover, BIPOC youth who also identify as LGBTQ+ experience higher rates of homelessness after transitioning out of care than both their non-LGBTQ+ and White peers (Shpiegel & Simmel, 2016), and are at increased risk of mental health concerns, underemployment, and low educational attainment (Conron and Wilson, 2019; Erney & Weber, 2018; Poirier et al., 2018; Shpiegel & Simmel, 2016).

The ongoing COVID-19 pandemic has presented many challenges related to economic stability, physical and mental health, and overall wellness of adolescents, transition age youth, and young adults. Emerging literature in this area suggests that COVID-19 has disproportionately impacted LGBTQ+ individuals, families, and communities (Cohen & Bosk, 2020; Czeisler et al., 2020; Human Rights Campaign, 2020; Kantamneni, 2020; Movement Advancement Project, Roulston et al., 2021; Salerno, Devadas, et al., 2020; Salerno, Williams, and Gattamorta, 2020; Scroggs et al., 2020) as well as people from communities of color (Artiga et al., 2020; Cohen & Bosk, 2020; Fortuna et al., 2020; Gabriel et al., 2021; Kantamneni, 2020; Roulston et al., 2021). It is estimated that 30.2 % of LGBTQ+ people lost their jobs due to the COVID-19 pandemic, with another 17.9 % reporting lost income or wage reductions (Human Rights Campaign, 2020). Similarly, while 44 % of non-LGBTQ+ households reported serious financial problems due to COVID-19, over 66 % of all LGBTQ+ households indicated they experienced significant financial hardships, and a staggering 95 % of all Black LGBTQ+ households reported financial concerns (Movement Advancement Project, 2020).

Longitudinal research conducted prior to the onset of the COVID-19 pandemic indicates both LGBTQ+ and BIPOC foster youth alumni reported lower levels of perceived family and non-family support (Authors., 2022). During the height of pandemic, particularly during times of mandated lockdowns, LGBTQ+ adolescents, transition age youth, and young adults were frequently cut off from their primary support networks, and in some cases were required to reside in places with individuals, such as family members, who were not affirming of their sexual orientation, gender identity or expression (SOGIE) (Roulston et al., 2021; Scroggs et al., 2020) resulting in ongoing physical and emotional safety concerns. While some effects have been studied, questions remain concerning the potential disproportional impacts of COVID-19 on young people, particularly BIPOC foster youth alumni and/or those who identify as part of the larger LGBTQ+ community. Prior work by Rosenberg et al. (2022) indicates that COVID-19 had significant impacts on the educational and employment opportunities for foster youth alumni. Given that LGBTQ+ foster youth alumni were at greater risk of negative outcomes relative to their non-LGBTQ+ peers prior to COVID-19, there is a need to investigate disparities during the COVID-19 pandemic. Accordingly, this study explored the economic, educational, and mental health impacts of COVID-19 on LGBTQ+ and non-LGBTQ+ foster youth alumni. Specifically, the research team sought to determine: 1) During COVID-19, were LGBTQ+ young adults disproportionately experiencing negative economic, educational, and mental health impacts relative to non-LGBTQ+ young adults and 2) Did sex assigned at birth or race/ethnicity differentially impact these outcomes? We hypothesized based on prior literature that LGBTQ+ foster youth alumni would report more negative outcomes on multiple outcome domains relative to non-LGBTQ+ youth and that White non-Hispanic youth would have more positive outcomes across multiple domains relative to BIPOC youth.

2. Methods

Data for this study were drawn from the Jim Casey Youth Opportunities Initiative, which explores outcomes for youth ages 14–26 with lived experience in foster care through administration of the Opportunity Passport Participant Survey (OPPS). This survey has been administered in either English or Spanish online twice annually between 2003 and 2022 to foster care alumni residing in one of the 16 Jim Casey Initiative site states. The survey asks questions about participant sociodemographic characteristics as well as various domains of functioning including education, employment, housing, financial stability, and mental health.

Beginning in 2018, youth over the age of 18 who completed this survey could opt to have their de-identified current and past data included in a restricted use data set to be used by external researcher teams exploring child welfare outcomes with the permission of the Jim Casey Initiative. The research team submitted an application to the Jim Case Initiative to access these de-identified data. The application required a list of research questions, data analysis plan, and plans for dissemination along with submission to an institutional review board (IRB). A representative from the first author's IRB determined that this project was exempt from IRB review because all data were de-identified and the Annie E. Casey Foundation received IRB approval from another IRB prior to the original data collection. Data used for these analyses was based on the supplemental COVID-19 questions and were limited to youth ages 18 and older who were no longer in care at the time of survey administration.

2.1. Demographic variables

To help protect the privacy of participants, age in this data set was dichotomized by its creators into two categories: respondents 18–21 years old and those 22–26 years old. Race/ethnicity was originally distributed across seven categories: White non-Hispanic (NH), which was used as the reference group for subsequent analyses; Black NH; Hispanic/Latino (any race); Native American/Alaskan Native NH; Asian NH; Native Hawaiian/Other Pacific Islander NH; and Multiracial NH (defined by choosing two or more of any NH category). The derived LGBTQ variable was constructed by researchers at the Jim Casey initiative.¹ This derived variable combined publicly-available information on sex assigned at birth as well as restricted-access information on sexual orientation and gender identity provided at the time of the survey. Participants who declined to answer both the sexual orientation and gender identity questions were coded as *prefer not to say*.

