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Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA,
IRVINE

Hidden Children:
Child Maltreatment During COVID-19

DISSERTATION

submitted in partial satisfaction of the requirements
for the degree of

DOCTOR OF PHILOSOPHY
in Psychological Science

by

Stacy Metcalf

Dissertation Committee:
Professor Jodi Quas, Chair
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2022

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To my family – I could not have done this without you. Thank you for being a source of endless support, for always encouraging me to grow and chase my dreams, and for instilling in me a curiosity & desire to learn that brought me to this point. I am incredibly lucky to have all of you.

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ABSTRACT OF THE DISSERTATION

Hidden Children:

Child Maltreatment in the COVID-19 Pandemic

by

Stacy Metcalf

Doctor of Philosophy in Psychological Science

University of California, Irvine, 2022

Professor Jodi A. Quas, Chair

The purpose of this dissertation was to assess the impact of the COVID-19 pandemic on the occurrence and identification of child abuse and neglect. The first study concurrently examined changes in identification and medical evaluations of maltreatment allegations from before to during COVID-19. Reports to social services and child maltreatment evaluation center medical evaluations were collected from two counties and compared across the months of March-December 2019 and 2020. Findings showed divergent trends in reporting and evaluation of suspected maltreatment cases from before to during COVID-19. Specifically, while reports of suspected maltreatment were lower in 2020 than in 2019, the proportion of children reported to the county that received medical evaluations was higher in 2020 compared to 2019. Studies 2A and 2B took a different approach, assessing the impact of COVID-19 on laypersons' ability to identify the most common form of maltreatment, child neglect. To do so, adults read vignettes about a mother's care of her daughter and responded to questions about the mother's neglectfulness, their reporting likelihood, and their attributions of blame for the situation.

Though most adults were able to distinguish situations with versus without neglect, some conflated poverty and neglect when making identification and reporting decisions. COVID-19 had an indirect, rather than direct, impact on these decisions. Moreover, attributions of blame partially explained laypersons' perceptions and reporting decisions. Together these studies can help the developing public education efforts or alternative methods of identifying vulnerable children and intervening in situations of harm.

INTRODUCTION

In March 2020 the World Health Organization declared COVID-19 to be a global pandemic, setting the stage for the significance of the disease (Hauck et al., 2020). Soon after, the United States (U.S.) became the most infected nation in the world, having the greatest number of COVID-19 cases (Hauck et al., 2020). We quickly learned that the disease had very high transmission and mortality rates. Hospitals became overwhelmed with patients, medical and protective equipment became scarce, and fear of COVID-19 rose. For families with members at particularly high risk—such as essential workers, minorities, or those with pre-existing conditions—that fear was exacerbated.

To mitigate the spread of the virus, governments began instituting advisories and restrictions. In March 2020, California became the first state to implement ‘stay-at-home’ orders, requiring all 40 million residents to remain at home except to shop for essential needs (e.g., groceries) or go to an essential job. Individuals were required to social distance, remaining at least six feet apart from others whenever leaving their homes (Exec. Order No. N-33-20, 2020; Lewnard & Lo, 2020), and large and small gatherings, including those among non-household family members, were prohibited. Non-essential businesses closed their doors, leading to mass layoffs; leisure activities and travel were halted; schools stopped in-person activities and switched to remote learning (Exec. Order No. N-33-20, 2020; Kapteyn et al., 2020; Kochhar, 2020; McKibbin & Fernando, 2020; Tull et al., 2020). When first implemented, these orders were intended to last three weeks. Over one year later, we have yet to return to pre-pandemic conditions. California’s stay-at-home order has been lifted, but mask and vaccine mandates, quarantine guidelines, and other policies to mitigate the spread of the disease remain (California for All, 2022).

Both the disease itself and the measures implemented to control the spread of the disease suddenly and significantly changed the lives of every family in the U.S. Three studies were conducted to examine the impact of the COVID-19 pandemic on one specific domain particularly relevant to families—the occurrence and identification of child maltreatment. Study 1 utilized diverse datasets to concurrently examine how the identification, incidence, and severity of child maltreatment has changed during the COVID-19 pandemic compared to the year prior. Studies 2A and 2B approached the topic of maltreatment from another perspective, examining how the pandemic influenced laypersons’ perceptions of the most common form, child neglect. Specifically, Study 2A replicated a study conducted in 2018 to examine how the pandemic and associated socioeconomic circumstances influenced individuals’ ability to accurately distinguish between poverty and neglect when making identification and reporting decisions. Study 2B built upon this by testing a potential mechanism, attribution of blame, that may account for differences in individuals’ perceptions. Specifically, the study assessed whether greater tendencies to conflate poverty and neglect are due to individuals’ tendency to attribute that poverty to the individual rather than external factors. Given that laypersons play a key role in reporting their suspicions of neglect, it is imperative to understand how the pandemic shaped their perceptions and hence their reporting tendencies.

In combination, the three studies conducted provide important insight into how the COVID-19 pandemic impacted families and influenced our ability to identify and intervene in cases of child maltreatment. This insight is relevant to theoretical models of contextual influences on child maltreatment incidence and reporting. Furthermore, findings will help inform policy development, identification tools, and service delivery methods.

Study 1:

Identification and Incidence of Child Maltreatment During the COVID-19 Pandemic

Unprecedented changes resulting from the coronavirus disease 2019 (COVID-19) pandemic have raised serious concerns about child maltreatment, which is known to increase in frequency and severity during times of high stress, such as following economic crises and natural disasters (Brooks-Gunn et al., 2013; Curtis et al., 2000; Frioux et al., 2014; I. Katz et al., 2021; Schenck-Fontaine et al., 2017; Seddighi et al., 2021). The COVID-19 pandemic paralleled these events at the individual and community levels but diverged in important ways that likely led to unique and significant patterns of risk for children. Across the world, policies were implemented to mitigate the spread of the virus, including ‘stay-at-home’ orders and social distancing measures. These often resulted in families spending more time together in potentially crowded homes, while parents and children navigated novel requirements of remote work and school, in contexts not conducive to these competing demands. These challenges combined with pervasive economic instability, increased stress, and ongoing uncertainty created environments ripe for maltreatment. However, these same measures also limited children’s exposure to the range of adults, including teachers, coaches, and neighbors, who serve as key individuals who report suspicions of maltreatment to authorities, potentially hindering the identification of child maltreatment.

These co-occurring phenomena—a potential increase in the incidence of maltreatment combined with a decrease in reporting of suspected maltreatment—may have led to children being identified only after the abuse they suffered was substantially more severe than it would have otherwise been. We tested this possibility in the present research by examining

administrative data on both county reports and medical evaluations for suspected maltreatment in two large, diverse Southern California counties.

Contextual Factors Impacting Child Maltreatment

Research relevant to the present investigation includes studies examining how child maltreatment varies following economic downturns and natural disasters in the U.S. and internationally, both contextual experiences that share similarities with the COVID-19 pandemic. Also relevant are recent studies on how parenting behaviors (e.g., aggression) and maltreatment reporting trends (e.g., police or hotline calls) changed following the start of the COVID-19 pandemic. Together, these lines of research suggest the possibility of differences in identification and incidence of maltreatment.

Economic Conditions

Studies examining economic conditions and maltreatment rates have relied on a range of indicators to assess economic change, including macro-level economic indicators (e.g., median property value, unemployment rates, or federal assistance rates; Ernst, 2000; Molnar et al., 2016) and community-level characteristics correlated with poverty (e.g., substance abuse rates, school district educational achievement, and childcare availability; Freisthler et al., 2005; Klein, 2011), and compared changes on these indicators to changes in maltreatment reports. Across indicators, maltreatment is often higher in lower income communities and in times of economic downturns relative to higher income communities and times of economic growth (Berger et al., 2015; Berger & Waldfogel, 2011; Brooks-Gunn et al., 2013; Brown & De Cao, 2018; Frioux et al., 2014; Millett et al., 2011; Schenck-Fontaine et al., 2017; Schenck-Fontaine & Gassman-Pines, 2020; Steinberg et al., 1981; Wood et al., 2012, 2016). Of note, the magnitude of these relations varies by the economic indicator and type of maltreatment. For example, although several studies

have found increases in child physical abuse (CPA) during periods of economic recessions (Berger & Waldfogel, 2011; Schenck-Fontaine & Gassman-Pines, 2020; Steinberg et al., 1981; Wood et al., 2012, 2016), fewer have reported similar increases in neglect (Brown & De Cao, 2018; Steinberg et al., 1981). Likewise, no significant associations between macroeconomic indicators of economic change and federal data on maltreatment rates were reported by Drake and Jonson-Reid (2014), and Millet et al. (2011) found only small positive relations between both unemployment and food stamp usage and maltreatment rates according to state-level data.

In summary, although increased rates of child maltreatment have been reported in depressed socioeconomic and low-income communities, rates vary based on the type of maltreatment (e.g., CPA but not neglect increases), and at times do not increase in conjunction with macroeconomic indicators. National or even state level economic data, however, may not adequately capture community-level shifts in economic conditions, which can vary widely across regions and communities. Moreover, economic changes typically unfold gradually, potentially giving communities and families sufficient time to adapt and seek alternative resources or support, thereby possibly muting how changes impact maltreatment.

Natural Disasters

Unlike the slow change of economic downturns, natural disasters lead to near immediate change. They are also largely unanticipated, and preparation is minimal, especially for long-term consequences. The economic strain on communities and families following disasters is significant and quick, as infrastructure is damaged, businesses are disrupted, and property is destroyed (Hochrainer, 2009; Panwar & Sen, 2019). Resources, such as food and shelter, become scarce or variable at the same time social bonds are disrupted (Fothergill & Peek, 2004; Prelog, 2016; Sampson, 2006). All these experiences, combined with high levels of collective feelings of

helplessness, powerlessness, and frustration, raise stress in caregivers and families, and children's risk for harm (R. Baron & Richardson, 2004; Berkowitz, 1993; Miller & Kraus, 1994). Indeed, consistent and robust increases in maltreatment rates, primarily in terms of physical abuse and family violence, have been reported following earthquakes, tsunamis, and floods in multiple countries (see Seddighi et al., 2021 for a review). In addition, the larger the level of food, shelter, and economic insecurity that resulted from the disaster, and the poorer the community was beforehand, the greater the magnitude of increase in abuse (Seddighi et al., 2021). Rates of neglect may also increase, but this has rarely been the focus of empirical research on natural disasters, which instead has been primarily concerned with changes in physical and sexual abuse.

COVID-19

On the one hand, the COVID-19 pandemic shares much in common with economic downturns and natural disasters: The pandemic led to significant and rapid declines in economic stability, disruptions to social systems (e.g., changes to work, school, and daily life activities), and reductions in the availability of resources often vital to families (e.g., free and reduced lunch, childcare). Unemployment rose from 3.8% to 14.4% in two months, and job loss disproportionately affected lower income families that have fewer resources in reserve (Béland et al., 2020; Bennett et al., 2020; Kochhar, 2020; U.S. Bureau of Labor Statistics, 2021). Families experienced significant and sudden uncertainty (if not insecurity) in housing and food. Furthermore, like economic crises (Frasquilho et al., 2015; Oyesanya et al., 2015) and natural disasters (Makwana, 2019; World Health Organization, 2019), negative psychosocial consequences occurred, including increased stress, loneliness, helplessness, and anxiety (Lee,

2020; Reger et al., 2020; Tull et al., 2020). All these placed burdens and stress on caregivers that could undermine their caregiving, thereby increasing risk for children.

On the other hand, the COVID-19 pandemic diverged in important ways. Unlike natural disasters and even economic recessions, the effects of the COVID-19 pandemic have been more ubiquitous, affecting nearly all individuals across the world. The policies imposed to reduce the spread of the virus (i.e., the ‘stay-at-home’ and social distancing requirements) altered virtually every domain of families’ lives (Brooks et al., 2020; Kapteyn et al., 2020; Marroquín et al., 2020). Caregivers and children were confined into often crowded homes. Social connectedness with those outside of the home was nearly eliminated, including connections with extended relatives, who often serve as buffers and support for families under stress and as reporting sources when risk is evident. Fear and uncertainty were constant, not lasting hours or days as is the case with natural disasters, but for months as the pandemic’s spread continued. Finally, despite the economic consequences being greatest for low-income families and in disadvantaged communities, those at greatest risk for contracting the virus extended well beyond marginalized populations. Frontline workers, individuals with pre-existing health conditions, and the elderly are all especially vulnerable.

The multitude of unique facets of the pandemic may have affected maltreatment in ways that differ from those observed following economic changes and natural disasters. Specifically, the same mandates imposed to reduce the spread of the virus significantly impeded the primary system used in the U.S.—and in many other countries—to identify cases of maltreatment. Reports made by adults who interact with children as a part of their job (e.g., teachers, coaches, daycare workers) represent a primary referral source for investigations of maltreatment (Thomas et al., 2020; U.S. Department of Health and Human Services et al., 2021). These individuals

observe indicators (e.g., parenting behaviors, marks on a child) or hear statements from a child that prompt the individuals to report their concerns to authorities. Seasonal trends in reporting rates of child maltreatment have shown that, when children have fewer interactions with these individuals, such as in summer when school is not in session, reporting is lower (Jonson-Reid et al., 2020). The pandemic appears to have produced a similar but more exaggerated decrease in reporting of suspected maltreatment (Rapoport et al., 2021). Yet, at the same time, the pandemic may have also led to an increase in the severity of identified cases, given that maltreatment was not being recognized and interventions were not occurring after only mild incidents (Musser et al., 2021).

A rapidly growing number of studies has begun to examine these trends (see Fore, 2021; C. Katz & Fallon, 2021 for relevant discussions). Although results are preliminary and largely limited to the first several months of the pandemic, results are already suggestive of divergent patterns in reporting, incidence, and severity of harm to children. One set of studies, for instance, has investigated changes in parenting behaviors and family experiences commonly linked to maltreatment. Pandemic-related increases in parents' reports of both psychological distress (i.e., loneliness, stress, poor coping, depression) and economic strain (i.e., job loss, food insecurity, income reduction) have been linked to increases in parents' reported conflict with their children, CPA, psychological abuse, and neglect (Connell & Strambler, 2021; Lawson et al., 2020; Rodriguez et al., 2020; Wong et al., 2021). In one such investigation, Rodriguez et al. (2020) compared parenting practices as reported by 106 parents before and during the pandemic. As expected, parents reported higher levels of parent-child conflict, neglectful behaviors, and maltreatment risk compared to before the COVID-19 pandemic. This was particularly true in parents who said that their families had experienced job loss, food insecurity or financial distress

as a result of the pandemic. Of course, parent-report measures tend to index children's risk of harm rather than actual experiences of maltreatment and parents may not be fully forthcoming about their behaviors, leading to under-reporting of maltreatment or harm. Moreover, studies of parenting practices often assess their tendencies toward conflict and aggression, which are linked to CPA but not necessarily to child sexual abuse (CSA) or neglect.

Another set of studies, though, has relied on administrative data from social service records, police crime reports, and hotline calls to compare rates of child maltreatment before and during the COVID-19 pandemic (Musser et al., 2021; Petrowski et al., 2021; Rapoport et al., 2021; Whelan et al., 2021). Administrative data have consistently shown significant drops in reports of suspicions of maltreatment during the first several months of the COVID-19 pandemic relative to beforehand (Barboza et al., 2021; E. Baron et al., 2020; Bullinger et al., 2020; Jonson-Reid et al., 2020; Rapoport et al., 2021). Similar trends in reporting rates have emerged in cross-national data on maltreatment from seven countries with diverse populations, economic situations, governments, and social service systems (e.g., Brazil, Canada, England, Israel, South Africa) using different types of administrative data (e.g., hotlines, non-profit reporting) and interviews with workers (e.g., child protection social work management), with the size of the drops ranging from slight to large (Baginsky & Manthorpe, 2021; I. Katz et al., 2021). With few exceptions, though, administrative data have only focused on reporting statistics, and very little information is available regarding whether the actual occurrence of maltreatment changed. Nor have studies examined changes in maltreatment reports over longer time frames as states adjusted stay-at-home orders, as children rolled into summer months (when reporting typically drops), and as children returned to school, albeit in modified formats, in the fall of 2020.

