cells that were positive for CellROX Green 1.3-fold compared with the history of smoking or vaping or individuals who currently used ECIGs or TCIGs (Figure 1).

Given heterogeneity of cellular responses, we determined the effect of a single vaping session on COS in immune cell subtypes among groups. Compared with sham control, acute vaping increased the percentage of CD14^{-} CD16^{+} and CD14dimCD16^{-} monocytes, T cells, and natural killer cells that were positive for CellROX Green by a mean 1.0-fold, 1.25-fold, 0.9-fold, 1.05-fold, 1.05-fold, respectively, compared with the sham-control session in individuals with no history of smoking or vaping (Figure 2A). Similar, nonsignificant trends were found in neutrophils, CD14^{-} CD16^{+} monocytes, and B cells of individuals with no history of smoking or vaping (Figure 2A). Compared with sham control, a single vaping session did not affect other measures of COS in cell subtypes of individuals with no history of smoking or vaping (Figure 2A and C) or individuals who currently used ECIGs (Figure 2B and D) and individuals who currently smoked TCIGs (data not shown).

Discussion | To our knowledge, this is the first study to report that using an ECIG during a single vaping session compared with sham control results in an increase in oxidative stress levels among several immune cell subtypes in otherwise healthy, young people with no history of smoking or vaping. Interestingly, a similar vaping session did not increase COS in individuals who currently used TCIGs or ECIGs, in whom baseline oxidative stress levels were already increased.1

The major limitation of this study is the small sample size. Strengths of this study include the detection of COS in immune cells within the same person preintervention and postintervention. Our findings have implications for young people who have pivoted from TCIG smoking to ECIG vaping, believing, erroneously, that ECIGs are harmless.6 Although long-term ECIG use is associated with elevations in oxidative stress,1 our results show that even a single vaping session can induce similar changes in individuals with no history of smoking or vaping.

Intermittent increases in oxidative stress in individuals who used ECIGs experimentally may lead to significant future pathologies, including cardiovascular, pulmonary, and neurologic diseases, with uncertain future adverse effects.

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Obtained funding: Kelesidis, Middlekauff.

Administrative, technical, or material support: Kelesidis, Nguyen, Middlekauff.

Supervision: Kelesidis, Middlekauff.

Conflict of Interest Disclosures: Dr Kelesidis reports grants from the National Institutes of Health during the conduct of the study. No other disclosures were reported.

Funding/Support: This work was supported by the Tobacco-Related Disease Research Program (contract TRDRP 28IR-0065) and the University of California, Office of the President (contract R00927497 Emergency COVID-19 Research Seed Funding), paid to Dr Middlekauff, and by the National Center for Advancing Translational Science, University of California, Los Angeles, Clinical and Translational Science Institute (grant 1UL1TR001881). This work was also supported in part by the National Institutes of Health grants R01AG059501 and R03AG059462 (paid to Dr Kelesidis). The flow cytometry machine used in the study was purchased through the University of California, Los Angeles, Center for AIDS Research (grant P30AI28697).

Role of the Funder/Sponsor: The funders had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Trial Registration: ClinicalTrials.gov Identifier: NCT03823885.

Data Sharing Statement: See Supplement 3.


Death From COVID-19 as Context for Early Childhood Education

During the COVID-19 pandemic, preschool-aged children have garnered less attention than older children. The pandemic may affect preschoolers through its effects on the early childhood education (ECE) professionals who teach them. We describe the prevalence of COVID-19–associated deaths among family members and close friends of ECE professionals. These data may reflect the socioeconomic and health inequities experienced by the ECE workforce. These inequities were present before the pandemic,1,2 may have been exacerbated by it, and affect the quality of education children receive.
Methods | Between March 24 and April 12, 2021, an online survey was administered to ECE professionals in Pennsylvania before an online course about developmental trauma. Consent was obtained online, and those completing the survey were given a $20 gift card. The study was approved by the Mary Imogene Bassett Hospital Institutional Review Board.