2.2. Outcome variables

We assessed three domains to learn about the effects of COVID-19 on foster youth alumni: educational impacts, economic impacts, and mental health impacts. The questions that comprised each of these domains, their level of measurement, response frequencies and how the construct was assessed is shown in [Table 1](#).

2.2.1. Educational impacts

Educational impacts were measured by seven questions to which the respondent could answer “yes” or “no”. Responses to each of the seven questions were assessed individually.

2.2.2. Economic impacts

Four domains of economic impact were assessed. *Impact to housing* situation was measured using one question with five responses indicating some sort of change in respondents’ living situation due to COVID-19. A “yes” on any of the responses indicating some change to the respondent’s living situation indicate housing related impacts. *Financial hardship* was measured by five “yes/no” questions each indicating difficulties paying for various necessities because of COVID-19. The “yes” responses were summed to represent overall financial hardship. Use of *public benefits* was measured by five “yes/no” questions each indicating different types of public benefits that the respondent applied for as result of COVID-19. The “yes” responses were summed to represent overall use of public benefits. Impact to *employment* was measured using nine “yes/no” questions that were each assessed individually.

2.2.3. Mental health impacts

Five domains of mental health related impacts were assessed. *Loneliness* was measured by a single ordinal response question asking the frequency that the respondent felt lonely due to social distancing or stay at home orders. *Direct experience with COVID-19* assessed the number of COVID-19 related adverse experiences that the respondent reported. This domain was measured by six “yes/no” questions. Responses were then summed to represent the overall direct experience with COVID-19. *Mental health symptoms and treatment* was measured by eight “yes/no” questions concerning the need for mental health treatment and access to mental health related supports. Each question was assessed individually. *Increased stress* due to COVID-19 was evaluated by six “yes/no” questions assessing different areas of live where stress may have increased as a result of COVID-19. “Yes” responses were summed to represent overall increased stress due to COVID-19. Finally, *frequency of trauma experiences* was assessed by 11 ordinal questions indicating the frequency that the respondent reported experiencing each trauma related symptom as a result of COVID-19. The scores of the 11 questions were summed to represent overall frequency of trauma related experiences.

2.3. Data analysis

Analyses were conducted in Stata 14.0 and SPSS 27. Counts and percentages were calculated for demographic variables. Those with a response of *prefer not to say* for the LGBTQ+ variable was coded as missing ($n = 19, 1.6\%$), and these respondents were excluded in the main analysis to produce the most conservative estimate of the percentage of respondents identifying as LGBTQ+. The response “Not Applicable” for key outcome variables was not included in the analysis. Count variables were modeled using Poisson regression or one of its extensions, depending on the distribution of the data. Each count-based outcome variable was regressed on age, sex assigned at birth, LGBTQ+ status and race categories. Criteria for selecting among the basic Poisson model, negative binomial model, or zero-inflated Poisson model were Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), and estimation of over-dispersion parameter—alpha. For dichotomous outcomes, binary logistic regressions were performed. For continuous variables, multivariate regression was used to estimate the associations between outcomes related to COVID-19 and age, LGBTQ+ identity, sex assigned at birth, and race/ethnicity.

¹ For a detailed explanation on how this variable was derived, contact JimCaseySiteSupport@childtrends.org.

Table 1
Description of outcome domains and frequency of responses.

Dichotomous yes/no questions assessed individually	Number of responses and %
Impact on school due to COVID-19	
COVID-19 has not had any impact on my school/education/educational plans or training	Not Applicable = 709 Number of applicable responses = 514 No: n = 365, 71 % Yes: n = 149, 29 %
In the past 6 months has your school provided adequate supports during this time (e.g. provided access to a laptop or internet, provided financial assistance to help with food)?	No: n = 452, 87.9 % Yes: n = 62, 12.1 %
Has your school moved to online/virtual learning as a result of COVID-19 in the past 6 months?	No: n = 237, 46.1 % Yes: n = 277, 53.9 %
Is your school currently closed with plans to reopen by a certain date as a result of COVID-19 in the past 6 months?	No: n = 495, 96.3 % Yes: n = 19, 3.7 %
In the past 6 months has your school cancelled/closed indefinitely as a result of COVID-19?	No: n = 508, 98.8 % Yes: n = 6, 1.2 %
In the past 6 months, did you drop out of school as a result of COVID-19?	No: n = 490, 95.3 % Yes: n = 24, 4.7 %
In the past 6 months as COVID-19 had another impact on your education?	No: n = 479, 93.2 % Yes: n = 35, 6.8 %
Economic impacts	
Nominal count variables – “yes” responses were summed	
Housing	
In the past 6 months, what impact has COVID-19 had on your living situation:	
Unchanged	n = 658, 53.9 %
Forced to leave foster care placement	n = 16, 1.3 %
Forced to change living situation	n = 63, 5.2 %
Homelessness	n = 26, 2.1 %
Housing instability	n = 161, 13.2 %
Prefer not to say	n = 299, 24.5 %
Financial hardship	
In the past 6 months, because of COVID-19 have you experienced the following:	
Not enough money to pay rent	No: n = 322, 26.3 % Yes: n = 515, 42.1 % NA: n = 386, 31.6 %
Not enough money to pay utilities	No: n = 390, 31.9 % Yes: n = 447, 36.5 % NA: n = 386, 31.6 %
Not enough money to pay for transportation	No: n = 441, 36.1 % Yes: n = 396, 32.4 % NA: n = 386, 31.6 %
Not enough money to pay for food	No: n = 335, 27.4 % Yes: n = 502, 41 % NA: n = 386, 31.6 %
Not enough money to pay for other things	No: n = 781, 63.9 % Yes: n = 56, 4.6 % NA: n = 386, 31.6 %
Public Benefits - In the past 6 months, because of changes due to COVID-19, have you applied for the following benefits that you did not already have:	
TANF/cash assistance	No: n = 1178, 96.3 % Yes: n = 45, 3.7 %
SNAP/food assistance	No: n = 919, 75.1 % Yes: n = 304, 24.9 %
WIC/supplemental nutrition assistance	No: n = 1143, 93.5 % Yes: n = 80, 6.5 %
Housing voucher	No: n = 1152, 94.2 % Yes: n = 71, 5.8 %
Unemployment benefits	No: n = 851, 69.6 % Yes: n = 372, 30.4 %
Dichotomous yes/no questions assessed individually	
Impact on employment	
As a result of COVID-19 in the last 6 months:	
Have you been temporarily laid off/furloughed?	No: n = 979, 80 % Yes: n = 244, 20 %