Analyses of a third type of data, namely hospital visits, however, suggest that, despite drops in reporting, actual incidences have not dropped but may have even gone up during the pandemic (Kovler et al., 2020; Sidpra et al., 2021). For instance, Sharma et al. (2021) found that, during the first five months of the pandemic, there was an increase in child abuse reports for neglect at a county pediatric emergency department. Swedo et al. (2020) found similar increases in both the incidence and severity of maltreatment, reflected in a greater proportion of emergency room visits being maltreatment-related (i.e., increased incidence) and a greater proportion of those visits leading to hospitalizations (i.e., increased severity) during the first six months of COVID-19 pandemic relative to beforehand.

However, Kaiser et al. (2021) analyzed CPA incidents among children under age six in 52 emergency departments across the U.S. and found a decrease in the number of such incidents from January 2020 to August 2020 as compared to the same time periods in 2017, 2018, and 2019. Moreover, analyses of the type of injuries revealed no differences in severity across the same period. While these data suggest that maltreatment may have decreased during the pandemic, the 2020 timeframe included several months prior to the stay-at-home orders being implemented in most states, which could have muted effects. In addition, the total number of emergency department visits decreased during the same period. Had the proportion of emergency visits for CPA to total emergency visits been calculated (see Swedo et al., 2020 for such an approach), the patterns may have varied. Finally, given that infants and young children are not yet in school and only some are in daycare or preschool, the pandemic-associated changes in daily life may have had less of an impact on their exposure to maltreatment or its identification than for older children. Thus, age-related changes in incidents resulting from the pandemic need to be examined directly.

In summary, although the different types of studies in combination suggest divergent patterns of maltreatment reporting versus incidence as a result of the COVID-19 pandemic, the narrow scope of these studies, which focused on just one part of the co-occurring phenomena, on restricted age ranges or on overall numbers and not proportions, limits their generalizability and ability to assess the hypothesized paradoxical patterns. To gain a complete understanding of how the COVID-19 pandemic and associated policy changes have impacted child maltreatment, a comprehensive examination of diverse data sets, which integrate reports to authorities and actual cases of child maltreatment across age, is needed.

Present Study

The overarching aim of the present study was to investigate how identification and medical evaluation of child maltreatment allegations changed after the onset of the COVID-19 pandemic. To pursue this goal, two sources of data were collected from each of two diverse counties in Southern California (i.e., Los Angeles and Orange): county reports of suspected maltreatment cases and medical evaluations conducted at child maltreatment evaluation centers (CMECs). Specifically, reported cases within the county deemed serious enough to warrant further investigation are referred to a county CMEC so that medical evaluations can be conducted. Of importance, data included county reports and medical evaluations for all types of maltreatment for children ages 0-18 years, which allowed us to test our hypotheses about COVID-19-related changes in identification, estimated incidence via medical evaluations, and characteristics of maltreatment. Regarding identification, we expected reporting to be *lower* in 2020 after the pandemic began, than in 2019. We expected these differences to be largest in spring when the stay-at-home orders were nearly universal, and less dramatic during summer when children are not in school generally and fall when some children returned to school

intermittently. In contrast to expected decreases in identification, we anticipated that both the number of medical evaluations (which are indicative of, but do not perfectly index, maltreatment's actual occurrence) and proportion of medical evaluations to reports to be *higher* during that same period (i.e., in 2020 compared to 2019). The latter trends would suggest that the COVID-19 pandemic was related to a likely increase in the occurrence or seriousness of child maltreatment, as reflected in cases considered credible or serious enough to warrant medical attention.

Methods

All study procedures were approved with a waiver of informed consent by the appropriate institutional review boards. In California, where the data were collected, the stay-at-home order was issued March 19, 2020. To align with the start of the stay-at-home order and to compare maltreatment pre- and during-COVID-19, data collection spanned the months of March to December in both 2019 and 2020. County restrictions then varied throughout the year depending on virus transmission. Los Angeles County (LAC) consists of over 10 million people across 4,058 square miles (21.4% under age 18). Demographically, 48.6% of people identify as Latinx, 11.1% go without health insurance, and 13.4% live below the poverty line (U.S. Census Bureau, n.d.). Orange County (OC), which is located just south of LAC, is relatively smaller, consisting of over 3.1 million people across 790 square miles (21.7% under age 18). In OC, 34% identify as Latinx, 8.8% go without health insurance, and 9.5% below the poverty line (U.S. Census Bureau, n.d.).

Measures

County Reports

Monthly reports of suspected child maltreatment were obtained from LAC and OC social services agency (SSA) websites. Monthly data included the number of reports received by SSA (i.e., numbers of reports and children reported), primary type of maltreatment suspected, and for one county, the report source (e.g., school and daycare staff, government employees, non-mandated reporters). Using the counties' population data from the U.S. Census, rates per 1,000 children were calculated. This adjusted for population changes across the two years and allowed for comparisons between the two counties, which differ dramatically in overall population. Data were in aggregate and not available at the child-level.

Child Maltreatment Evaluation Center (CMEC) Medical Evaluations

Among the aforementioned cases reported to the county, those deemed sufficiently concerning or credible were referred to a county CMEC. Once referred, a determination was made as to whether the report was particularly serious or additional information or assessment was required. If so, medical evaluations were then conducted at the CMEC. Children who received medical evaluations at a CMEC, therefore, represent a subset of those reported to the county. In OC, the CMEC is the only one in the county, receiving all referrals. In LAC, the CMEC included in the present study is the largest in the county. Although the LAC CMEC receives referrals from across the county, it most often receives referrals from urban, low-income communities in relatively close proximity to its location. Medical evaluation data included the following: number of children evaluated; week, month, and year of referral; child demographics (i.e., age, sex, race/ethnicity); and type(s) of maltreatment suspected (i.e., CSA, CPA/neglect, each coded separately as present or not). Though less severe cases of neglect (e.g., failure to protect) are unlikely to be referred for medical evaluations, more severe cases (e.g., ingestion of chemicals, burns due to lack of supervision) may warrant medical intervention. Cases of neglect

that require medical evaluation often overlap with CPA in their presentation (e.g., burns; Chester et al., 2006; Dubowitz & Bennett, 2007), and were therefore documented into a single category (i.e., CPA/neglect). Moreover, data were obtained at the child-level, then grouped by week and month for additional analyses.

Evaluation Proportions

The proportion of county reports referred to the CMECs for medical evaluations indicates the number of cases considered sufficiently serious or concerning to require further intervention relative to the total number of incoming reports. Because county report data are only available by month (rather than by week or at the individual-level), proportions were created for each month in the study period, for each county separately. To calculate these proportions, the number of medical evaluations conducted at the CMEC was divided by the number of children reported to the county.

Data Management and Preregistration

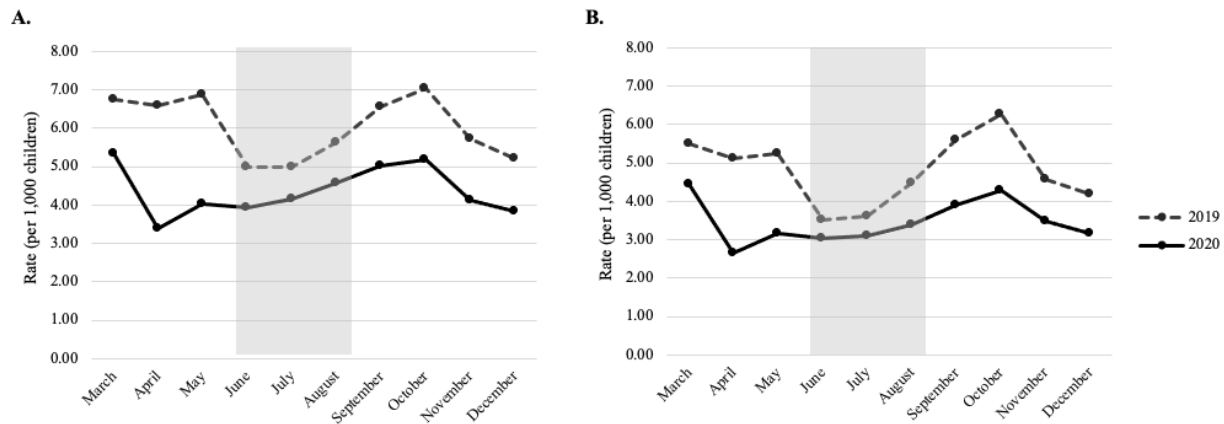
This study was not preregistered. All county report data are publicly available via each county's social services website. Medical evaluation data collected for this study are not publicly available.

Results

All analyses were conducted in SPSS, Version 26. Descriptive and inferential statistics examined trends and tested for differences in reporting and evaluations. In addition to year, data were divided into seasons aligning with the school year: spring (March-May), summer (June-August), and fall (September-November).

Figure 1.1

Rate of Children Reported for Suspected Maltreatment Before and During COVID-19 in Los Angeles (A) and Orange (B) Counties



Note. In both Los Angeles (A) and Orange (B) Counties, the rate of children reported for suspected maltreatment (per 1,000 children) was lower in 2020, during COVID-19, than in the year prior; this was especially evident during the initial months of the stay-at-home order (April and May). The shaded box indicates summer months when students are not typically in school.

County Reports

Number of Reports

For both LAC and OC, the number and rate of children reported for suspected maltreatment by month and season, separated into before versus during COVID-19, are shown in Figure 1.1 and Tables 1.1 and 1.2. Looking at the percent change rate columns for each index, maltreatment reporting was substantially lower in 2020, during the COVID-19 pandemic, than before in 2019. On average, 28-29% fewer children were reported each month. In both counties, this equates to approximately a 28% decrease in the rate per 1,000 children. Reporting further differed based on season: The decrease in children reported for suspected maltreatment from 2019 to 2020 was greater in spring and fall than in summer (decreases of 38.1%, 27.3%, and 20.4% respectively for LAC, and 35.8%, 29.9%, and 18.7% respectively for OC). These decreases were lowest in summer likely because in a typical year, reporting tends to be lower in the summer months when children are not in school.

Table 1.1*Number and Rate of Children Reported and Evaluated in County Los Angeles County*

	<u>No. of children reported</u>			<u>Rate of children reported</u>			<u>No. of children evaluated</u>		
	2019	2020	% change	2019	2020	% change	2019	2020	% change
Monthly									
March	14449	11220	-22.3%	6.75	5.34	-20.9%	117	79	-32.5%
April	14090	7127	-49.4%	6.58	3.39	-48.4%	126	73	-42.1%
May	14743	8431	-42.8%	6.89	4.02	-41.7%	99	81	-18.2%
June	10708	8266	-22.8%	5.00	3.94	-21.3%	95	71	-25.3%
July	10697	8738	-18.3%	5.00	4.16	-16.7%	87	84	-3.4%
August	12030	9626	-20.0%	5.62	4.58	-18.4%	100	71	-29.0%
September	14032	10515	-25.1%	6.56	5.01	-23.6%	94	99	5.3%
October	15025	10855	-27.8%	7.02	5.17	-26.4%	98	116	18.4%
November	12244	8653	-29.3%	5.72	4.12	-28.0%	98	81	-17.3%
December	11153	8046	-27.9%	5.21	3.83	-26.5%	90	92	2.2%
Total	129171	91477	-29.2%	60.37	43.57	-27.8%	1004	847	-15.6%
Seasonally									
Spring	43282	26778	-38.1%	20.23	12.75	-36.9%	342	233	-31.9%
Summer	33435	26630	-20.4%	15.63	12.68	-18.8%	282	226	-19.9%
Fall	41301	30023	-27.3%	19.30	14.30	-25.9%	290	296	2.1%

Note. The “rate of children reported” column shows the rate of children reported to the counter per 1,000 children. The time periods labeled Spring, Summer, and Fall consist of 3 months each (i.e., March through May, June through August, and September through November, respectively).

These trends were confirmed statistically using *t*-tests to compare numbers and rates from before to during COVID-19. In both LAC and OC, the average monthly reports were significantly lower during the pandemic across all indices (Table 1.3). Thus, as expected, there were consistently fewer reported concerns about harm to children during the pandemic compared to before.

Table 1.2*Number and Rate of Children Reported and Evaluated in Orange County*

Time period	<u>No. of children reported</u>			<u>Rate of children reported</u>			<u>No. of children evaluated</u>		
	2019	2020	% change	2019	2020	% change	2019	2020	% change
Monthly									
March	3790	3035	-19.9%	5.50	4.45	-19.1%	6	19	—
April	3517	1817	-48.3%	5.10	2.66	-47.8%	9	8	—
May	3617	2158	-40.3%	5.25	3.16	-39.7%	11	9	—
June	2427	2071	-14.7%	3.52	3.04	-13.8%	4	10	—
July	2481	2109	-15.0%	3.60	3.09	-14.1%	3	18	—
August	3084	2319	-24.8%	4.48	3.40	-24.0%	4	9	—
September	3848	2652	-31.1%	5.58	3.89	-30.4%	17	9	—
October	4328	2919	-32.6%	6.28	4.28	-31.9%	15	9	—
November	3153	2372	-24.8%	4.58	3.48	-24.0%	5	5	—
December	2879	2153	-25.2%	4.18	3.16	-24.5%	11	6	—
Total	33124	23605	-28.7%	48.08	34.61	-28.0%	88	102	15.91%
Seasonally									
Spring	10924	7010	-35.8%	15.86	10.28	-35.18%	26	36	33.3%
Summer	7992	6499	-18.7%	11.60	9.53	-17.86%	11	37	184.6%
Fall	11329	7943	-29.9%	16.44	11.65	-29.18%	37	23	-37.8%

Note. The “rate of children reported” column shows the rate of children reported to the counter per 1,000 children. The time periods labeled Spring, Summer, and Fall consist of 3 months each (i.e., March through May, June through August, and September through November, respectively). Dashes indicate that the number of children evaluated each month was fewer than 20 children, thus the percentage change was not interpretable and therefore not provided for the monthly data.

Table 1.3*Comparing Monthly Reports from Before and During COVID-19 in Los Angeles and Orange Counties*

Measure	2019	2020	t	df	p	d
	<i>M (SD)</i>	<i>M (SD)</i>				
Los Angeles County						
Reports Received	6740.90 (857.95)	4937.20 (702.95)	5.14	18	<0.001	2.30
Children Reported	12917.10 (1728.96)	9147.70 (1346.11)	5.44	18	<0.001	2.43
Rate of Children Reported	6.04 (0.81)	4.36 (0.64)	5.15	18	<0.001	2.30
Proportion Evaluated	7.84 (0.88)	9.34 (1.37)	-2.91	18	0.009	1.30
Orange County						
Reports Received	2546.30 (498.67)	1926.40 (331.08)	3.28	18	0.004	1.46
Children Reported	3312.40 (616.59)	2360.50 (391.61)	4.12	18	0.001	1.84
Rate of Children Reported	4.81 (0.89)	3.46 (0.57)	4.00	18	0.001	1.79
Proportion Evaluated	2.56 (1.10)	4.34 (1.87)	-2.59	18	0.018	1.16

Note. Rate of Children Reported is presented as the rate per 1,000 children. Proportion evaluated was calculated by dividing the number of medical evaluations conducted at the CMEC by the number of county reports for each month in each county; proportion evaluated is presented as the number of children evaluated medically per 1,000 children reported to the county.