Participants were asked if they had “a family member or close friend” who had died of COVID-19. They were also asked (with response options of yes or no) whether, in the prior year, they “had any serious ongoing stress at work—things like consistently extreme work demands, major changes, or uncertainties that most people would consider highly stressful.” We assessed 5 areas of economic hardship during the prior year, asking participants if they (1) received Supplemental Nutrition Assistance Program benefits (food); (2) did not have enough money to provide adequate shelter or housing for themselves or their family (housing); (3) did not pay the full amount of the gas, oil, or electricity bills (utilities); (4) did not have enough money to pay for health care and/or medicine for themselves or their family (health care); and (5) currently worked at another (second) job for pay (income). Participants self-reported on their gender identity, race, ethnicity, age, and education level. We used a significance threshold of \( P < .05 \) (2 sided) and conducted statistical analyses using Stata/MP version 15.1 (StataCorp).

Results | Of the 265 individuals who were administered the survey, 246 (92.8%) completed it. Most participants self-identified as female (233 [94.7%]) and either non-Hispanic White (129 [53.5%]) or non-Hispanic Black (87 [36.1%]). Approximately 40% (n = 101) were 50 years or older, and most (172 [69.9%]) had a bachelor or graduate degree. The death of a family member or close friend due to COVID-19 was reported by 76 individuals (30.9%). Serious stress at work in the prior year was reported by 181 (77.0%).

The prevalence of economic hardships was as follows: food, 10.2% (95% CI, 6.4%-14.0%); housing, 13.5% (95% CI, 9.2%-17.7%); utilities, 26.8% (95% CI, 21.3%-32.4%); health care, 24.1% (95% CI, 18.7%-29.4%); and income, 17.5% (95% CI, 12.7%-22.2%). At least 1 economic hardship was reported by 52.3% (95% CI, 46.0%-58.5%) and 2 or more by 24.3% (95% CI, 18.9%-29.7%). The prevalence of having a family member or close friend who had died of COVID-19 was highest among ECE professionals who identified with racial and ethnic groups other than non-Hispanic White (non-Hispanic White individuals, 21.7% [95% CI, 14.6%-28.8%]; non-Hispanic Black individuals, 41.4% [95% CI, 31.0%-51.7%]; non-Hispanic individuals of other races, 41.7% [95% CI, 13.8%-69.6%]; Hispanic individuals, 38.5% [95% CI, 12.0%-64.9%]; Table). The prevalence of COVID-19 death in a family member or close friend was also higher among ECE professionals who reported 1 or more economic hardships (36.2% [95% CI, 27.9%-44.6%]) than among those who reported no hardships (25.9% [95% CI, 17.9%-33.8%]).

Discussion | These data, collected a year after the onset of the COVID-19 pandemic, demonstrate the outcomes of COVID-19 on the ECE workforce. Our findings are limited by the use of a convenience sample and lack information about COVID-19 infections in the ECE professionals themselves.

The disproportionate burden of COVID-19 deaths has been on those who are the most socioeconomically disadvantaged or do not identify as non-Hispanic White individuals, and this same pattern is reflected among ECE professionals. The ECE professionals who reported COVID-19 deaths may experience ongoing grief from these negative life events. The disproportionate burden of COVID-19 deaths is a result of the systemic health inequities that respond to the high burden of COVID-19 mortality in this group. COVID-19 deaths may experience ongoing grief from these negative life events. The disproportionate burden of COVID-19 deaths is a result of the systemic health inequities that respond to the high burden of COVID-19 mortality in this group.

Table. Association of Race, Ethnicity, and Economic Hardship of Early Childhood Education Professionals With the Prevalence of a COVID-19 Death in a Family Member or Close Friend

<table>
<thead>
<tr>
<th>Sociodemographic characteristic</th>
<th>No. (%)</th>
<th>Family member or close friend died of COVID-19</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Prevalence (95% CI, %)</td>
</tr>
<tr>
<td>All</td>
<td>246 (100.0)</td>
<td>76</td>
</tr>
<tr>
<td>Race and ethnicity( ^{a} )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>129 (53.5)</td>
<td>28</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>87 (36.1)</td>
<td>36</td>
</tr>
<tr>
<td>Other race, non-Hispanic</td>
<td>12 (5.0)</td>
<td>5</td>
</tr>
<tr>
<td>Hispanic, any race</td>
<td>13 (5.4)</td>
<td>5</td>
</tr>
<tr>
<td>Economic hardship in past year( ^{d} )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>116 (47.7)</td>
<td>30</td>
</tr>
<tr>
<td>Yes</td>
<td>127 (52.3)</td>
<td>46</td>
</tr>
</tbody>
</table>

Abbreviation: NA, not applicable.