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Table 1 (continued)

Dichotomous yes/no questions assessed individually	Number of responses and %
Has there been an increase in your self-employment?	No: <i>n</i> = 1178, 96.3 % Yes: <i>n</i> = 45, 3.7 %
Has there been a decrease in your self-employment?	No: <i>n</i> = 1177, 96.2 % Yes: <i>n</i> = 46, 3.8 %
Have you gotten a new job that pays close to or more than what your old job did?	No: <i>n</i> = 1087, 94.2 % Yes: <i>n</i> = 71, 5.8 %
Have you gotten a new job that pays less than what your old job did?	No: <i>n</i> = 1152, 94.2 % Yes: <i>n</i> = 71, 5.8 %
Have you permanently lost your job?	No: <i>n</i> = 1099, 89.9 % Yes: <i>n</i> = 124, 10.1 %
Have you been unable to find a job?	No: <i>n</i> = 1047, 85.6 % Yes: <i>n</i> = 176, 14.4 %
Have you been unable or not sure how to file for unemployment?	No: <i>n</i> = 1122, 91.7 % Yes: <i>n</i> = 101, 8.3 %
Have you experienced some other impact on your employment?	No: <i>n</i> = 1137, 93 % Yes: <i>n</i> = 86, 7 %
<hr/>	
Nominal count variables – “yes” responses were summed	Number of responses and %
Direct experience with COVID-19	
Does someone close to you work around people who may have this illness?	No: <i>n</i> = 884, 72.4 % Yes: <i>n</i> = 337, 27.6 %
Have you or a family member had to move away from home because of this illness?	No: <i>n</i> = 1143, 93.6 % Yes: <i>n</i> = 78, 6.4 %
Have you or someone close to you been told of a positive test for this illness?	No: <i>n</i> = 919, 75.3 % Yes: <i>n</i> = 302, 24.7 %
Have you or someone close to you been quarantined because of having this illness?	No: <i>n</i> = 811, 66.4 % Yes: <i>n</i> = 410, 33.6 %
Have you or someone close to you gotten very sick or been in the hospital because of this illness?	No: <i>n</i> = 1057, 86.6 % Yes: <i>n</i> = 164, 13.4 %
Has anyone close to you died because of this illness?	No: <i>n</i> = 1124, 92.1 % Yes: <i>n</i> = 97, 7.9 %
<hr/>	
Dichotomous yes/no questions assessed individually	Number of responses and %
Mental Health symptoms and treatment	
What impact, if any, has COVID-19 had on your mental health care?	
The COVID-19 pandemic has not had an impact on my mental health care	No: <i>n</i> = 838, 68.5 % Yes: <i>n</i> = 385, 31.5 %
I am having trouble focusing	No: <i>n</i> = 865, 70.7 % Yes: <i>n</i> = 358, 29.3 %
I am having trouble with mental health but not to the point of needing mental health services	No: <i>n</i> = 1045, 85.4 % Yes: <i>n</i> = 178, 14.6 %
I am having trouble with mental health but receiving services has helped	No: <i>n</i> = 1082, 88.5 % Yes: <i>n</i> = 141, 11.5 %
I am having trouble getting mental health care or therapy	No: <i>n</i> = 1108, 90.6 % Yes: <i>n</i> = 115, 9.4 %
I am having trouble getting needed medication to help my mental health	No: <i>n</i> = 1164, 95.2 % Yes: <i>n</i> = 59, 4.8 %
I am having trouble getting substance use or alcohol use counseling	No: <i>n</i> = 1215, 99.3 % Yes: <i>n</i> = 8, 0.7 %
<hr/>	
Loneliness - ordinal variables scored 1–5	Single items score
In the past 6 months how often having you felt lonely due to COVID-19 social distancing or stay at home orders?	Never <i>n</i> = 258, 21.1 % Rarely <i>n</i> = 163, 13.3 % Sometimes <i>n</i> = 327, 26.7 % Frequently <i>n</i> = 184, 15.0 % Very Frequently <i>n</i> = 205, 16.8 % Prefer not to answer <i>n</i> = 64, 6.9 %
<hr/>	
Increased stress due to COVID-19 – ordinal variable scored 0–2	Scores on the 5 out of 6 items are summed. Item 4 was not used due to low factor loading.
<hr/>	
Since COVID-19, has your stress increased in:	

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Table 1 (continued)