Maltreatment Type

Collapsed across years and counties, the greatest proportion of children were reported to the county for suspected neglect (35.30% and 43.47% in LAC and OC, respectively), followed by risk due to abuse of a sibling. The reason for reports differed slightly across years: A greater proportion of reports were for suspected neglect or CSA in 2020 compared to 2019, while a lower proportion were for risk due to abuse of a sibling or for CPA (Table 1.4).

Reporter Type

Data from OC also included information on the type of individual reporting their suspicions to the county. In 2019, 25.59% of reports came from school and daycare workers,

compared to only 13.42 % in 2020. This dramatic drop coincided with an increase in the proportion of reports coming from non-mandated reporters (6.08% and 8.89% in 2019 and 2020, respectively), medical personnel (7.70% and 8.77% in 2019 and 2020, respectively), and government workers (e.g., law enforcement; 21.53% and 27.21% in 2019 and 2020, respectively).

Table 1.4

Type of Maltreatment Suspected for Children Reported to the Counties in 2019 and 2020

Type of maltreatment	2019		2020	
	N	%	N	%
Los Angeles County	129171		91477	
Neglect	43922	34.00	34655	37.88
Sibling Risk	27867	21.57	16179	27.69
CPA	22608	17.50	13742	15.02
CSA	12680	9.82	9765	10.67
Orange County	33124		23605	
Neglect	13210	41.84	10480	46.98
Sibling Risk	7629	23.03	4214	17.85
CPA	5787	17.47	3870	16.39
CSA	4219	12.74	3282	13.90

Note. The notation “CPA” refers to child physical abuse and the notation “CSA” refers to child sexual abuse. Values are the number and percentage of children reported for suspected neglect, risk due to abuse of a sibling (i.e., sibling risk), physical abuse, or sexual abuse in 2019 and 2020. Percentage refers to the total percentage of children reported from March through December of the respective year.

CMEC Medical Evaluations

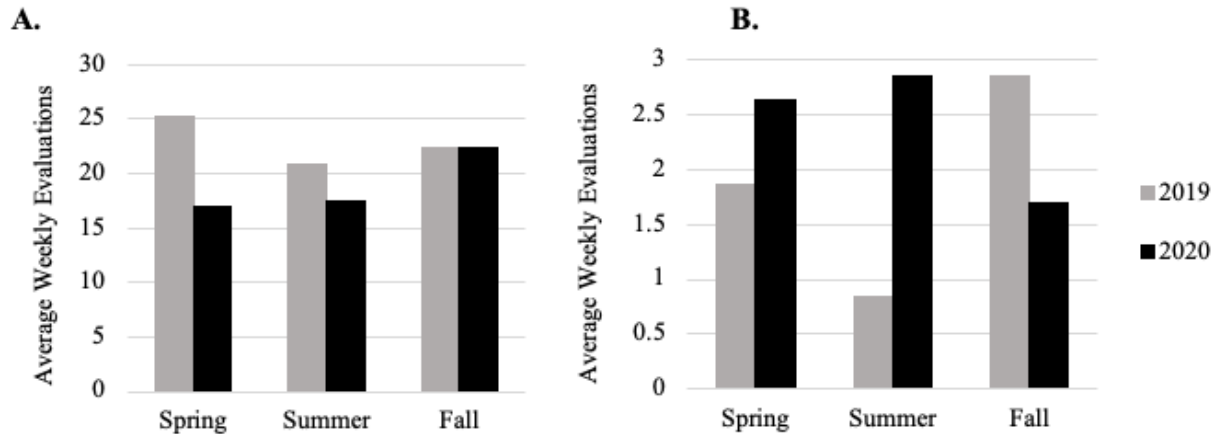
Number of Evaluations

The number of children evaluated medically at the CMECs followed different patterns depending on the county. Thus, LAC and OC are described separately. In LAC, the total number of medical evaluations was lower in 2020 compared to 2019, mirroring the county reports. Overall, 15.64% fewer children were evaluated medically for maltreatment in 2020 ($n=847$) compared to 2019 ($n=1004$). To statistically test this difference, data were grouped weekly, and a two-way ANOVA with year and season predicting the number of exams per week was conducted (see Figure 1.2A). There was a significant main effect of year, $F(1, 74)=5.94, p=0.02, d=0.55$. That is, there were fewer medical evaluations conducted each week in 2020 ($M=18.88, SD=6.61, 95\% CI [16.83, 21.03]$) compared to 2019 ($M=22.85, SD=7.81, 95\% CI [20.21, 25.38]$). The main effect of season, $F(2, 74)=1.27, p=0.29$, and the year x season interaction, $F(2, 74)=2.34, p=0.10$, were non-significant.

Medical evaluations in OC, however, followed a different pattern. Overall, 15.91% more children received medical evaluations in 2020 ($n=102$) compared to 2019 ($n=85$). As with LAC, to statistically test this difference, data were grouped weekly, and a two-way ANOVA with year and season predicting the number of exams per week was conducted (see Figure 1.2B). The year x season interaction was significant, $F(2, 74)=5.89, p=0.004$. Multiple comparison procedures with Bonferroni corrections indicated that, in summer, there were significantly more evaluations per week in 2020 ($M=2.85, SD=1.91, 95\%CI[2.00, 4.00]$) than in 2019 ($M=0.85, SD=1.14, 95\%CI[0.44, 1.44]$), $p=0.009, d=1.27$. The number of exams per week in spring ($p=0.38, d=0.59$) and fall ($p=0.50, d=0.56$) did not differ between years. However, given the moderate effect sizes, it is worth noting that the number of evaluations per week increased in spring, but decreased in fall between 2019 and 2020. Main effects of year, $F(1, 74)=2.12, p=0.15$, and season, $F(1, 74)=0.54, p=0.59$, were non-significant.

Figure 1.2

Average Number of Medical Evaluations Per Week at the Los Angeles County (A) and Orange County (B) Child Maltreatment Evaluation Centers



Note. Regarding Los Angeles County (A), collapsed across season, the number of medical evaluations conducted per week was significantly lower in 2020 during COVID-19 compared with 2019. This difference was largest in the spring, and nearly non-existent in the fall. Regarding Orange County (B), the difference between years varied depending on the season. In the summer, the number of medical evaluations was significantly higher in 2020 than in 2019. Although nonsignificant, this pattern was evident when comparing the spring of 2020 and of 2019; but the opposite pattern emerged in the fall, with fewer medical evaluations in 2020 than in 2019.

Maltreatment Type

Using child-level data from the counties, we examined the type(s) of maltreatment suspected (CPA/neglect and CSA, each coded separately as present or not) in the medical evaluations. Across both years, in LAC, CPA/neglect was the most common type of maltreatment suspected in the medical evaluations (87.65% in 2019 and 86.54% in 2020); but in OC, CSA was more commonly suspected (80.00% in 2019 and 69.61% in 2020). When comparing the proportion of cases seen for CSA or CPA/neglect in 2019 and 2020, no significant

differences emerged in either county, $ps > 0.10$ (Table 1.5). To adjust for inflation of the Type I error rate when conducting multiple tests, the family-wise alpha level was adjusted to $\alpha_{FW} = 0.0125$.

Table 1.5

Demographics of Medical Evaluations Conducted in 2019 and 2020

Demographic variable	2019		2020		χ^2	df	p
	N	%	N	%			
Los Angeles County	1004		847				
CSA	133	13.25	133	15.70	2.51	1	0.13
CPA/Neglect	880	87.65	733	86.54	0.50	1	0.48
≥ 6 years old	571	56.87	437	51.59	5.16	1	0.02
Boys	519	51.69	412	48.64	1.65	1	0.20
Hispanic/Latinx	405	54.4	318	50.3	2.25	1	0.13
Orange County	85		102				
CSA	68	80.00	71	69.61	2.62	1	0.11
CPA/Neglect	18	21.18	32	31.37	2.46	1	0.12
≥ 6 years old	62	72.94	68	66.67	0.86	1	0.35
Boys	16	18.82	22	21.57	0.18	1	0.67
Hispanic/Latinx	58	68.24	72	70.59	0.11	1	0.74

Note. The notation “CSA” refers to child sexual abuse and the notation “CPA” refers to child physical abuse. A familywise alpha level was determined for each demographic category to adjust for multiple tests: $\alpha = .0125$ for maltreatment type, $\alpha = .0125$ for age, $\alpha = .025$ for gender, and $\alpha = .025$ for ethnicity. Percentages were calculated using only the children who had complete data—those with unknown gender or ethnicity were not included in the calculations. Gender was designated as unknown for one child in Los Angeles County (LAC) and one child in Orange County (OC). Ethnicity was designated as unknown for 474 children in LAC and two children in OC.

Child Demographics

We next examined whether child age, gender (boy, girl), or ethnicity (Hispanic/Latinx, not Hispanic/Latinx) were related to changes in medical evaluations pre- vs. during-COVID-19, again using child-level data. To adjust for inflation of the Type I error rate when conducting multiple tests, family-wise alpha levels were determined for each demographic category: $\alpha_{FW} = 0.0125$ for age, $\alpha_{FW} = 0.025$ for gender, and $\alpha_{FW} = 0.0125$ for ethnicity. No significant COVID-19-related differences were found for age, gender, or ethnicity in LAC or OC (see Table 1.5).

Overall, the mean age of children who received medical evaluations at the CMECs did not significantly differ between 2019 and 2020 in LAC, $t(1849)=1.61, p=0.11, d=0.15$, or in OC, $t(185)=0.93, p=0.35, d=0.15$. Considering Kaiser et al.'s findings concerning children under age 6, and age 6 being the typical age to begin school (when identification might increase), we separated children into younger (≤ 5) and older (≥ 6) age groups. Differences were nonsignificant in both counties. The patterns of data in both counties showed that a slightly higher proportion of medical evaluations were conducted for younger children ≤ 5 years old in 2020 compared to 2019 ($\chi^2(1)=5.16, p=0.02$ in LAC, and $\chi^2(1)=0.86, p=0.35$ in OC). In LAC, medical evaluations were fairly evenly split between boys and girls across years, $\chi^2(1)=1.65, p=0.20$. In OC, medical evaluations were conducted primarily with girls across years, $\chi^2(1)=0.18, p=0.67$. Across both counties and both years, most children who received medical evaluations identified as Hispanic/Latinx (see Table 1.5).

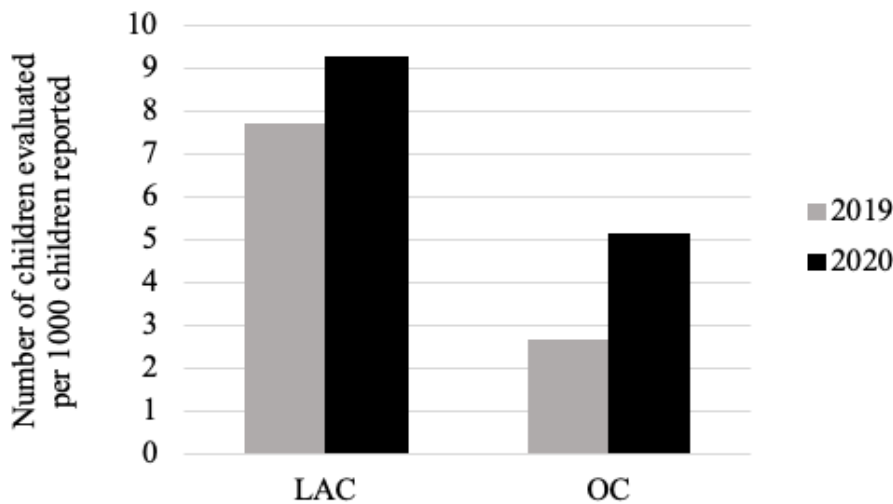
Evaluation Proportions

Finally, because the number of medical evaluations is likely affected by the number and type of reports, we examined how the proportion of reports that received medical evaluations in each county changed after the pandemic began. Across both counties, this proportion

significantly increased from 2019 to 2020 (see Figure 1.3 and Table 1.3). Concerning LAC, in 2019 7.77 per 1,000 children reported had received medical evaluations, compared to 9.26 in 2020. For OC, this increase was even greater, nearly doubling from 2019 to 2020 (2.66 and 5.14 per 1,000 children reported, respectively). This suggests, that despite differences in the direction of change in the overall number of medical evaluations conducted in LAC and OC during the pandemic (LAC decreasing, OC increasing), both counties saw a significant increase in the proportion of reported cases that could be considered sufficiently credible or serious and hence require medical evaluation during COVID-19 as compared to before.

Figure 1.3

Proportion of Children Reported to the Counties that Received Medical Evaluations at the Child Maltreatment Evaluation Centers



Note. LAC refers to Los Angeles County and OC refers to Orange County. Across both counties, the proportion of children reported to the county that received medical evaluations at the child maltreatment evaluation center was higher in 2020 than in 2019.

Discussion

The COVID-19 pandemic and associated stay-at-home orders have had significant and pervasive effects on families across the U.S and around the world. As we have shown, consequences for the identification of suspected child maltreatment and evaluation of allegations have been complex. Although the pandemic was associated with a reduced likelihood of maltreatment being identified and reported, patterns related to medical evaluations of such cases were more complex. Our findings suggest that maltreatment may have been increasing in number and/or even severity (alternative, characteristics of cases reported to the counties may have changed). This possible paradox highlights the need for greater attention to vulnerable children in times of stress and to the development of novel approaches that do not rely on traditional reporting channels for identifying cases of maltreatment.

Perhaps most striking, but also expected, was the association between the onset of the COVID-19 pandemic and substantial decrease in reports to county SSA of children suspected of having been exposed to maltreatment in two Southern California counties. These trends are consistent with findings from initial administrative studies that uncovered similar trends during the first months of the pandemic (E. Baron et al., 2020; Jonson-Reid et al., 2020; Rapoport et al., 2021). Unfortunately, given our evaluation data and the evidence of ongoing stress and uncertainty caused by the pandemic (Lee, 2020; Tull et al., 2020), it is unlikely that the decrease in reporting was due to an actual reduction in the occurrence of child maltreatment. Instead, the decrease was likely due to disruptions in the systems that identify maltreated children. With the implementation of stay-at-home orders and social distancing measures, mandated reporters and other adults had significantly fewer interactions with children and interactions that did occur

were typically remote (e.g., telehealth exams, zoom classes), restricting professionals' ability to detect reportable indicators of harm.

As a side note, in both counties, the proportion of reports for suspected neglect and CSA increased during COVID-19, while the proportion of reports for suspected CPA decreased. Little empirical work has attempted to disentangle how contextual events, such as natural disasters, economic downturns, or the COVID-19 pandemic, differentially affect relative rates of maltreatment types, making interpretation of these findings particularly challenging. Regarding CSA, perhaps the proportional increase is related to children being isolated with potential perpetrators and hence exposed to CSA more often, or to children having more time online at home and are thus exposed or enticed into online sexual abuse. Alternatively, the increase could also be due to others within the family becoming more aware of and hence reporting suspicions of CSA more frequently (i.e., an increase in reporting rather than incidence). Regarding neglect, because of school and daycare closures, children may have been left home unattended while parents worked; or perhaps children were watched by people not accustomed to all-day childcare (e.g., older siblings), both of which could have led to increases in concerns and hence reports about neglect. Decreases in income within a family may also have meant that parents were providing less, which is often linked to or interpreted as neglect (Dickerson et al., 2020). Greater experiences of economic problems, substance abuse, or domestic violence due to the COVID-19 pandemic may have reduced parents' ability to attend to their children's needs, hence increasing children's exposure to neglect (Anurudran et al., 2020; Czeisler et al., 2020; Leslie & Wilson, 2020; Taylor et al., 2021). An alternative or co-occurring explanation may have been that the relative increases in CSA and neglect were due to a substantially larger relative decrease in reports of CPA. Suspicions of CPA are linked to physical indicators (e.g., bruises) noticed by

others (English, Graham, Brummel, & Coghlan, 2002) rather than by children's own admissions (Rush, Lyon, Ahern, & Quas, 2014). Insofar as the adults who might notice physical marks, including mandated reporters, are not exposed to children, relative reports of CPA would be expected to drop most dramatically, leading to evident variations in relative proportions observed here.