\( ^{a} \) Five participants were missing data on race and ethnicity, and 3 were missing data on economic hardships.

\( ^{b} \) \( P \) value for \( \chi^{2} \) tests to evaluate differences between levels of a characteristic in the prevalence of having a family member or close friend who died of COVID-19.

\( ^{c} \) Designations within the categories “other race, non-Hispanic” and “Hispanic, any race” are not further specified to avoid deductive disclosure. The options for race included American Indian or Alaska Native, Black or African American, White, Asian, Native Hawaiian or other Pacific Islander, biracial or multiracial, and other.

\( ^{d} \) Reported 1 or more of 5 areas of economic hardship in the past year: received benefits from the Supplemental Nutrition Assistance Program, did not have enough money for housing, did not have enough money for utilities, did not have enough money for healthcare, and held a second job.
losses. This adds to their already high levels of workplace stress, which can affect the quality of their relationships with children and their families. These deaths also add to and could worsen the ongoing economic hardships experienced by many ECE professionals.

For children to learn well, the ECE professionals who teach them must be well. At a minimum, staff wellness requires wages and health care access commensurate with the respect and attention these essential frontline workers deserve for their profession and their role in young children’s lives.

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Accepted for Publication: May 25, 2021.


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Conflict of Interest Disclosures: Drs Whitaker, Herman, and Dearth-Wesley reported grants from First Up (grant 210001) during the conduct of the study and United Way of Greater Philadelphia and Southern New Jersey (grant 17958) outside the submitted work.

Funding/Sponsor: This study was supported by First Up (grant 210001).

Role of the Funder/Sponsor: The funder had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.


Assessment of Recreational Cannabis Dispensaries’ Compliance With Underage Access and Marketing Restrictions in California

The increasing availability of cannabis to adults through legalization of recreational cannabis dispensaries (RCDs) raises concerns regarding underage access and exposure to products and marketing. The American Academy of Pediatrics “strongly recommends strict enforcement of rules and regulations that limit access, marketing, and advertising to youth.”1 Currently, all legalizing states prohibit sales to minors and require an identification (ID) check, and most ban marketing activities appealing to children.2 However, little is known about whether cannabis retailers comply. We assessed the compliance of RCDs with underage access and marketing restrictions in California.

Methods | In this cross-sectional study, a research team at University of California, San Diego identified and audited all the RCDs in California statewide (N = 700) between June 15 and September 15, 2019. The institutional review board at the University of California San Diego deemed this study nonhuman-subject research; therefore, this study was not subject to an institutional review board approval. This study followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guideline.

A validated approach was used to construct a comprehensive list of RCDs.3 We complemented the state licensing directory with online crowdsourcing platforms, given research showing that more than half of active dispensaries in Los Angeles operated without a state-issued license.4 Trained researchers called dispensaries to verify the location, operation status, and requirements about patient ID card and doctor’s recommendation.

A validated instrument, the Standardized Marijuana Dispensary Assessment—Children Focused (SMDA-CF), was adapted to audit the call-verified RCDs.5 The SMDA-CF includes items on underage access and point-of-sale marketing activities, with particular attention to those appealing to children. The SMDA-CF items have moderate to high reliability overall, with a median k score of 0.8.6 Trained researchers (aged 21-23 years) conducted the audits undercover in teams of 2 to improve data reliability. Observations on each dispensary were recorded right after the visit.

All data are reported as counts and proportions. Because our data included the universe of RCDs in California, no confidence intervals or other estimated statistics are reported. Statistical package Stata 16 (StataCorp LLC) was used for the analysis.

Results | Of the 700 RCDs assessed, 475 (67.9%) failed to comply with California laws requiring age-limit signage. California laws further require ID check before any purchase, and overall compliance with this rule was high at 678 RCDs (96.8%). However, only 82 (11.7%) checked ID before entry.