Increased stress due to COVID-19 – ordinal variable scored 0–2	Scores on the 5 out of 6 items are summed. Item 4 was not used due to low factor loading.
Your ability to control important things in your life?	Not at all <i>n</i> = 249, 20.4 % Somewhat <i>n</i> = 455, 37.2 % Very much <i>n</i> = 457, 37.4 % Prefer not to answer <i>n</i> = 60, 4.9 %
Your ability to handle personal problems?	Not at all <i>n</i> = 322, 26.3 % Somewhat <i>n</i> = 471, 38.5 % Very much <i>n</i> = 373, 30.5 % Prefer not to answer <i>n</i> = 55, 4.5 %
Your ability to engage in everyday tasks due to a stay at home order?	Not at all <i>n</i> = 356, 29.1 % Somewhat <i>n</i> = 474, 38.8 % Very much <i>n</i> = 337, 27.6 % Prefer not to answer <i>n</i> = 54, 4.4 %
Feeling like things are going your way?	Not at all <i>n</i> = 412, 33.7 % Somewhat <i>n</i> = 502, 41 % Very much <i>n</i> = 240, 19.6 % Prefer not to answer <i>n</i> = 67, 5.5 %
Feeling like difficulties were piling up so high that you could not overcome them?	Not at all <i>n</i> = 351, 28.7 % Somewhat <i>n</i> = 445, 36.4 % Very much <i>n</i> = 360, 29.4 % Prefer not to answer <i>n</i> = 65, 5.4 %
Feeling physically safe?	Not at all <i>n</i> = 418, 34.2 % Somewhat <i>n</i> = 329, 26.9 % Very much <i>n</i> = 408, 33.4 % Prefer not to answer <i>n</i> = 66, 5.4 %
Frequency of trauma experiences – ordinal variable scored 0–4	Scores on the 11 items are summed
As a result of COVID-10 how often has this problem happened to you in the past month?	
Avoiding people places or things that remind me of what happened or is still happening	Never <i>n</i> = 376, 30.8 % A little <i>n</i> = 202, 16.5 % Some of the time <i>n</i> = 243, 19.9 % Much of the time <i>n</i> = 204, 16.7 % Most of the time <i>n</i> = 196, 16.1 %
I get upset more easily/am more irritable or get into arguments or physical fights	Never <i>n</i> = 632, 51.8 % A little <i>n</i> = 231, 18.9 % Some of the time <i>n</i> = 202, 16.5 % Much of the time <i>n</i> = 92, 7.5 % Most of the time <i>n</i> = 64, 5.2 %
I have trouble concentrating or paying attention	Never <i>n</i> = 443, 36.3 % A little <i>n</i> = 264, 21.6 % Some of the time <i>n</i> = 262, 21.5 % Much of the time <i>n</i> = 142, 11.6 % Most of the time <i>n</i> = 110, 9 %
When something reminds me of what happened or what is still happening I get upset, afraid or sad	Never <i>n</i> = 594, 48.6 % A little <i>n</i> = 271, 22.2 % Some of the time <i>n</i> = 216, 17.7 % Much of the time <i>n</i> = 72, 5.9 % Most of the time <i>n</i> = 68, 5.6 %
I have trouble feeling happiness or love	Never <i>n</i> = 568, 46.5 % A little <i>n</i> = 255, 20.9 % Some of the time <i>n</i> = 185, 15.2 % Much of the time <i>n</i> = 98, 8 % Most of the time <i>n</i> = 115, 9.4 %
I try not to think about or have feelings about what happened or is still happening	Never <i>n</i> = 528, 43.2 % A little <i>n</i> = 256, 21 % Some of the time <i>n</i> = 223, 18.3 % Much of the time <i>n</i> = 112, 9.2 %

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Table 1 (continued)

Frequency of trauma experiences – ordinal variable scored 0–4	Scores on the 11 items are summed
When something reminds me of what happened, I have strong feelings in my body like my heart beats fast, my head aches or my stomach aches.	Most of the time $n = 102$, 8.4 % Never $n = 709$, 58.1 % A little $n = 201$, 16.5 % Some of the time $n = 179$, 14.7 % Much of the time $n = 70$, 5.7 %
I have thought like I will never be able to trust other people	Most of the time $n = 62$, 5.1 % Never $n = 647$, 53 % A little $n = 196$, 16.1 % Some of the time $n = 173$, 14.2 % Much of the time $n = 91$, 7.5 %
I feel alone even when I'm around other people	Most of the time $n = 114$, 9.3 % Never $n = 563$, 46.1 % A little $n = 231$, 18.9 % Some of the time $n = 216$, 17.7 % Much of the time $n = 104$, 8.5 %
I get upsetting thoughts pictures or sounds of what happened or is still happening come into my mind when I don't want them to	Most of the time $n = 107$, 8.8 % Never $n = 757$, 62 % A little $n = 198$, 16.2 % Some of the time $n = 141$, 11.5 % Much of the time $n = 65$, 5.3 %
I have trouble getting to sleep, wake up often, or have trouble getting back to sleep	Most of the time $n = 60$, 4.9 % Never $n = 548$, 44.9 % A little $n = 231$, 18.9 % Some of the time $n = 183$, 15 % Much of the time $n = 103$, 8.4 % Most of the time $n = 156$, 12.8 %

3. Results

3.1. Demographics

As shown in [Table 2](#), approximately equal numbers of youth fell into each age category, with 51.5 % of respondents ($n = 625$) reporting currently being ages 18–21 years old. Slightly less than one-third of the sample was assigned male at birth ($n = 372$; 30.4 %) and 28.4 % ($n = 347$) identified as LGBTQ+. The sample was racially diverse, with only 36.4 % of respondents ($n = 445$) identifying as non-Hispanic White.