Turning back to the general trends, differences emerged between counties in the direction of change in the number of medical evaluations conducted at the CMECs. In LAC, changes in medical evaluations mirrored changes in county reports, both significantly decreasing from 2019 to 2020. In contrast, in OC, medical evaluations conducted at the CMEC increased during COVID-19. This divergence in trends may be due to policy or structural differences in the criteria used to screen children for medical evaluations. The clinic in LAC conducts medical evaluations on nearly every child referred with a direct allegation of CPA and CSA. As such, their medical evaluation rate would be strongly related to the county reporting rate, and the decrease in medical evaluations in LAC may have simply been a function of fewer reports coming in. In contrast, in OC where nearly all CSA cases automatically receive medical evaluations, CPA cases are not automatically referred for such evaluations. Instead, allegations must meet certain criteria for a medical evaluation to be ordered. Perhaps the reduction in OC county referrals due to COVID-19 provided often overworked social service professionals with more time to investigate CPA cases and identify documentation that led to medical evaluation referrals. Or, as we hypothesized, a greater proportion of reported CPA cases were severe enough to meet the criteria for medical evaluation. Further work will need to be conducted to determine the precise cause of these differences and ascertain how variations in county-level referral and evaluation policies shaped identification and evaluation efforts for vulnerable

children during COVID-19. Moreover, because both counties saw decreases in reports and only one also saw decreases in medical evaluations, it continues to be crucial to consider multiple sources of data in conjunction when investigating maltreatment and the pandemic.

In both counties, the proportion of medical evaluations to county reports increased from 2019 to 2020, suggesting an increase in the proportion of reported cases considered credible or severe enough to need medical evaluation. It could be that by the time children were identified, the maltreatment they endured was more severe than it otherwise may have been, leading to a need for medical evaluation. Related, the unprecedented levels of stress, uncertainty, and financial hardship on families could have contributed to more severe behavior in parents. Prior work by Schenck-Fontaine et al (2017) and Swedo et al. (2020) concerning changes in child maltreatment related to economic downturns and COVID-19 support this possible interpretation. Alternatively, it could be that the actual severity of cases is not increasing, but the identification of less severe cases is decreasing. Cases that do not involve injury or need for medical intervention may have remained more hidden during COVID-19 because of children's limited exposure to mandated reporters. As a result, reports would consist of more severe cases, leading to a greater proportion of such reports receiving medical evaluations. Finally, it is important to consider these changes in the context of the two counties' different policies regarding medical evaluations. In OC, where cases must meet certain criteria to be referred for medical evaluations, the increase in proportion of reports may reflect increases in both the credibility and severity of cases reported. In LAC, where nearly every credible allegation of CPA or CSA that is referred from a report receives a medical evaluation, the higher proportion of medical evaluations to county reports is likely a reflection of a greater proportion of reports being viewed as credible and hence warranting a referral and evaluation. With larger data sets collected as stay-at-home

orders changed (e.g., were lifted and re-implemented), it may be possible to disentangle some of these interpretations.

Characteristics of cases (i.e., maltreatment type, gender, ethnicity) seen for medical evaluations remained consistent across years and in both counties. This suggests that the COVID-19 pandemic did not differentially influence children of different ages, genders, or ethnicities, at least in terms of the identification of suspected cases of maltreatment and in the medical evaluations conducted on such children.

These findings emphasize the need to simultaneously assess diverse datasets to truly understand the implications of the COVID-19 pandemic for child maltreatment. The between-county (i.e., LAC vs. OC) and between-source (i.e., reports vs. evaluations) differences indicate that it is not sufficient to look at one single county, facility, or data source. Data on substantiation rates would be a valuable addition to these datasets given that evaluations, though correlated with incidence, are not identical to actual child maltreatment. Areas (facilities, counties, and even countries) differ in both their baseline approaches to dealing with suspicions of maltreatment and their implementation of COVID-19-related policies aimed at improving identification and service delivery during the pandemic. Both would have a significant influence on child maltreatment reporting and evaluation trends. Moreover, as we have seen here and with others' recent work (Kaiser et al., 2021; Swedo et al., 2020), considering only raw numbers may not provide a complete understanding of the changing trends in maltreatment.

Implications & Future Directions

The paradox created by the COVID-19 pandemic has significant implications for the future of child welfare. First is the exponential increase in the number of children and families in need of services. Our findings suggest that, as schools and businesses reopen and mandated

reporters interact directly with children, those who endured maltreatment will be identified at high rates. Given the likely increased severity of cases, these children will need not only social service intervention, but also medical attention and possibly out-of-home care.

Second is the need to re-examine and adapt child welfare policies that dictate identification and intervention models. Although the COVID-19 pandemic is a unique culmination of factors, evidence from studies of natural disasters and economic downturns show similar trends and emphasize the need to create system-level responses that adapt to these circumstances. Current identification methods, which rely primarily on mandated reporters raising concerns, are flawed in times of crisis. Expanding the definition of “mandated reporters” to include a broader collective of adult individuals from the community, like states that have universal reporting laws (Palusci & Vandervort, 2014), could increase reporting. However, research evaluating the effectiveness of doing so on identification rates is inconsistent: Some find a greater number of mandated reporters to be associated with increased reporting (e.g., Palusci & Vandervort), whereas others find no effects (e.g., Steen & Duran, 2014). Changes in mandated reporter policies, therefore, may need to be accompanied by adequate education on what to look for and how to report to confer benefits.

And third, service delivery systems need to be adaptable to changing needs and restrictions. One service delivery approach, remote healthcare visits (i.e., telehealth), grew exponentially as the COVID-19 pandemic unfolded (Comer et al., 2017; Jones et al., 2014; Racine et al., 2020; Ramsetty & Adams, 2020). However, telehealth requires both access to and familiarity with technology, both of which are more limited in low-income families who are at higher risk for child maltreatment (Ramsetty & Adams, 2020; van Dijk, 2020). In addition, caregivers may be present during telehealth visits with an inability to adequately separate for

privacy, limiting the information that is possible to gather in comprehensive assessment. Medical providers may also be precluded in their ability to fully examine children for sentinel injuries, such as cutaneous injuries hidden by clothing and oral injuries. Thus, reliable technology needs to be paired with creative approaches to evaluations to identify risk and harm.

Limitations

Our findings contribute to the emerging literature by combining multiple datasets to simultaneously assess patterns in identification and medical evaluations of child maltreatment during the COVID-19 pandemic. There are, however, important limitations. First, data from only two Southern California counties were included, and the data spanned only two years in time. Replication with other national and international datasets over longer periods are needed, along with more sophisticated (e.g., time-series) analyses that are appropriate with such data. Our results, however, align with prior studies that separately assessed reporting and incidence of child maltreatment (e.g., Musser et al., 2021; Rapoport et al., 2021; Sharma et al., 2021). Second, we were unable to directly assess change in severity related to the COVID-19 pandemic. We did, however, find an increase in the proportion of reported cases receiving medical evaluations. These findings may be a result of the seriousness of cases increasing during COVID-19, which would align with work conducted on emergency department visits (Swedo et al., 2020). Alternatively, it is also possible that the actual occurrence or seriousness of maltreatment cases did not change in relation to the pandemic, but rather the characteristics of cases reported to the counties changed. Data on substantiation, especially proportional to referrals and evaluations, would complement our findings well. Third, the nature of our data limited our ability to assess the precise mechanisms underlying the changes. It would be beneficial to examine more detailed case characteristics to further elucidate the types of cases that increased during the pandemic.

Fourth, since the LA County CMEC we collected data from receives referrals from primarily urban, low-income communities and only some referrals from across the county, we caution generalizing data from that county to counties with substantial rural populations.

Conclusion

The COVID-19 pandemic was associated with a decrease in reports of suspected child maltreatment to social services, but an increase in the proportion of those reports that went on to receive medical evaluations at the counties' CMECs. This suggests that a greater proportion of cases reported to the counties were serious or concerning enough to warrant medical evaluation (due to either the actual characteristics of cases changing or characteristics of reports to the county changing). Further study is needed to determine the generalizability of these findings and to further elucidate how the characteristics of these cases changed in relation to the pandemic.

Study 2:

The COVID-19 Pandemic and Lay Perceptions of Poverty and Neglect

The COVID-19 pandemic, also known as the SARS-CoV-2 pandemic, led to significant and pervasive changes that upended the daily lives of families around the world. Mandates, including stay-at-home orders and social distancing requirements, were implemented to mitigate the spread of the virus (CDC COVID-19 Response Team et al., 2020; Lewnard & Lo, 2020). Though crucial to reducing the impact of the disease itself, those mandates also had serious economic and social implications. Unemployment rates, for example, rose to historic levels due to closures of nonessential businesses, decreased consumer spending, and massive reductions in vacation, travel, and entertainment (Béland et al., 2020; Dunn et al., 2020; McKibbin & Fernando, 2020; U.S. Bureau of Labor Statistics, 2021). Even individuals who remained employed experienced ongoing uncertainties about their economic future or the stability of family members' jobs. Because of school closures and stay-at-home orders, social interactions drastically changed, especially within households. Parents and children interacted with each other more frequently than ever before, navigating challenges that were virtually nonexistent before the pandemic (e.g., remote learning, restrictions on activities, sharing small spaces), all at a time when employed parents were supposed to be working productively from crowded home settings. These circumstances, in combination, fundamentally changed the experiences of children and parents in ways that affected parenting practices, parent–child relationships, and how families engage with and are perceived by entire communities.

Unfortunately, for many families, one change associated with these circumstances was a dramatic increase in their level of poverty. Some parents were simply unable to provide for their children in the way that they could in the past—for instance, with adequate food, shelter,

supervision, or support. A traditional challenge associated with parents and poverty, and one that existed before the pandemic, was that such parenting tendencies were often labeled as neglectful. That is, community members, who commonly report suspicions of maltreatment to social service agencies, tend to misidentify poverty as neglect and incorrectly believe that parents should be reported as a result (Dickerson et al., 2020). The COVID-19 pandemic may have changed community members' perceptions and reporting tendencies.

Although research efforts have begun to assess the impact of the COVID-19 pandemic on both the incidence and severity of neglect (Kovler et al., 2020; Lawson et al., 2020; Rodriguez et al., 2020), research has yet to consider how the pandemic has impacted perceptions of neglect, and, in turn, community members' likelihood of accurately identifying and reporting cases to social service agencies. The research described here, which capitalized on and extended work carried out before the pandemic, did just this.

Specifically, in two studies, we examined whether perceptions of neglect, as reflected in laypersons' ability to accurately identify and report legal neglect, shifted during the pandemic. Study 2A compared general perceptions between one set of laypersons who completed a survey before the COVID-19 pandemic began and a second set of laypersons who completed the same survey after the pandemic began. Study 2B then assessed how cues about the pandemic's effects on families' experiences with poverty influenced laypersons' perceptions of blame for a family's circumstances and, in turn, their ability to accurately identify and report cases of legal neglect.

Child Neglect

Neglect is the most prevalent form of child maltreatment in the United States, accounting for about 75% of substantiated cases (i.e., those deemed true by social services; U.S. Department of Health and Human Services et al., 2021), with population estimates suggesting that 7 per

1,000 children experience neglect. These rates, though, are widely believed to underestimate its true occurrence (Sedlak et al., 2010; Stoltenborgh et al., 2013). Legally, neglect refers to a failure to meet a child's basic emotional, physical, or educational needs to a degree that the child's health, safety, and well-being are threatened (i.e., failure to provide) or a failure to protect a child from harm or potential harm (i.e., failure to supervise; Child Welfare Information Gateway, 2016, p. 98; Leeb et al., 2008). Thus, neglect occurs when there are deficiencies or omissions of behaviors (e.g., not seeking medical attention when warranted or not providing a safe home environment) rather than behavioral acts of commission (e.g., hitting a child), the latter of which are common in physical or sexual abuse (Leeb et al., 2008; Mennen et al., 2010). Neglect, nonetheless, is as harmful as maltreatment that involves acts of commission. Short- and long-term consequences of neglect are evident in outcomes spanning physical health, cognitive functioning, mental health, and psychosocial development (Cicchetti & Ng, 2014; Glaser, 2000; Maguire et al., 2015; Norman et al., 2012). Significant societal costs are also present, including tangible economic costs related to medical care, special education, case management, criminal justice, and lost productivity, and intangible costs, such as pain and suffering (Fang et al., 2012; Florence et al., 2013; Peterson et al., 2018). Despite the high prevalence and significant consequences of neglect, it continues to receive comparatively little attention (described as "the neglect of neglect"; Gilbert et al., 2009; Stoltenborgh et al., 2013), likely in part because it is so challenging to identify.

Although social service professionals investigate neglect, they must be made aware of potentially neglectful situations to do so. Such awareness typically comes from adults with whom children interact on a regular basis (e.g., teachers, neighbors, or coaches; U.S. Department of Health and Human Services et al., 2021), who see indicators of risk and report their concerns.

Some indicators are objective or visible (e.g., burns or bruises) and are more straightforward motivators to report. With neglect, however, subjective interpretations of characteristics in children and families (e.g., dirty clothes, sleep deprivation) often drive decisions regarding whether to report.

Until recently, mandated reporters (e.g., teachers, doctors) comprised about two-thirds of the individuals who reported suspicions of child maltreatment, including neglect, to authorities (U.S. Department of Health and Human Services et al., 2021). Many such professionals receive education to help guide their reporting decisions (though the effectiveness of those programs varies; Baker et al., 2021). Yet laypersons also comprise a sizable percentage (i.e., one-third) of those who report their suspicions. These include neighbors, family members, or family friends who, although not formally trained or required to report, see behaviors or situations that raise concerns and respond by contacting authorities. The school closures and stay-at-home orders associated with COVID-19 resulted in mandated reporters having less contact with children and correspondingly fewer reports from these professionals about possible harm to children (Metcalf et al., 2022). Laypersons, who are unlikely to have had formal training, were then playing a more frequent role in identifying and reporting suspicions. Inaccuracies in their assessments were thus likely having a much greater impact.

Inaccuracies include two very different types. Underreporting—when neglect is present but not identified or reported—is perhaps the most obvious. Laypersons may simply not know what signs or behaviors should be considered concerning and hence reported. When situations involving neglect are not reported, children are left in unsafe environments that can harm their short- and long-term development (Jaffee & Maikovich-Fong, 2011; Manly et al., 2001; Manly et al., 1994; Wilson & Horner, 2005). Failure to identify neglect may also mean that parents do

not receive greatly needed services (e.g., treatment for drug additions) that, if provided, would benefit the entire family.

Yet overreporting—reporting neglect when none has occurred—may also happen. False reports could lead to families’ unnecessary involvement in social service investigations or the dependency court system. Such experiences are distressing to parents and children (Cleveland & Quas, 2020; Quas et al, 2009) and could contribute to long-lasting effects on both. Overreporting also diverts child protective agencies’ attention and encumbers workers’ ability to effectively respond to children in real danger (Besharov, 2000, 2005). Because social service workers struggle with unmanageable caseloads, frequently working beyond their contracted hours (Baginsky et al., 2010), overreporting hinders their ability to investigate and provide services to families with clear need.

Poverty and Neglect

A recurring challenge in identifying neglect, and one that contributes to both over- and underreporting, involves disentangling legal neglect from poverty. Although the two often co-occur and share similar characteristics (Drake & Jonson-Reid, 2014; Sedlak et al., 2010), most poor families do not neglect their children. State laws generally recognize that poverty alone, even when extreme (e.g., homelessness), does not uniformly indicate neglect (Dubowitz et al., 1998). Instead, in circumstances of poverty, neglect is designated only when clearly available resources and support are not used by a family. Nonetheless, the legal distinction between poverty and neglect is still difficult to parse and varies across states. For example, Arkansas explicitly excludes behaviors or situations that are “caused primarily by the financial inability of the person legally responsible and no services of relief have been offered” (Arkansas Code § 12-18-103(13)(A)(ii)); but California is more ambiguous, stating that to be considered neglectful,

the behavior must be “willful or negligent” (California Welfare and Institutions Code § 300(b)(1)) or “without lawful excuse” (California Penal Code § 270, 2019). This variability makes distinguishing poverty from legal neglect complicated, especially for persons who do not have training around the distinction.

Poverty and neglect are also associated with one another (Drake & Jonson-Reid, 2014; Sedlak et al., 2010; Slack et al., 2004). Rates of neglect for children in low socioeconomic status (SES) households are nearly 7 times higher than for children in higher-income households (Sedlak et al., 2010). This may be due to shared risk factors, such as chronic stress, mental illness, criminal justice involvement, and substance abuse (Drake & Jonson-Reid, 2014; Slack et al., 2004; Stith et al., 2009; U.S. Department of Health and Human Services et al., 2004, p. 4). Moreover, poverty and neglect have similar presentations and characteristics in children, which likely leads to misidentification. Indicators common to neglect (e.g., inadequate clothing, hunger) are also common consequences or circumstances of extreme poverty. Without an understanding of how families experience poverty, others may incorrectly perceive poverty-driven situations as willful neglect of children by parents.

A potentially important underlying contributor to laypersons’ incorrect interpretations of poverty as legal neglect stems from attributional processes about what causes poverty and who is responsible for being poor. Individuals’ explanations tend toward one of two categories: those that attribute blame to the person who is experiencing poverty (i.e., internal attributions) and those that place blame on the situation occurring around the person who is experiencing poverty (i.e., external attributions; Malle, 2011). Observers, especially in situations of poverty, tend toward attribution errors (Jones, 1979; Ross, 1977), which involve overattributing states such as poverty to character flaws or lack of effort (i.e., internal) and under-attributing those same states

to situations beyond the person's control, such as due to discrimination or government systems (i.e., external; Parsell & Parsell, 2012; Zucker & Weiner, 1993). In cases of extreme poverty, impoverished people have been described as lazy, deviant, and dangerous (Cozzarelli et al., 2001). When making judgments of families, individuals who attribute poverty to internal causes may incorrectly interpret parents' lack of provision of their child's basic needs as being willful and under the parents' control. In contrast, individuals who tend toward external attributions of blame may see parents' behavior as being due to their circumstances and outside of their control.

Dickerson and colleagues (2020) examined the extent to which laypersons conflated poverty and neglect when evaluating scenarios depicting potential neglect of a child by a parent. Of relevance here, not only did respondents often erroneously identify situations of poverty as neglect, but their perceptions were also influenced by their own experiences of financial hardship. Compared to those of higher SES, those of lower SES were less likely to identify situations as neglectful (Dickerson et al., 2020).

Though not directly addressed by Dickerson and colleagues (2020), attributional processes in laypersons may have shaped their responses. That is, attributions of blame both reflect experiences of financial hardship and impact perceptions of poverty (Cozzarelli et al., 2001; Nasser, 2007; Parsell & Parsell, 2012; Zucker & Weiner, 1993). Individuals who have personally experienced poverty tend to attribute poverty to external causes (e.g., single parenthood, bad luck) and are less likely to blame other poor people for their situation when compared to individuals who have not had personal experiences with poverty. Such individuals may therefore be less likely to perceive families' poverty as willful neglect on the part of parents (Cozzarelli et al., 2001; Nasser, 2007). Individuals of higher SES, on the other hand, are more likely to attribute poverty to internal causes (i.e., lack of effort, laziness; Cozzarelli et al., 2001;

Nasser, 2007) and may well do the same when evaluating parents' behavior in situations of poverty. As we turn to next, there are reasons to believe that the COVID-19 pandemic may have altered individuals' attributions of blame and, in turn, perceptions of poverty and neglect.

COVID-19, Neglect, and Layperson Perceptions

As a result of the pervasive and persistent economic changes that arose as the COVID-19 pandemic unfolded, many individuals' personal experiences with and indirect exposure to poverty were dramatically altered. First, COVID-19 led to significant changes in children's presentation. A greater number of families experienced or were highly concerned about housing instability, leading them to forgo clothing and amenity purchases, at the same time losing important resources upon which they may have been relying (e.g., free and reduced school lunch). Larger numbers of children, therefore, may have been presenting with characteristics due to poverty that appear like those linked to neglect, increasing the potential for misinterpretations of family situations as neglect.

Second, a greater proportion of people faced significant financial hardship or uncertainty as a result of the pandemic (Béland et al., 2020). Such experiences may have led to changes in individuals' perceptions of and explanations for poverty in ways that affected their perceptions of neglect. Even without personal experience of financial hardship, the pervasiveness of the economic crisis meant that individuals were indirectly affected by or exposed to financial hardship, which could have altered their perceptions of and attributions about poverty (i.e., internal vs. external) and, by extension, their perceptions of what behaviors do—and potentially do not—indicate neglect.

Thus, when poverty but not neglect is present, laypersons may be less likely to perceive the family's financial standing as willful neglect that warrants reporting during COVID-19

compared to before, thereby reducing overreporting. Yet at the same time, when neglect *is* present (especially when it appears characteristically similar to poverty), laypersons may still attribute behaviors to external causes and hence be more conservative in their reporting decisions (during COVID-19 compared to before), leading to an increase in underreporting of neglect. These trends, in combination, would influence identification by reducing overreporting when neglect is *not* present while increasing underreporting when neglect *is* occurring.

It is important to note, however, perceptions of neglect do not necessarily translate into reporting neglect to authorities. Beliefs about parenting practices, feelings of fear or uncertainty in one's evaluation of a particular situation, and perceptions of the legal and social service systems all influence individuals' decisions to report neglect, possibly separate from their identification of neglect (Flaherty et al., 2006, 2008; Jones et al., 2008; Webster et al., 2005). Given this, it is important to consider whether individuals believe neglect is occurring separately from their willingness to report their concerns to authorities. The pandemic may not have reduced laypersons' tendency to conflate poverty with neglect but instead reduced their willingness to report such situations, a possibility that we examined here.

The Present Studies

The purpose of this work was to assess the impact of the COVID-19 pandemic and related socioeconomic crisis on laypersons' ability to accurately identify and report cases of child neglect, particularly in terms of distinguishing such cases from situations of family poverty. After reading a short vignette about a single mother and her 7-year-old daughter, participants responded to a series of questions regarding their perceptions and interpretations of the situation described.

Study 2A

Study 2A examined whether simply the occurrence of COVID-19 was related to a difference in how laypersons broadly perceive poverty and neglect, including their ability to distinguish poverty from legal neglect (i.e., neglectfulness) and their likelihood of reporting that neglect (i.e., reporting decision). To do this, we utilized data collected from laypersons before COVID-19 (Dickerson et al., 2020) and added a separate sample after the onset of COVID-19, allowing for comparisons of laypersons' perceptions before versus during the pandemic (i.e., group). Hypotheses were as follows:

(1) Ratings of neglectfulness and reporting decisions will differ on the basis of vignette condition:

(1a) Participants will accurately identify neglect as such and as situations that warrant reporting to Child Protective Services (CPS).

(1b) Participants will incorrectly identify poverty as neglectful and as situations that warrant reporting to CPS.

(1c) A significant interaction will suggest that when poverty is present, the addition of neglect will not alter identification or reporting of neglect, but when poverty is not present, neglect will increase identification and reporting.

(2) Group (pre- vs. COVID-19) will be related to ratings of neglectfulness and to reporting decisions:

(2a) COVID-19 participants will rate the situation as less neglectful and be less likely to report concerns to CPS, compared to pre-COVID-19 participants.

(2b) A significant three-way interaction between the manipulations and group will emerge, such that the pre-COVID-19 group will be more likely to conflate

poverty with neglect compared to the COVID-19 group. Compared to the pre-COVID-19 group, COVID-19 participants will be more likely to report the situation when neglect is present compared to when neglect is not present, showing an improved ability to distinguish between poverty and neglect.

Method

Participants

We recruited two groups of participants (pre-COVID-19 in 2018, COVID-19 in 2020) from Cloud Research (formerly TurkPrime), a web-based platform that provides interested individuals with compensation for completing tasks (Mason & Suri, 2012). The HIT approval rate was set to 51% to 100% and the number of HITs approved to 100 to 1,000,000. Inclusion criteria were as follows: Individuals had to be at least 18 years of age, reside in the United States, and be able to read and write in English. We embedded two attention check questions in the surveys to ensure that participants were engaging appropriately. The first asked participants to select a specific item, and the second asked participants to select from a list what the vignette was about. Participants who failed one or both were excluded.

The pre-COVID-19 data collection group included 365 individuals who completed the survey in August 2018. An additional 53 participants were excluded for failing one of two attention check items (see Dickerson et al., 2020). The COVID-19 data collection group included 311 participants who completed the survey between late November and early December 2020 (40 additional participants were excluded for failing one or more attention check items). In combination, the final sample was 676 participants, aged 20 to 75 years ($M_{\text{age}} = 38.80$, $SD_{\text{age}} = 12.58$), 48.08% identifying as women. The majority of the sample identified as White (73.52%),

followed by 11.98% Black/African American, 6.51% Asian, 5.03% Latinx, and the remainder across other ethnicities (multiethnic, Indigenous, Arab, other, or prefer not to state).

Power analyses originally conducted in G*Power (Faul et al., 2007) and cross-referenced with Cohen's suggestions (Cohen, 1992) showed this sample size to be adequate to test the hypotheses and detect small- to medium-sized effects with power of .80 and an alpha of .05. Because of recent concerns about the validity of G*Power for a priori power analyses and its potential to underestimate required sample sizes, additional power analyses using the Superpower package in R (Lakens & Caldwell, 2019) were conducted after Study 2A data were collected but not analyzed. We entered actual sample sizes, predicted means, and predicted standard deviations into the program, which then produced estimated power and effect sizes. Results stated that the sample size provided 100% power to detect large-sized main effects, 99% power to detect medium-sized two-way interactions for two of the three possible interactions (Poverty \times Neglect, Poverty \times Group), 76% power to detect a small-sized three-way interaction effect (Poverty \times Neglect \times Group), but only 23% power to detect very small effects for the Neglect \times Group interaction. Because this interaction was not hypothesized, we considered the sample size adequate and did not interpret any Neglect \times Group interaction results.

Procedures

All procedures were approved by the University of California, Irvine, Institutional Review Board (#2018-4237), and all data and study materials are available on the Open Science Framework (<https://osf.io/tskuj/>). After providing consent, participants completed an anonymous online survey in which they were randomly assigned to one of four vignette conditions. After completing demographic-related questions, participants read a short vignette about a single mother and her 7-year-old daughter. Following the vignette, participants responded to a series of

questions regarding their perceptions and interpretations of the situation described. Participants were then thanked for their involvement in the study.

Materials

Demographics. The survey began with questions assessing participants' age, gender identity, ethnicity, education, occupation, current household income, parental status, and childhood experiences (e.g., number of guardians, number of moves).

SES. A subjective measure of SES was used to assess SES at different periods in participants' lives (Hicks & Streeten, 1979). Specifically, participants rated on a 10-point Likert-type scale the extent to which their basic needs were met (a) as a child and (b) currently (1 = *my basic life needs are/were not being met at all*; 5 = *my basic life needs are/were sometimes met, and sometimes not met*; 10 = *my basic life needs are/were definitely being met*). The COVID-19 participants, in addition to being asked about their basic needs as a child and currently, were asked about their basic needs in 2019, right before the pandemic began. This index is preferred over basic income scales given that income is confounded by number of household members, community, and region (Howe et al., 2011; Operario et al., 2004; Posel & Rogan, 2016). Of primary interest was the subjective measure of current SES used by Dickerson et al. (2020).

Vignettes. Participants were randomly assigned to read one of four vignettes describing a single mother's care of her 7-year-old daughter, modeled after substantiated cases of neglect (Appendix A). The vignettes experimentally manipulated indicators of poverty and of neglect via a 2 (poverty vs. no poverty) \times 2 (neglect vs. no neglect) between-subjects factorial design. In the poverty vignettes, the mother and child were homeless (i.e., slept in a car overnight), the mother worked part-time at a fast-food restaurant, and the child received breakfast and lunch at school. In the neglect vignettes, the mother's phone was regularly turned off and not accepting calls, she

often left her daughter unattended at a park until dark, and on at least one occasion, she failed to pick her daughter up.

After reading the vignette, participants were provided with an excerpt from the legal definition of neglect in the state of California:

The California State Penal Code Section 11164–11174.3 defines neglect as: “the negligent failure of a person having the care or custody of a child to provide adequate food, clothing, shelter, medical care, or supervision”. (CA Penal Code Sections 11164–11174.3)

We selected California because it is the most populous U.S. state with one of the largest numbers of dependent children in the country (U.S. Department of Health and Human Services et al., 2021). Its definition is like that of several other states (e.g., Florida, Kansas, New York; Child Welfare Information Gateway, 2016).

Vignette Response Questions. Vignette response questions asked how responsible the mother, child, and government each were for the child’s situation; how harmful the situation was for the child; how harmful, neglectful, and intentional the mother’s behavior was; whether the participant felt they should contact CPS; and how likely the participant was to actually contact CPS. Participants responded on a 5-point Likert-type scale from 1 (*not at all*) to 5 (*entirely*). Participants also indicated (yes/no) whether the mother’s behavior met the criteria for legal neglect; whether they felt they should report the situation to CPS; and whether the child should be removed from the mother’s custody, placed in foster care, or sent to live with a relative. Finally, participants were given the opportunity via open-ended questions to explain their responses. Of primary interest were the neglectfulness (i.e., “How neglectful is [the mom’s] behavior toward [the child]?”) and reporting decision (i.e., “If [the child] was telling you this

information, how likely would you be to actually report it to Child Protective Services?") ratings (both on 5-point scales).

Legal Involvement. Participants were asked about their mandated reporter status (*current, previous, never, unsure*), whether they had ever had contact with CPS (*as a child, as an adult, never, unsure*), and whether they had ever been convicted of a felony (*yes, no*). Because of low variability, mandated reporter status and CPS contact were dichotomized (*at some point, never/unsure*).

COVID-19. For participants in the COVID-19 group, additional questions concerned their experiences and perceptions of the COVID-19 pandemic (adapted from the Understanding America Study by the University of Southern California Center for Economic and Social Research and from the Canadian Public Perceptions Study; Kapteyn et al., 2020; Leigh et al., 2020). Questions asked about the personal financial impact of the pandemic: whether participants lost their job, were given reduced hours, or applied for unemployment benefits or food stamps before or after the COVID-19 pandemic began. Finally, participants rated on a 5-point Likert-type scale from 1 (*not serious*) to 5 (*very serious*) how serious they believed the pandemic to be.

Results

Assumptions

No outliers, defined by scores exceeding 3 *SD* units from the group mean or according to tests of influence (DFBETAS and DFFITS), were evident in the main study variables (i.e., age, current SES, neglectfulness, and reporting decision). In addition, for all main study variables, skewness and kurtosis values were approximately normal (absolute values < 2 for skewness and < 7 for kurtosis). Finally, P–P plots (for separate regressions using neglectfulness and reporting

decision) showed normality of residuals, and scatterplots confirmed homoscedasticity. Therefore, we did not remove any participants or alter any scores.