Table 2
Respondent sociodemographic characteristics ($n = 1223$).

	n	%
Age category		
18–21 years old	625	51.5
22–26 years old	598	48.9
Sex		
Male	372	30.4
Female	851	69.6
LGBTQ+		
No	857	70.1
Yes	347	28.4
Prefer not to say	19	1.6
Race/ethnicity		
White NH	445	36.4
Black NH	336	27.5
Hispanic/Latino	220	18.0
Multiracial NH	121	9.9
Others NH	101	8.3

Note: NH = Non-Hispanic; Sex = sex assigned at birth.

3.2. Count-based outcome variables

The results in Table 3 indicate that female respondents reported having more experiences of financial hardship relative to their male peers ($Z = 2.50, p = .010, IRR = 1.14$). Youth ages 22–26 ($Z = 3.72, p < .001, IRR = 1.29$), LGBTQ+ youth ($Z = 2.54, p = .011, IRR = 1.41$) and female youth ($Z = 6.05, p < .001, IRR = 1.67$) were more likely to report applying for public benefits relative to respondents ages 18–21, those who were non-LGBTQ+ and those who were male. The interaction between race and LGBTQ+ identity for receiving public benefits was significant, indicating that there are differential impacts of race/ethnicity on receiving public benefits depending on the LGBTQ+ status. Among non-LGBTQ+ youth, Black NH ($Z = 6.92, p < .001, IRR = 2.12$), Hispanic/Latino ($Z = 4.31, p < .001, IRR = 1.71$) and Native American (NA) or Asian Pacific Islander (API) respondents ($Z = 3.64, p < .001, IRR = 1.77$) were more likely to apply for new public benefits relative to their White NH peers. Among LGBTQ+ youth, however, none of the BIPOC youth received a significantly different number of public benefits relative to their White NH LGBTQ+ peers.

Respondents ages 22–26 ($Z = 2.95, p = .003, IRR = 1.22$), reported having more occurrences of direct negative experiences related to COVID-19 than their younger peers. This was also true of youth identifying as Asian, Pacific Islander, Native American or Native Hawaiian ($Z = 2.35, p = .020, IRR = 1.29$) relative to their White peers. When considering the interaction between gender and LGBTQ+ identity in relation to direct negative experiences with COVID-19, it appears that there are differential impacts of LGBTQ+ status related to this variable depending on the gender of the respondent ($Z = -2.88, p = .004, IRR = 0.64$). Among males, LGBTQ+ youth compared to non-LGBTQ+ youth were expected to have a rate 1.72 times higher ($Z = 4.02, p = .001$) to have more direct experience with COVID-19. However, among females, the LGBTQ+ status did not have a significant effect on experience with COVID-19.

3.3. Dichotomous outcome variables

Table 4 shows the results of the binary logistic regression for dichotomous outcome variables. Older respondents ages 22–26 reported being paid less at their job due to COVID compared to respondents ages 18–21 ($OR = 1.76, p = .030$). Similarly, compared to non-LGBTQ+ youth, LGBTQ+ respondents were more likely to report being paid less at their job ($OR = 2.43, p < .001$), being unable to find a job ($OR = 1.62, p = .006$), and having difficulties focusing ($OR = 1.33, p = .040$). LGBTQ+ respondents were also less likely to indicate that COVID-19 had no impact on their mental health ($OR = 0.51, p < .001$).

Black NH respondents were significantly more likely to report housing-related impacts than White NH respondents ($OR = 2.04, p < .001$). Hispanic/Latino respondents were more likely to report not being able to find a job due to COVID-19 relative to White NH respondents ($OR = 1.82, p = .010$). Multiracial respondents were less likely than White NH youth to report no impact on their mental health due to COVID-19 ($OR = 0.45, p = .003$). Finally, female respondents reported more difficulties focusing ($OR = 1.58, p = .002$),

Table 3
Poisson regressions for count outcomes.

	Financial hardship			Receiving public benefits			Direct experience with COVID-19		
Domain of functioning	<i>Economic</i>			<i>Economic</i>			<i>Mental Health</i>		
Sample size ^b	825			1204			1202		
Mean (SD)	2.29(1.42)			0.71(0.90)			1.14(1.55)		
Median	2			0			0		
Range	0–5			0–4			0–6		
Parameter estimates of predictors	<i>IRR</i>	<i>Z</i>	<i>p</i>	<i>IRR</i>	<i>Z</i>	<i>p</i>	<i>IRR</i>	<i>Z</i>	<i>p</i>
22–26 years old	1.09	1.92	.06	1.29	3.72	<.001	1.22	2.95	0.003
LGBTQ+	1.09	1.84	.07	1.41	2.54	.011	1.72	4.02	<.001
Female at birth	1.14	2.50	.01	1.67	6.05	<.001	1.36	3.47	.001
Race/ethnicity ^a									
Black NH	0.99	−0.24	.81	2.12	6.92	<.001	1.06	0.78	.44
Hispanic/Latino	0.95	−0.76	.45	1.71	4.31	<.001	1.04	0.39	.69
Multiracial NH	0.88	−1.50	.13	1.29	1.44	.15	1.14	1.19	.23
Others NH	0.96	−0.41	.68	1.77	3.64	<.001	1.29	2.35	.02
Interaction between LGBTQ+ and race ^c									
LGBTQ+ ^a Black NH				0.56	−3.00	.003			
LGBTQ+ ^a Hispanic/Latino				0.77	−1.22	.22			
LGBTQ+ ^a Multiracial NH				0.87	−0.52	.60			
LGBTQ+ ^a NH				0.46	−2.40	.02			
Interaction between LGBTQ+ and sex at birth							0.64	−2.88	.004
Constant	1.98	10.77	<.001	0.27	−11.32	<.001	1.33	2.97	.003
Pseudo R ^{2d} , omnibus test of the model	0.56 %, <i>p</i> = .02			4.3 %, <i>p</i> < .001			2.0 %, <i>p</i> < .001		

Note: *IRR*: Incidence rate ratio.