Table 2.1

Study 2A Preliminary Analyses and Descriptive Statistics

Variable	Condition 1		Condition 2		Condition 3		Condition 4		Results		
	<i>M</i> or %	<i>SD</i>	<i>M</i> or %	<i>SD</i>	<i>M</i> or %	<i>SD</i>	<i>M</i> or %	<i>SD</i>	Test statistic	<i>df</i>	<i>p</i>
Age	37.79	11.85	39.67	13.51	38.27	11.73	39.38	13.10	$F=0.83$	3, 672	.48
Current SES	7.72	2.20	7.45	2.12	7.45	2.21	7.63	1.94	$F=0.68$	3, 672	.57
Gender	50.00		44.17		51.74		46.49		$\chi^2=2.29$	3	.52
Ethnicity	69.23		76.07		72.67		75.68		$\chi^2=2.86$	3	.41
Parental status	51.28		50.92		54.65		55.68		$\chi^2=1.17$	3	.76
Mandated reporter	17.95		23.93		19.19		23.78		$\chi^2=2.86$	3	.42
CPS contact	16.03		22.09		23.84		25.		$\chi^2=5.46$	3	.14

Variable	Pre-COVID-19		COVID-19		Results		
	<i>M</i> or %	<i>SD</i>	<i>M</i> or %	<i>SD</i>	Test statistic	<i>df</i>	<i>p</i>
Age	37.20	12.44	40.68	12.50	$t=-3.62$	674	< .001
Current SES	7.56	2.06	7.56	2.18	$t=0.01$	674	.99
Gender	45.48		51.13		$\chi^2=2.53$	1	.11
Ethnicity	72.33		74.92		$\chi^2=0.95$	1	.33
Parental status	43.01		65.27		$\chi^2=33.42$	1	< .001
Mandated reporter	15.62		27.97		$\chi^2=15.30$	1	< .001
CPS contact	15.89		29.58		$\chi^2=18.23$	1	< .001

Note. Condition 1: poverty, neglect; Condition 2: poverty, no-neglect; Condition 3: no-poverty, no-neglect; Condition 4: no-poverty, neglect.

Gender = percentage women; ethnicity = percentage White; parental status = percentage with children; mandated reporter = percentage who are currently or have previously been a mandated reporter; CPS contact = percentage who have had some contact with CPS; SES = socioeconomic status; CPS = child protective services.

Preliminary Analyses

We conducted preliminary analyses (descriptive statistics, analyses of variance [ANOVAs], and chi-square tests) to characterize the data and test for differences in demographics between participants assigned to the four vignette conditions and between the pre-COVID-19 and COVID-19 groups (see Table 2.1). Participants in the four vignette conditions (Condition 1: poverty, neglect; Condition 2: poverty, no neglect; Condition 3: no poverty, no neglect; and Condition 4: no poverty, neglect) did not significantly differ on age, ethnicity (White vs. non-White), gender (man, woman), parental status, current SES, mandated reporter status, or CPS contact. The pre-COVID-19 and COVID-19 groups did not significantly differ on

ethnicity (White vs. non-White), gender (man, woman), or current SES. The groups did not significantly differ in age, parental status, mandated reporter status, and CPS contact: Compared to the COVID-19 group, the pre-COVID-19 group was younger on average and included proportionally fewer parents, fewer participants who had been a mandated reporter, and fewer participants who had had contact with CPS. Therefore, all main analyses covaried age, parental status, mandated reporter status, CPS contact, and current SES.

Table 2.2

Correlations Among Study 2A and Study 2B Main Variables

Variables		1.	2.	3.	4.	
Study 2A	1. Age		$p=.37$	$p=.61$	$p=.43$	
	2. Current SES	0.04		$p=.005$	$p<.001$	
	3. Neglectfulness	0.02	0.11		$p<.001$	
	4. Reporting Decision	0.03	0.14	0.57		
	<i>M</i>	38.80	7.56	2.71	2.52	
	<i>SD</i>	12.58	2.11	1.25	1.44	
Variables		1.	2.	3.	4.	5.
Study 2B	1. Age		$p=.66$	$p=.71$	$p=.49$	$p=.72$
	2. Change in SES	0.02		$p=.14$	$p=.22$	$p=.07$
	3. Neglectfulness	-0.01	0.06		$p<.001$	$p<0.001$
	4. Reporting Decision	-0.03	0.05	0.73		$p<0.001$
	5. Attributions	0.01	0.07	0.59	0.57	
	<i>M</i>	43.88	-0.26	3.21	2.97	0.43
<i>SD</i>	13.93	1.25	1.26	1.52	6.74	

Note. “Change in SES” was determined by subtracting pre-COVID-19 SES from post-COVID-19 SES and refers to the variable after outliers were winsorized. SES = socioeconomic status.

We also conducted correlations and descriptive statistics for the entire sample among key study variables, including participants’ age, SES, neglectfulness, and reporting decision (Table

2.2). Reporting decision, neglectfulness, and current SES were all significantly and positively correlated with one another. Age was not significantly related to current SES, neglectfulness, or reporting decision.

Table 2.3

Study 2A: Results of Main Analyses

Variable	Neglectfulness			Reporting decision		
	<i>F</i> (1, 666)	<i>p</i>	η^2	<i>F</i> (1, 610)	<i>p</i>	η^2
Age	0.56	.45	.001	0.18	.59	<.001
Parental status	0.17	.68	<.001	0.09	.76	<.001
Mandated reporter	0.68	.41	.001	9.86	.002	.015
CPS contact	2.10	.15	.003	1.78	.18	.003
Current SES	5.14	.02	.008	7.20	.007	.011
Neglect manipulation	86.07	<.001	.117	55.40	<.001	.079
Poverty manipulation	0.12	.73	<.001	34.35	<.001	.050
Neglect X Poverty	4.75	.03	.007	4.19	.04	.006
Group	2.17	.14	.003	0.004	.95	<.001
Group X Neglect ^a	4.15	.04	.006	13.71	<.001	.021
Group X Poverty	0.80	.38	.001	3.59	.06	.006
Group X Neglect X Poverty	0.60	.44	.001	0.08	.78	<.001

Note. CPS = child protective services; SES = socioeconomic status.

^aThere was insufficient power to appropriately interpret these results.

Main Study Analyses

To test Hypotheses 1 and 2, we conducted two three-way analyses of covariance (ANCOVAs). The poverty manipulation (poverty, no poverty), neglect manipulation (neglect, no neglect), and group (pre-COVID, during-COVID) were entered as the categorical predictors; current SES, age, parental status, mandated reporter status, and CPS contact as the covariates; and neglectfulness (i.e., “How neglectful is [the mom’s] behavior toward [the child]?”) and

reporting decision (i.e., “If [the child] was telling you this information, how likely would you be to actually report it to Child Protective Services?”) as separate outcomes. We describe results relevant to our hypotheses here (see also Table 2.3).

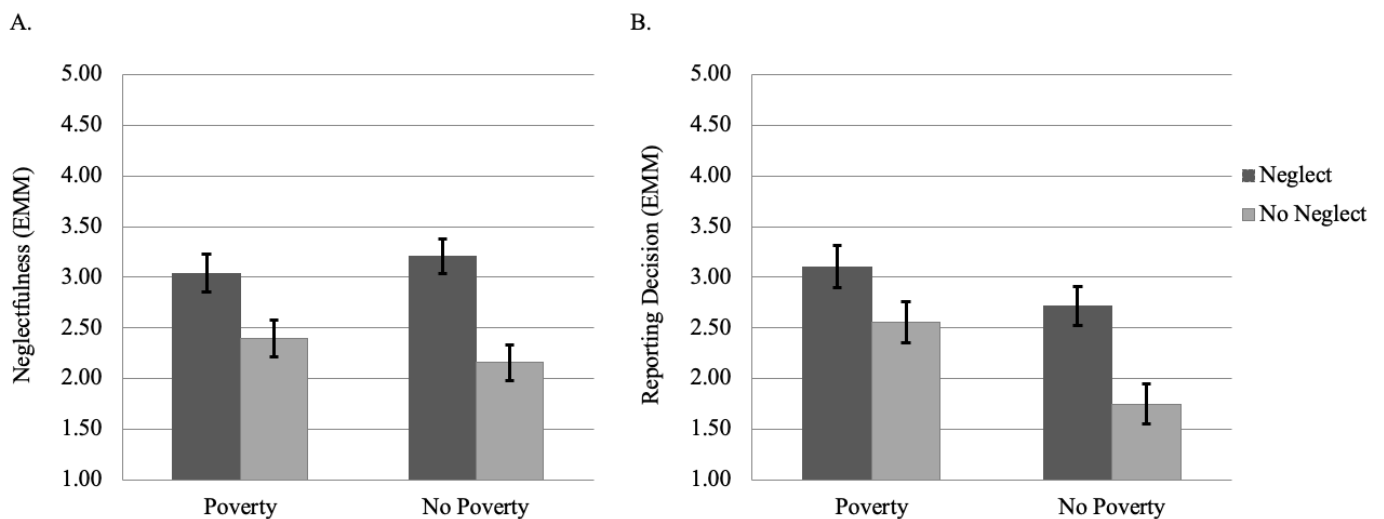
Neglectfulness. When neglectfulness ratings were considered, there were significant main effects of the neglect manipulation (H1a) and current SES, but not of the poverty manipulation (H1b). Current SES was positively associated with neglectfulness, such that those of a higher SES tended to perceive the situation as more neglectful. The significant main effect of neglect was qualified by a significant Neglect \times Poverty interaction (H1c). We assessed simple main effects using the Dunn–Bonferroni correction. As shown in Figure 2.1A, for those who received the no-poverty vignettes, the presence of neglect (estimated marginal mean [EMM] = 3.21, $SE = 0.09$, 95% CI [3.03, 3.38]) was associated with significantly higher ratings of neglectfulness, compared to when neglect was not present ($EMM = 2.16$, $SE = 0.09$, 95% CI [1.99, 2.34], $p < .001$, $\eta^2 = .096$). The same pattern was true for those who received the poverty vignettes, though with a smaller difference in ratings of neglectfulness between the neglect ($EMM = 3.04$, $SE = 0.10$, 95% CI [2.85, 3.23]) and no-neglect ($EMM = 2.39$, $SE = 0.09$, 95% CI [2.21, 2.58], $p < .001$, $\eta^2 = .035$) vignettes. When only poverty was present, participants still perceived those situations as a little or somewhat neglectful on average. Finally, the hypothesized main effect of group (H2a) was nonsignificant, suggesting that the pre- and COVID-19 groups did not differ in their perceptions of neglectfulness. Nor was the expected three-way interaction (Group \times Neglect \times Poverty; H2b) significant.

Reporting Decision. We next examined reporting decision. Significant main effects of the neglect manipulation (H1a), poverty manipulation (H1b), current SES, and mandated reporter status emerged. Increasing SES and having been a current or former mandated reporter were

both related to participants' stating that they would be more likely to report the situation to CPS. The manipulation main effects were subsumed by a significant Neglect \times Poverty interaction (H1c). Simple main effects (assessed using the Dunn–Bonferroni correction) are shown in Figure 2.1B. For those who received the no-poverty vignettes, the presence of neglect was associated with a much higher likelihood of reporting the situation to CPS ($EMM = 2.72$, $SE = 0.10$, 95% CI [2.52, 2.91]) compared to when neglect was not present ($EMM = 1.75$, $SE = 0.10$, 95% CI [1.55, 1.95], $p < .001$, $\eta^2 = .068$). The same pattern was true for those who received the poverty vignettes, though with a smaller difference between the neglect ($EMM = 3.11$, $SE = 0.11$, 95% CI [2.90, 3.31]) and no-neglect ($EMM = 2.56$, $SE = 0.10$, 95% CI [2.35, 2.76], $p < .001$, $\eta^2 = .021$) conditions. That is, when neglect was absent but poverty was present, participants still indicated that they were a little or somewhat likely to report the situation to CPS. Again, no significant effects of group (H2a) emerged; nor was the three-way interaction (Group \times Neglect \times Poverty; H2b) significant.

Figure 2.1

In Study 2A, the Effect of the Neglect and Poverty Manipulations on Ratings of Neglectfulness (A) and Reporting Decision (B)



Note. Average neglectfulness and reporting decision are given in estimated marginal means (EMM) with current SES and mandated reporter status as the covariates. Error bars represent the 95% confidence intervals surrounding each EMM. SES = socioeconomic status.

Study 2B

Study 2A evaluated whether the COVID-19 pandemic was associated with a shift in perceptions of poverty and neglect by comparing responses before and after the start of the pandemic. Results failed to reveal group differences. On the one hand, this may indicate that the pandemic did not lead to a shift in participants' knowledge of or experiences with poverty that shaped their perceptions of possible neglect. On the other hand, it is possible that laypersons' experiences related to the COVID-19 pandemic were simply not salient enough to produce broad changes in perceptions that would emerge in participants' responses after reading brief vignettes about a mother and daughter. Instead, perhaps explicit cuing to COVID-19-induced changes in poverty is needed. Study 2B used a new set of vignettes that held poverty constant but manipulated mention of neglect (both failure to provide and failure to supervise) and of COVID-19 (Appendix B). We also measured attributions of blame to assess their role in shaping perceptions of neglect and reporting decisions. Hypotheses were as follows:

(1) Ratings of neglectfulness and reporting decisions will differ based upon vignette condition:

(1a) Participants will accurately identify the vignettes depicting neglect as neglectful and as situations that warrant reporting.

(1b) Participants who receive the COVID vignettes will be less likely to report the situation to CPS compared to participants who receive the no-COVID vignettes.

This effect will be nonsignificant for ratings of neglectfulness.

(1c) The COVID manipulation will moderate the relation between neglect and reporting decisions but not between neglect and ratings of neglectfulness, such that those in the COVID condition will be less likely to conflate poverty and

neglect when making reporting decisions compared to those in the no-COVID condition.

(2) Attributions of blame will be related to laypersons' ratings of neglectfulness and reporting decisions:

(2a) Mediational effects will emerge, such that participants in the COVID condition will report higher external attributions of blame and, in turn, be less likely to report the situation to CPS, compared to those in the no-COVID condition.

(2b) There will be an indirect moderating effect, via attributions of blame, of the COVID manipulation on the relation between neglect and reporting decisions.

That is, the moderating effect described in H1c will be explained by (or mediated by) attributions of blame.

Method

Study 2B largely replicated the procedures and measures used in Study 2A but contained new vignettes that (a) more rigorously varied neglect and (b) either mentioned or did not mention COVID-19. Study 2B also included additional questions, described below.

Participants

We conducted a priori power analyses to determine the sample size for Study 2B. First, we used the Superpower package (Version 0.1.2) in R (Lakens & Caldwell, 2019) for the ANOVAs (H1). Results showed that a sample of 400 participants would be sufficient to detect large-sized main effects and two-way interaction effects with power greater than .95 and alpha of .05. Second, for the indirect moderation model (H2), we used the power4SEM package in R (Jak et al., 2021) to conduct root mean square error of approximation (RMSEA)–based power

calculations. We conducted a test of not-close fit according to specifications recommended by MacCallum et al. (1996). A priori power analyses showed that, with an alpha of .05, a sample size of 750 provided 80% power to reject the null hypothesis of not-close fit (H_0 : RMSEA = 0.05) when in the population there is close fit (H_1 : RMSEA = 0.01). However, because we identified an additional covariate in the preliminary analyses below, which changed the degrees of freedom, we conducted a sensitivity analysis with the new parameters. These results showed that, with an alpha of .05, a sample size of 703 provided 80% power to reject the null hypothesis of not-close fit (H_0 : RMSEA = 0.05) when in the population there is close fit (H_1 : RMSEA = 0.01).

A total of 867 participants recruited from Cloud Research completed Study 2B in September 2021. We changed the HIT approval rate to 95% to 100% (Keith et al., 2017) to improve data quality, and the number of HITs approved remained consistent with Study 2A at 100 to 1,000,000. Participants who completed Study 2A were excluded from participating in Study 2B. As in Study 2A, two attention check questions were also included: The first asked participants whether they had traveled to or done business with a fictional location (*no; yes, more than 5 years ago; yes, in the last 5 years*), and the second asked participants to select from a list of four options what the vignette was about. A total of 163 participants who failed one or both questions were excluded from the analyses, producing an 18.80% exclusion rate. The final sample consisted of 704 participants, aged 19 to 91 years ($M_{\text{age}} = 43.88$, $SD_{\text{age}} = 13.93$), 63.49% identifying as women. Most identified as White (76.70%), followed by 8.66% Black/African American, 5.54% Asian, 4.69% Latinx, and the remainder across American Indian/Alaska Native, Native Hawaiian/Pacific Islander, multiethnic, other, or prefer not to state.

Procedures

All procedures were approved by the University of California, Irvine, Institutional Review Board (#2018-4237), and all data and study materials are available on the Open Science Framework (<https://osf.io/tskuj/>). After providing consent, participants completed an anonymous online survey in which they were randomly assigned to one of four vignette conditions. After reading a short vignette, participants responded to questions regarding demographics, SES, vignette responses, experiences with the law, COVID-19, and attributions of blame.

Materials

Demographics. Measures regarding demographics largely mirrored those used in Study 2A, with the addition of two new questions. The first asked whether participants live in an urban, suburban, or rural area (providing examples and descriptions of each). The second asked participants to report their political orientation on a scale from 1 (*very liberal*) to 7 (*very conservative*).

SES. Questions regarding SES were identical to those used for the COVID-19 group in Study 2A. However, rather than using current SES as in Study 2A, for Study 2B we created a change-in-SES variable by subtracting pre-COVID-19 SES (i.e., in 2019) from post-COVID-19 SES (i.e., since February 2020) for each participant.

Vignette Conditions. The survey system randomly assigned participants to one of four vignette conditions that described a single mother's care of her 7-year-old daughter, modeled after substantiated cases of neglect. Each began with a list of the location, date, and names of the mother and daughter in the story (Appendix B). Unlike in Study 2A, the vignettes held poverty constant, which was present in all conditions, indicated by housing instability (i.e., living in a motel), the child picking up free lunch every day at school, and the mother working part-time at a grocery store. The vignettes experimentally manipulated indicators of neglect and the COVID-

19 pandemic between subjects. For the neglect manipulation, presence of neglect was indicated by behaviors in the mother that were clearly intentional and included examples of both failure to provide (e.g., the child was hungry because of mother's choice to go out at night) and failure to supervise (e.g., the mother ignored the child's phone calls). For the COVID manipulation, in the COVID condition the date was August 2020 and in the no-COVID condition the date was August 2018. Moreover, the COVID vignettes also stated that the mother lost her full-time job because of COVID-19 and began working as an "essential worker." The vignettes included additional wording indicating that the family had experienced significant changes related to COVID-19 (i.e., "now," "finally"), all of which were omitted in the no-COVID condition. A pilot study conducted in August 2021 showed that the manipulation was effective.

Vignette Response Questions. Vignette response questions were identical to those used in Study 2A, with two additional manipulation check questions: Did the vignette take place during the COVID-19 pandemic (*yes, no, not indicated, I don't know*), and how much did participants think about the COVID-19 pandemic when reading the story (5-point Likert-type scale)? The manipulation was effective: Participants in the COVID conditions were more likely to state that the vignette took place during COVID-19, $\chi^2(2) = 561.39, p < .001$, and reported having thought about the pandemic more when reading the story, $t(702) = -22.86, p < .001$.

Attributions of Blame. Questions regarding attributions of blame followed the presentation of the vignettes and the legal definition of neglect. Participants rated on a 5-point Likert-type scale from 0 (*not at all to blame*) to 4 (*completely to blame*) "how much each of the following are to blame for the situation described." Eight items were listed, evenly split between those that aligned with internal and external attributions. Items were derived from other measures of attributions of blame (Nasser et al., 2002; Weiner et al., 2011). Items within the external

($r_s > .36$, $p_s < .001$) and internal ($r_s > .51$, $p_s < .001$) attribution subscales were significantly correlated in the expected directions. Reliability was acceptable for both the external ($\alpha = .74$) and internal ($\alpha = .86$) attribution subscales. Therefore, all items fit with the appropriate subscale, and no items were removed. We constructed a dimensional index by first summing the scores for each subscale (creating total external and internal attribution scores) and then subtracting the total external attribution score from the total internal attribution score. Participants' scores on the attributions-of-blame index ranged from -16 to 16 ($M = 0.43$, $SD = 6.74$). A positive score indicates greater internal attributions, a negative score indicates greater external attributions, and a score of 0 indicates equal internal and external attributions of blame (see Delavega et al., 2017, for a similar approach).

Legal Involvement. The survey asked participants about their mandated reporter status, but because states' mandated reporting laws differ and participants have may been unclear about whether they were a mandated reporter, an additional question asked whether participants had received any formal training regarding maltreatment (i.e., maltreatment training).

COVID-19. Finally, participants responded to the COVID-19 questions used in Study 2A, which assessed experiences with and perceptions of the COVID-19 pandemic.

Results

Assumptions

According to tests of influence (DFBETAS and DFFITS), no outliers were evident. For change in SES, seven participants had scores greater than $3 SD$ units from the mean and 16 participants had scores less than $3 SD$ units below the mean. Upon examination, these scores were considered accurate. Therefore, scores were winsorized to the next value that was not an outlier (3.91 or -4.49). Skewness and kurtosis values were considered approximately normal for

all variables (absolute values < 2 for skewness and < 7 for kurtosis). Although change in SES was slightly leptokurtic ($k = 8.41$), after adjusting for outliers, change in SES was not ($k = 3.61$). Therefore, no transformations were conducted on change in SES. Finally, P–P plots (for separate regressions using neglectfulness and reporting decision) showed normality of residuals, and scatterplots confirmed homoscedasticity.

Preliminary Analyses

Participants assigned to each of the four vignette conditions (Condition 1: neglect, COVID; Condition 2: no neglect, COVID; Condition 3: neglect, no COVID; Condition 4: no neglect, no COVID) did not significantly differ on age, ethnicity (White vs. non-White), gender (man, woman, other), parental status, political orientation, change in SES, maltreatment training, CPS contact, or perceptions of COVID-19 in 2020 (see Table 2.4). However, participants in the four vignette conditions differed in their perception of COVID-19 in 2020 (at its peak). Follow-up tests with Dunn–Bonferroni multiple-comparison procedures were conducted to determine the groups responsible for the significant omnibus results. Participants in Condition 3 (neglect, no COVID; $M = 4.26$, $SD = 1.20$) perceived the COVID-19 pandemic in 2020 to be significantly less serious compared to participants in Condition 4 (no neglect, no COVID; $M = 4.60$, $SD = 0.85$, $p = .01$). Because of this difference, perception of the seriousness of COVID-19 in 2020 was included as a covariate in the main study analyses. Consistent with Study 2A, and given SES's significant relation to perceptions of neglect, main analyses also covaried change in SES.

We also conducted correlations and descriptive statistics for the entire sample among key study variables, including participants' age, change in SES, neglectfulness, reporting decision, and attributions of blame to characterize the main measures (Table 2.2). Neglectfulness, reporting decision, and attributions of blame were all significantly and positively correlated with

one another. Age and change in SES were not significantly related to one another or to neglectfulness, reporting decision, or attributions of blame.

Table 2.4

Study 2B: Preliminary Analyses and Descriptive Statistics

Variable	Condition 1		Condition 2		Condition 3		Condition 4		Results	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i> (3, 700)	<i>p</i>
Age	42.88	13.78	44.69	13.65	43.75	14.55	44.25	13.75	0.55	.65
Politics	3.65	1.92	3.73	1.80	3.39	1.95	3.46	1.91	1.25	.29
Change in SES	-0.19	1.27	-0.44	1.38	-0.18	1.13	-0.23	1.22	1.59	.19
Current perceptions	3.93	1.18	3.99	1.20	3.77	1.36	4.08	1.10	2.05	.11
2020 perceptions	4.42	1.01	4.42	0.96	4.26	1.20	4.60	0.85	3.38	.02
Attributions	2.75	6.05	-3.77	5.13	5.19	5.68	-2.56	5.68	-	-
Neglectfulness	4.01	0.78	2.36	1.09	4.05	0.80	2.40	1.08	-	-
Reporting decision	3.70	1.27	2.11	1.30	3.97	1.14	2.07	1.28	-	-
	%		%		%		%		χ^2 (df)	<i>p</i>
Gender	58.66		69.77		65.34		60.45		7.29 (6)	.30
Community type	50.28		50.58		56.82		51.98		2.69 (6)	.85
Ethnicity	81.01		75.58		71.59		78.53		4.88 (3)	.18
Parental status	51.96		57.56		51.14		51.98		1.83 (3)	.61
Maltreatment training	10.06		17.44		18.18		18.08		6.19 (3)	.10
CPS contact	16.76		19.77		17.61		22.60		7.46 (6)	.28

Note. Condition 1: neglect, COVID; Condition 2: no-neglect, COVID; Condition 3: neglect, no COVID; Condition 4: no-neglect, no COVID. “Change in SES” was determined by subtracting pre-COVID-19 SES from post-COVID-19 SES and refers to the variable after outliers were winsorized. “Current perceptions” refers to participants’ perceptions of how serious the COVID-19 pandemic was in the fall of 2021, and “2020 perceptions” refers to participants’ perceptions of how serious the COVID-19 pandemic was in 2020. For both, higher ratings indicate perceptions of the pandemic as more serious. “Attributions” refers to participants’ attributions of blame regarding the vignette, with positive numbers reflecting more internal attributions and negative numbers reflecting more external attributions. Gender = percentage women; community type = percentage suburban; ethnicity = percentage White; parental status = percentage with children; maltreatment training = percentage who had received training; CPS contact = percentage who had had some contact with CPS; SES = socioeconomic status; CPS = child protective services.

Main Study Analyses

H1: Vignette Conditions. We assessed the effect of condition on participants' perceptions of neglectfulness and reporting decisions via two 2×2 ANCOVAs with the two manipulations (neglect, COVID) as categorical predictors and change in SES and perceptions of COVID-19 in 2020 as continuous covariates (Table 2.5). First, we entered neglectfulness as the outcome variable. As expected, the main effect of the neglect manipulation (H1a) was significant. Those who received the neglect vignettes perceived the situation as more neglectful ($EMM = 4.03$, $SE = 0.05$, 95% CI [3.93, 4.13]) than those who received the no-neglect vignettes ($EMM = 2.37$, $SE = 0.05$, 95% CI [2.27, 2.47]). No other significant effects emerged, which included hypothesized effects of the COVID manipulation (H1b) and the Neglect \times COVID interaction (H1c).

With reporting decision as the outcome, the main effect of neglect (H1a) was again significant. Those who received the neglect vignettes were more likely to report the situation to CPS ($EMM = 3.85$, $SE = 0.07$, 95% CI [3.72, 3.98]) compared to those who received the no-neglect vignettes ($EMM = 2.08$, $SE = 0.07$, 95% CI [1.95, 2.21]). The effect of perceptions of COVID-19 in 2020 was also significant: As perceptions of COVID-19's seriousness increased, participants were more likely to report the vignette situation to CPS. Finally, there were no significant effects of the COVID manipulation (H1b), the Neglect \times COVID interaction (H1c), or change in SES on reporting decision.

Table 2.5*Study 2B: Results of Main Analyses*

Variables	Neglectfulness			Reporting decision		
	<i>F</i> (1, 698)	<i>p</i>	η^2	<i>F</i> (1, 698)	<i>p</i>	η^2
Change in SES	0.35	.55	.001	0.20	.66	<.001
2020 Perceptions	3.76	.05	.005	8.44	.004	.012
Neglect Manipulation	536.54	<.001	.435	352.05	<.001	.335
COVID Manipulation	0.28	.59	<.001	1.45	0.23	.002
Neglect X COVID	0.07	.80	<.001	3.76	.05	.005

Note. “Change in SES” was determined by subtracting pre-COVID-19 SES from post-COVID-19 SES and refers to the variable after outliers were winsorized. “2020 perceptions” refers to participants’ perceptions of how serious the COVID-19 pandemic was in 2020, with higher ratings indicating perceptions of the pandemic as more serious. SES = socioeconomic status.

H2: Attributions of Blame. To test H2, which concerned the role of attributions of blame in the relation between the experimental manipulations and the outcomes (see van Kollenburg & Croon, 2020, for a discussion on analysis of indirect moderation), we conducted two path analyses. Change in SES and perceptions of COVID-19 in 2020 were included as covariates in both models. We ran the models in MPlus 8.0 (Muthén & Muthén, 2017) using the maximum likelihood method of parameter estimation. To test the overall model fit before examining the predicted pathways, we used the chi-square goodness of fit test, RMSEA, and comparative fit index (CFI). We estimated effects using bootstrapping at 10,000 resamples to control for Type I error and to obtain confidence limits and standard errors for the indirect effect test that are preferable to the Sobel test (Preacher & Hayes, 2008). When assessing indirect effects, we rejected the null hypothesis (i.e., no indirect effect) if the 95% confidence interval of an estimate did not include zero (Preacher & Hayes, 2008). We expected only the model for

reporting decision to be significant but conducted analyses on neglectfulness as well. Model fit indices for both planned models (predicting neglectfulness and reporting decision) were poor, RMSEAs = 0.53, CFIs < .41, χ^2 s = 808.12, $ps < .001$ (Table 2.6). Thus, H2a and H2b were not supported.

Table 2.6

Study 2B: Path Analyses Model Fit Statistics

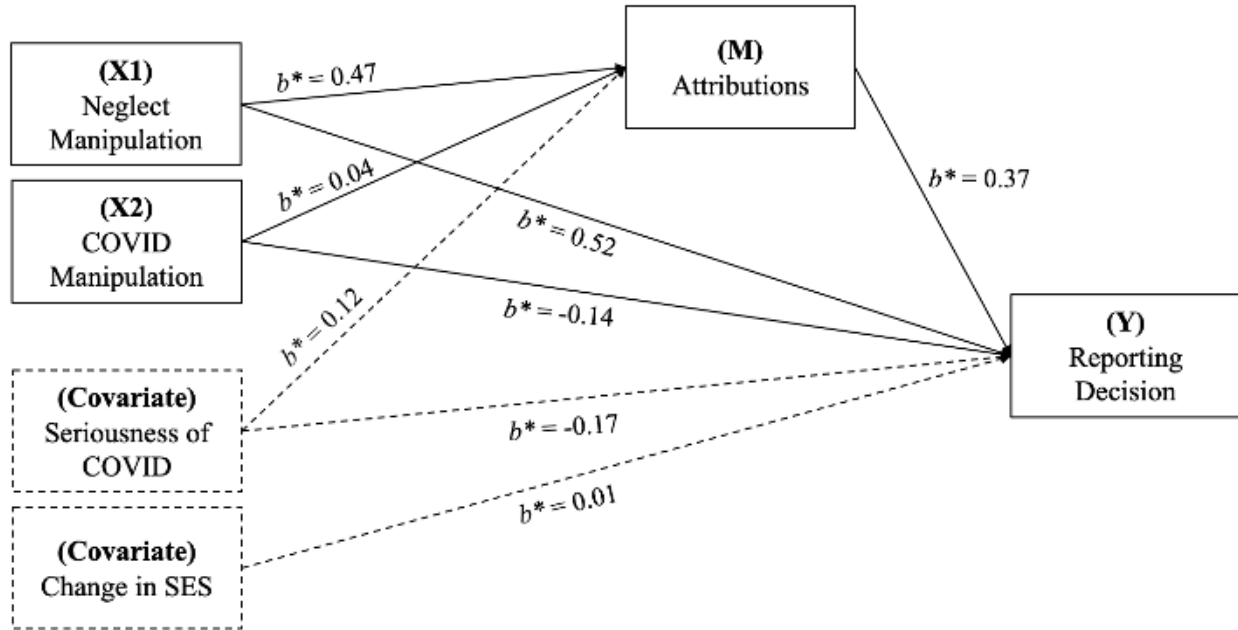
Models and outcome variable	χ^2	RMSEA (95% CI)	CFI
Planned models			
Neglectfulness	808.12*	0.53 (0.50, 0.57)	0.40
Reporting decision	808.12*	0.53 (0.50, 0.57)	0.35
Exploratory models			
Neglectfulness	29.85*	0.14 (0.10, 0.19)	0.97
Reporting decision	29.85*	0.14 (0.10, 0.19)	0.96
Modified exploratory models			
Neglectfulness	1.11	0.01 (0.00, 0.10)	1.00
Reporting decision	1.11	0.01 (0.00, 0.10)	1.00

Note. RMSEA= root-mean-square error of approximation; CI = confidence interval; CFI = comparative fit index. * $p < .001$.