^a Non-Hispanic White as reference.

^b Participants who answered “not applicable” for a question were excluded from the analysis of the variable. Therefore, sample size for each outcome variable varies.

^c The interaction terms were removed from the final model if the omnibus effect of the interaction between LGBTQ+ identity and race was not significant.

^d Pseudo R² was not given by Stata because zero-inflated Poisson regression was used.

Table 4
Binary logistic regression for dichotomous outcomes (*n* = 1204).

Predictors	Domain of functioning: economic impacts									Domain of functioning: mental health impacts					
	Housing instability due to COVID-19			In the past 6 months, have you gotten a new job that pays less than what your old job did as a result of COVID-19?			In the past 6 months, have you been unable to find a job as a result of COVID-19?			I am having trouble focusing.			The COVID-19 pandemic has not had an impact on my mental health		
	OR	Wald test(df)	<i>p</i>	OR	Wald test(df)	<i>p</i>	OR	Wald test(df)	<i>p</i>	OR	Wald test(df)	<i>p</i>	OR	Wald test(df)	<i>p</i>
22–26 years old	1.02	0.01(1)	.91	1.76	4.81(1)	.03	0.85	0.98(1)	.33	1.05	0.11(1)	.74	1.14	1.12(1)	.29
Female at birth	0.81	1.61(1)	.2	0.98	0.01(1)	.93	1.18	0.74(1)	.39	1.58	9.65(1)	.002	0.71	6.55(1)	.01
LGBTQ+	1.36	3.59(1)	.06	2.43	12.12(1)	<.001	1.62	7.50(1)	.006	1.33	4.22(1)	.04	0.51	20.15(1)	<.001
Race/Ethnicity		15.18(4)	.004		2.20(4)	.7		6.95(4)	.14		1.13(4)	.89		9.62(4)	.047
Omnibus test															
Black NH	2.04	14.46(1)	<.001	0.75	0.85(1)	.36	1.34	1.81(1)	.18	0.91	0.37(1)	.54	0.97	0.04(1)	.85
Hispanic/Latinx	1.23	0.89(1)	.35	0.61	1.56(1)	.21	1.82	6.67(1)	.01	0.98	0.01(1)	.9	0.92	0.21(1)	.65
Multiracial NH	1.22	0.56(1)	.46	0.82	0.20(1)	.66	1.3	0.78(1)	.38	0.8	0.95(1)	.33	0.45	9.11(1)	.003
Others NH	1.39	1.38(1)	.24	1.06	0.02(1)	.89	1.51	1.71(1)	.2	0.96	0.03(1)	.88	1	0.001(1)	.99
Constant	0.31	37.15(1)	<.001	0.04	98.02(1)	<.001	0.11	102.58(1)	<.001	0.27	28.58(1)	<.001	0.71	4.97(1)	.03
Pseudo R ²	2.1–3.0 %			1.5–4.3 %			1.3–2.3 %			1.4–2.0 %			3.7–5.3 %		

Note: Reference group is Non-Hispanic White.

and were less likely to report no impact of COVID-19 on their mental health ($OR = 0.71, p = .010$) than male respondents.

3.4. Continuous outcome variables

The results in Table 5 show that, relative to non-LGBTQ+ and male youth, female and LGBTQ+ youth were more likely to report having more frequent trauma-related experiences as a result of COVID-19. Female respondents scored, on average, 2.41 points higher than male respondents on this outcome, with higher scores indicating higher levels of psychological impact ($t = 3.58, p < .001$), and LGBTQ+ respondents scored on average 3.27 points higher than their non-LGBTQ+ peers ($t = 4.78, p < .001$). Similarly, LGBTQ+ and female respondents reported significantly higher levels of loneliness when compared to their non-LGBTQ+ or male peers, with females scoring on average 0.31 points higher on this domain ($t = 3.42, p < .001$) and LGBTQ+ participants scoring on average 0.49 points higher on this domain ($t = 5.49, p < .001$).

4. Discussion

These results indicate both optimism and cause for concern related to the impacts of COVID-19 on various groups of foster youth alumni. Descriptive statistics indicate that 71 % of respondents reported some type of impact of COVID-19 on their education. Close to 20 % of respondents indicated a disruption in their housing situation resulting from COVID-19, with over 40 % of respondents indicating they did not have enough money to pay for rent or food. Nearly 20 % of respondents indicated that they had been laid off during the COVID-19 pandemic, while about 70 % of respondents indicated that COVID had some sort of impact on their mental health, and approximately 80 % of participants indicated that COVID-19 had increased their stress in some way. Finally, about half of respondents reported experiencing trauma related symptoms “some of the time, much of the time or most of the time.” When considered together these data indicate that COVID-19 has had a profound impact on the health and wellbeing of this group of foster youth alumni.

However, our results also suggest that there were minimal differences in outcomes related to increased levels of overall stress due to COVID-19 or educational attainment across subgroups of former foster youth alumni. Evidence from the Midwest Evaluation of the Adult Functioning of Former Foster Youth prior to the pandemic also suggests there is no significant difference in educational attainment comparing LGB and heterosexual foster youth alumni (Dworky, 2013). However, recent research has found disparities in access to educational services related to race, ethnicity, and LGBTQ+ identities and decreased postsecondary enrollment among students of color during COVID-19 (Office for Civil Rights, 2021). Though no statistically significant differences were found between subgroups in this study, descriptive statistics indicate foster youth alumni as a whole experienced at least some negative outcomes related to education. More research is needed, perhaps over a longer period of time, to determine the long-term impacts of COVID-19 on the education of foster youth alumni.

Conversely, disparities in economic and mental health outcomes were identified between some subgroups. Overall, female, LGBTQ+ and BIPOC youth experienced more negative financial and mental health related impacts than their male, non-LGBTQ+ and White peers. These findings are consistent with the existing literature pre-COVID on outcomes for foster youth alumni which indicate that LGBTQ+ youth (Annie E. Casey Foundation, 2016; Craig et al., 2020; Dettlaff et al., 2018; Fish et al., 2019; McCormick et al., 2017; Poirier et al., 2018; Wilson et al., 2014; Wilson & Kastanis, 2015) and BIPOC youth (Dettlaff & Boyd, 2021; Harris & Hackett, 2008; Sankaran et al. 2018) have more adverse outcomes related to these domains not only while in care, but also once they have transitioned out of care (Choi et al., 2015; Conron and Wilson, 2019; Erney & Weber, 2018; Poirier et al., 2018; Shpiegel & Simmel, 2016; Shelton et al., 2018; Wilson & Kastanis, 2015). This may be due, in part, to structural/systemic racism and/or anti-LGBTQ+ bias that youth face in child welfare and within the world at large as they transition into adulthood (Cénat et al., 2021; Miller et al., 2013;

Table 5
Multivariate regressions for continuous variables.

Continuous outcomes	Frequency of trauma experiences				Loneliness			
Domain	Mental health				Mental health			
Sample size	1221				1137			
Mean (SD)	12.33(10.75)				2.93(1.39)			
Median	10				3			
Range	0–44				1–5			
Predictors	b	t	p	95 % CI	b	t	p	95 % CI
22–26 years old	0.16	0.27	.79	–1.04, 1.37	0.02	0.25	.81	–0.14, 0.18
LGBTQ+	3.27	4.78	<.001	1.93, 4.61	0.49	5.49	<.001	0.32, 0.67
Female at birth	2.41	3.58	<.001	1.09, 3.73	0.31	3.42	<.001	0.13, 0.49
Race/ethnicity ^a			.74				.14	
Omnibus test								
Black NH	0.40	0.51	.61	–1.13, 1.93	–0.21	–2.01	.04	–0.42, –0.01
Hispanic/Latino	–0.06	–0.07	.95	–1.80, 1.68	–0.24	–2.05	.04	–0.47, –0.01
Multiracial NH	0.83	0.75	.45	–1.33, 2.98	0.002	0.01	.99	–0.28, 0.29
Others NH	1.38	1.18	.24	–0.92, 3.68	–0.12	–0.76	.45	–0.43, 0.19
Constant	16.60	13.52	<.001	14.20, 19.01	3.34	20.40	<.001	3.04, 3.69
R ² , omnibus test of the model	2.9 %, <0.001				4.2 %, <0.001			

^a Reference group is Non-Hispanic White.

Weeks et al., 2018).

In terms of the economic impacts of COVID-19, our results suggest that LGBTQ+ youth and youth of color were most significantly impacted, with LGBTQ+ being 2.43 times as likely as non-LGBTQ+ youth to report decreased job-related income and 1.62 times as likely to report difficulties finding a job. Similarly, Black NH youth were 2.04 times as likely as White NH youth to report housing instability and Latino youth were 1.82 times as likely to report difficulties finding a job. These results have serious implication because Black NH and Hispanic/Latino individuals consistently were paid less than their White NH counterparts prior to the economy being impacted by COVID-19 (Bureau of Labor Statistics, 2016; Hardy & Logan, 2020; Johnston & Lordan, 2016) and these COVID related impacts appear to be exacerbating this gap. In fact, research conducted with this same data set indicates that even prior to the COVID-19 pandemic, may foster youth alumni were unable to achieve financial stability (Salazar et al., 2021).

Given the persistent wage gap between men and women in the United States (Auspurg et al., 2017; Litman et al., 2020; O'Reilly et al., 2015), we were surprised to find no sex related disparities in the economic impacts of COVID-19, particularly because these inequities are consistently associated with negative health and mental health outcomes (Ngamaba et al., 2018; Patel et al., 2018) for which we did find significant relationships related to sex assigned at birth.

Recent evidence suggests that the mental health of young adults in general has been significantly impacted by COVID-19 (Baiden et al., 2021; Liang et al., 2020), particularly among transgender and gender diverse youth (Hawke et al., 2021; Office for Civil Rights, 2021). Our findings were consistent with this research, indicating the mental health of LGBTQ+ youth and/or female youth were most keenly impacted, warranting further exploration. It is concerning that both female and LGBTQ+ youth were more likely to indicate they were having difficulties focusing, experienced more frequent loneliness, reported a greater number of traumatic events related to COVID-19 and had a higher level of negative psychological impact resulting from COVID-19 than their male or non-LGBTQ+ peers. This may be in part due to higher levels of psychological distress prior to the onset of COVID-19 related to their gender, SOGIE or the intersection of these identities (Office for Civil Rights, 2021). It may also be the case that since women more often are tasked with the caregiving of others, they may have experienced more exposure to COVID related traumas due to their gender roles. In parallel, LGBTQ+ youth may experience unique challenges during the COVID-19 pandemic such as extended time at home with unsupportive family members and loss of connections with external, affirming supports (Drabble & Eliason, 2021; Fish et al., 2020; Stone, 2022). More research is needed to better understand how gender and SOGIE may be risk factors for negative COVID related mental health impacts.

Overall, findings indicate a need to support foster youth alumni, as they transition out of care and across young adulthood. Research suggests that, for many youths, the transition into adulthood lasts well into the mid- or even late- twenties (Arnett, 2000). However, foster care alumni often do not have the financial and familial supports in place that transition age youth without child welfare involvement may have (Authors., 2022; Schoeni & Ross, 2005; Swartz et al., 2011), which leaves them vulnerable to negative economic and health outcomes. In recent years, there has been some indication that policymakers recognize the need to provide support for foster care alumni during young adulthood; for instance, the Affordable Care Act mandates Medicaid coverage for youth who were in foster care at age 18 and are <26 years old (Child Information Gateway, 2015). However, most of the supports for foster care alumni depend upon them having been in foster care at the age of 18, and findings from one qualitative study suggests that foster care alumni perceive support being available only if they were employed or in school (Hokanson et al., 2020)—an issue noted in a prior review of policies to support transition age foster care alumni (Stott, 2013). It is imperative that resources and supports are provided to help foster youth alumni successfully navigate the transition into adulthood and continue to provide safety net services and other resources into young adulthood (Stott, 2013).

4.1. Limitations

Data for this study were drawn from surveys administered in 2020. Therefore, it is possible that some of the findings may have changed over the course of the pandemic. Second, although there was a similar proportion of youth who identified as White NH, Black, NH or Hispanic/Latino, the number of respondents who identified as other racial or ethnic groups was relatively small. Therefore, we combined some categories such as youth who identified as Native American, Asian, Native Hawaiian or Pacific Islander all of whom may have been uniquely impacted as a result of COVID-19, but these unique impacts may not have been captured in this study. A composite variable was used to indicate if the youth identified as lesbian, gay bisexual, transgender, or nonbinary. However due to the nature of the available data driven by the desire for participant anonymity, we were also unable to determine if the variable of sex assigned at birth was consistent with respondents' current gender identity complicating the interpretation of results indicating that female respondents were more keenly impacted by COVID than their male counterparts. Moreover, we could not use sexual orientation and gender identity as separate predictors or report data on the frequencies of each of these constructs separately. Future research should consider keeping these two aspects of identity as separate constructs rather than grouping them together, as this may lose some of the potential nuance associated with treating these constructs separately. Although we included responses from all 16 Jim Casey sites, the survey was not drawn from a nationally representative sample and these results may not generalize to the large population of foster care alumni. Finally, the percent of variance that was explained in some of the regression models was quite small; therefore, it is likely that there are additional predictors that were not captured by these analyses.

4.2. Implications for policy and practice

Despite the limitations listed above, the findings from this study highlight ongoing disparities during the COVID-19 pandemic based on SOGIE, sex assigned at birth and race/ethnicity. Disparities in relation to mental health outcomes, namely reporting a higher

number of experiences of traumatic events related to the COVID-19 pandemic experienced by those assigned female at birth and those identifying as LGBTQ+, are particularly troubling given that these youth may already be experiencing higher levels of trauma from prior child welfare system involvement (Dettlaff et al., 2018) that is being exacerbated by their current life circumstances. Thus, mental health and other supportive services to help to address the impacts of trauma on the lives of these youth must be readily available and easily accessible to them. As the pandemic continues and evolves, it is important to consider how to create more supportive and affirming communities and services for LGBTQ+ youth and BIPOC youth. Furthermore, given racial and SOGIE disparities in outcomes related to housing and employment, anti-discrimination policies should be examined to ensure that all youth receive equal protection in these areas in relation to potential discrimination. Future research could explore specific county or state level anti-discrimination policies and other contextual factors that may be associated with outcomes for LGBTQ+ youth and BIPOC youth with lived experience in foster care. Moreover, as a result of temporary supports provided under the Coronavirus Aid Relief and Economic Security (CARES) Act, transition age foster youth alumni were able to access additional education and training voucher (ETV) funding and expansion of programs that support independent living (Juvenile Law Center, 2022; Rosenberg et al., 2022). It is recommended that these temporary supports become permanent to help better and more consistently support foster youth alumni as they transition toward independence.

Declaration of competing interest

The authors report there are no competing interests to declare.

Data availability

The authors do not have permission to share data.

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Dr. Miao Yu's central research interest is maternal mental health. She is particularly interested in promoting mental health accessibility and reducing health disparities among socially disadvantaged women. Her current research program investigates the effectiveness of home visiting models on postpartum depression among low-income racial/ethnic minority mothers. In addition to her focus on maternal mental health, Miao is also interested in advanced statistical analyses and evidence-based research methods. She obtained extra training in structural equation modeling (SEM), hierarchical linear modeling (HLM), time series analysis, psychometrics, moderation, and mediation. She has been working as a data analyst and statistician on projects involving meta-analysis, factor analysis, SEM, HLM, longitudinal moderation analysis, longitudinal mediation analysis, project evaluation, and factorial survey experiments.

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Dr. LaBrenz's research is informed by her practice experiences and focuses on supporting families involved with child welfare. Her current research examines interventions to support families post-permanence, and Dr. LaBrenz has current projects that target birth families and adoptive families. The underlying goal of Dr. LaBrenz's research is to empower families to build resilience and break cycles of maltreatment.

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