Exploratory Models. Given the lack of indirect moderation (H2), we conducted two additional exploratory models testing alternative relations among the manipulations, attributions of blame, and the outcome variables. First, considering our findings that indicated no moderating effect of the COVID manipulation, we removed the interaction between the neglect and COVID manipulations from the model. Instead, we examined whether the main effects of the manipulations on the outcomes were explained by attributions of blame. Consistent with prior models, change in SES and perceptions of COVID-19 in 2020 were included as covariates. The models' fit approached acceptability across some but not all indices (Table 2.6).

Figure 2.2

Attributions of Blame Partially Mediates the Relation Between the Neglect and COVID Manipulations and Neglectfulness



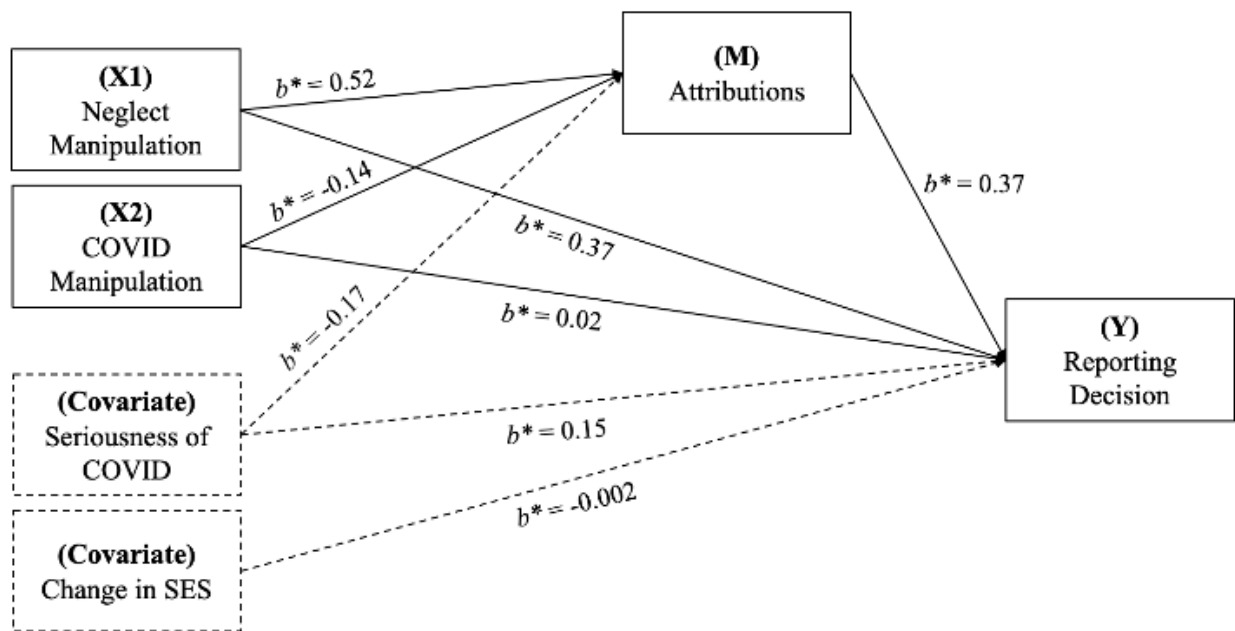
Note. “Seriousness of COVID” refers to participants’ perceptions of how serious the COVID-19 pandemic was in 2020, with higher ratings indicating perceptions of the pandemic as more serious. “Change in SES” was determined by subtracting participants’ pre-COVID-19 SES from their post-COVID-19 SES. “Attributions” refers to participants’ attributions of blame regarding the vignette, with positive numbers reflecting more internal attributions and negative numbers reflecting more external attributions. SES = socioeconomic status; b^* = standardized regression coefficient.

Second, we made a further modification that was (a) identified by modification indices provided by MPlus and (b) made logical sense to include. Specifically, we permitted perception of COVID-19 in 2020 to have a direct effect on attributions of blame. Those who perceived the COVID-19 pandemic as more serious may have been more likely to attribute the mom’s behavior or the family’s poverty to the pandemic (i.e., more external attributions of blame). In

contrast, those who perceived the COVID-19 pandemic as less serious would have been less likely to attribute behaviors to the pandemic, and therefore less likely to report external attributions of blame. The revised models provided excellent fit (Table 2.6; Figures 2.2 and 2.3) for both neglectfulness and reporting decision. Results were identical in terms of statistical significance of predictors, though the magnitudes of the relations slightly differed between the two outcomes. We describe the findings next, with full results presented in Table 2.7.

Figure 2.3

Attributions of Blame Partially Mediates the Relation Between the Neglect and COVID Manipulations and Reporting Decision



Note. “Seriousness of COVID” refers to participants’ perceptions of how serious the COVID-19 pandemic was in 2020, with higher ratings indicating perceptions of the pandemic as more serious. “Change in SES” was determined by subtracting participants’ pre-COVID-19 SES from their post-COVID-19 SES. “Attributions” refers to participants’ attributions of blame regarding the vignette, with positive numbers reflecting more internal attributions and negative numbers reflecting more external attributions. SES = socioeconomic status; b^* = standardized regression coefficient.

Table 2.7*Parameter Estimates for the Structural Models Predicting Neglectfulness and Reporting Decision*

Variable	Attributions of blame			Outcome variable			
	<i>b</i> * (SE)	<i>p</i>	95% CI	<i>b</i> * (SE)	<i>p</i>	95% CI	
Predicting neglectfulness	Change in SES			0.01(0.03)	.87	(-0.05, 0.06)	
	2020	-0.17(0.03)	<.001	(-0.22, -0.11)	0.12(0.03)	<.001	(0.06, 0.17)
	Neglect manipulation	0.52(0.03)	<.001	(0.46, 0.57)	0.47(0.03)	<.001	(0.41, 0.54)
	COVID manipulation	-0.14(0.03)	<.001	(-0.20, -0.08)	0.04(0.03)	.20	(-0.02, 0.09)
	Attributions of blame				0.37(0.04)	<.001	(0.30, 0.44)
	Indirect effect (2020)				-0.06(0.01)	-	(-0.09, -0.04)
	Total effect (2020)				0.06(0.03)	-	(-0.01, 0.11)
	Indirect effect (Neglect)				0.19(0.02)	-	(0.16, 0.23)
	Total effect (Neglect)				0.66(0.02)	-	(0.62, 0.71)
	Indirect effect (COVID)				-0.05(0.01)	-	(-0.08, -0.03)
	Total effect (COVID)				-0.02(0.03)	-	(-0.07, 0.04)
	<i>R</i> ²	0.33(0.03)	<.001		0.53(0.03)	<.001	
Predicting reporting decision	Change in SES			-0.002(0.03)	.95	(-0.06, 0.06)	
	2020	-0.17(0.03)	<.001	(-0.22, -0.11)	0.15(0.03)	<.001	(0.09, 0.21)
	Neglect manipulation	0.52(0.03)	<.001	(0.46, 0.57)	0.37(0.04)	<.001	(0.30, 0.44)
	COVID manipulation	-0.14(0.03)	<.001	(-0.20, -0.08)	0.02(0.03)	.56	(-0.04, 0.07)
	Attributions of blame				0.40(0.04)	<.001	(0.33, 0.47)
	Indirect effect (2020)				-0.07(0.01)	-	(-0.10, -0.04)
	Total effect (2020)				0.09(0.03)	-	(0.02, 0.15)
	Indirect effect (Neglect)				0.21(0.02)	-	(0.17, 0.25)
	Total effect (Neglect)				0.58(0.03)	-	(0.53, 0.63)
	Indirect effect (COVID)				-0.06(0.01)	-	(-0.08, -0.03)
	Total effect (COVID)				-0.04(0.03)	-	(-0.10, 0.02)
	<i>R</i> ²	0.33(0.03)	<.001		0.45 (0.03)	<.001	

Note. “Change in SES” was determined by subtracting pre-COVID-19 SES from post-COVID-19 SES. “2020” refers to participants’ perceptions of how serious the COVID-19 pandemic was in 2020, with higher ratings indicating perceptions of the pandemic as more serious. “Outcome variable” refers to either ratings of neglectfulness or reporting decision. No *p*-values were given for indirect effects because they are known to be abnormal. *b** = standardized regression coefficient; SE = standard error; CI = confidence interval; SES = socioeconomic status.

The models explained a significant proportion of variation in ratings of neglectfulness (53%) and reporting decision (45%). First, perceptions of COVID-19 in 2020, the neglect manipulation, and the COVID manipulation significantly predicted attributions of blame. Rating COVID-19 as more serious in 2020 was associated with more external attributions of blame. Likewise, receiving the COVID compared to the no-COVID vignette was associated with higher external attributions of blame, whereas receiving the neglect compared to the no-neglect vignette was associated with higher internal attributions of blame.

Second, perceptions of COVID-19 and the neglect manipulation separately predicted both neglectfulness and reporting decision. Viewing COVID-19 as more serious in 2020 was associated with higher ratings of neglectfulness and higher likelihood of reporting the situation to CPS. Also, participants who received the neglect versus no-neglect vignettes perceived the situation as more neglectful and were more likely to report it to CPS. The COVID vignette manipulation was unrelated to neglectfulness ratings or reporting decision.

Third and finally, there were statistically significant indirect effects of both the neglect and COVID manipulations on both outcomes via attributions of blame. Taken together, compared to those who received the no-COVID vignettes, those who received the COVID vignettes perceived the situation as less neglectful and were less likely to report the situation to CPS, due to more external attributions of blame. In addition, compared to those who received the no-neglect vignettes, those who received the neglect vignettes perceived the situation as more neglectful and were more likely to report it, in part, due to more internal attributions of blame. Thus, explicitly reminding participants of the COVID-19 pandemic in the vignette indeed seemed to push them toward viewing influences outside of the mother's control as leading to her situation, rather than her own intentional behavior causing possible neglect.

Discussion

These studies provided important new insight into laypersons' perceptions of poverty and neglect and how the COVID-19 pandemic may have impacted those perceptions. Although significant research is now unpacking the plethora of ways the pandemic has impacted maltreatment, including neglect, in children and families (Lawson et al., 2020; Metcalf et al., 2022; Rodriguez et al., 2020), research has yet to consider how it may have impacted perceptions of neglect and, in turn, laypersons' likelihood of accurately identifying and reporting cases to authorities. Our findings demonstrate that whereas many people recognize situations of neglect as such and indicate that they would report neglectful situations, others confuse poverty with neglect. Moreover, the pandemic itself had an influence on laypersons' identification and reporting decisions, though not in all the hypothesized ways. These findings begin to elaborate on how and why laypersons can accurately identify neglect and report it to authorities and provide valuable information for improving the over- and underreporting of neglect.

People have fairly consistent perceptions of neglect, as we expected and saw in both studies. Generally, people can accurately identify neglect and see neglect as warranting reporting. In Study 2A, compared to situations where neglect was not present, laypersons perceived situations of neglect as more neglectful and indicated that they were more likely to report such situations, regardless of the presence or absence of poverty. Study 2B similarly revealed that participants were able to accurately distinguish situations of neglect when making identification and reporting decisions. However, when poverty was present (as in Study 2B and part of Study 2A), participants' ability to identify neglect was diminished. That is, some laypersons' perceptions and reporting decisions reflected a misunderstanding of what constitutes neglect, mistaking instances of poverty for actual neglect: In Study 2B (and Study 2A), despite

no legal form of neglect being presented in the poverty-only vignette, 17% (20%) laypersons stated that the mother's behavior was "very" or "entirely" neglectful, and 17% (28%) stated that they would be "very" or "entirely" likely to report it to CPS. These misconceptions suggest that overreporting occurs, which could lead to unnecessary investigations and distress to families. Public education campaigns about families' experiences of poverty and about specific indicators of neglect may be helpful to reduce overidentification and overreporting. Moreover, across studies and conditions, laypersons were slightly more conservative in their reporting decisions compared to their identification of neglect. Perhaps this was due to their own perceptions of the legal and social systems or uncertainty of their evaluation of the situation as neglectful. Although not the focus of this study, it would be valuable to more directly compare laypersons' perceptions and reporting decisions to gain a better understanding of how often and in what situations this misalignment occurs.

More novel and pertinent were our findings regarding the effects of the COVID-19 pandemic on perceptions of poverty and neglect. Across both studies, the pandemic itself did not directly impact perceptions of neglect or reporting decisions, nor did it influence laypersons' tendency to conflate poverty with neglect. When we cued people to COVID-19, the manipulation was indeed successful: Participants who received the COVID vignettes were more likely to state that the vignette took place during COVID-19 and thought about the pandemic more when reading the story. In contrast to our hypotheses, though, the manipulation did not directly affect laypersons' perceptions of neglectfulness, decisions to report the situation to CPS, or perceptions of poverty as neglect. It could be that the pandemic-related economic crisis was not salient enough to produce effects akin to those of overall socioeconomic status. Or the financial hardship caused by the pandemic may be characteristically different from poverty caused by

structural factors (e.g., race, education). For example, pandemic-related economic hardships may be perceived as more temporary compared to hardship caused by other factors. Alternatively, it may take time for experiences of economic hardship (regardless of the cause) to influence perceptions of poverty, in which case the short-term effects of the pandemic measured in this study would not be sufficient to produce such changes.

In addition to general tendencies to conflate poverty with neglect, which did not change as a result of the COVID-19 pandemic, participants' current experiences of poverty were related to their perceptions and reporting decisions. In Study 2A, lower SES was associated with lower ratings of neglectfulness and decreased likelihood of reporting. Those who have experienced poverty may be more sensitive to the challenges associated with such experiences and more reluctant to report individuals who experience hardships. In contrast, COVID-19-related changes in SES did not impact responses to the vignettes. Perhaps the time period—2019 to after February 2020—was not sufficient to produce significant changes in laypersons' understanding of poverty. Or maybe it is not the change in one's financial status but rather the extent to which one has ever experienced financial hardship that influences perceptions of situations of poverty. Future work should parse these potential explanations more directly.

Another exciting and novel focus of our study concerned whether attributions of blame explain, at least in part, why the COVID-19 pandemic impacted perceptions of poverty and neglect. Our hypothesized model was unsuccessful, likely because the foundation on which it was based (the moderating effect of the COVID manipulation) was not supported. As a result, we explored other models that helped explain differences in laypersons' perceptions and reporting tendencies. Our final model revealed that both manipulations (neglect, COVID)

predicted individuals' attributions of blame, which, in turn, predicted perceptions of neglectfulness and reporting decisions (Figures 2.2 and 2.3).

Attributions of blame explained some of the relation between the neglect manipulation and the outcome variables (neglectfulness and reporting decision). Compared to those who received the vignettes without neglect, laypersons' who received the vignettes depicting neglect were more likely to blame the mother for the situation (i.e., more internal attributions of blame—e.g., laziness or poor planning) and, in turn, perceive the situation as more neglectful and report it to CPS. Given that some legal definitions of neglect dictate that the act must be “willful or negligent” to be considered neglectful (e.g., as in California), it is unsurprising that situations depicting neglect were associated with internal attributions. Because poverty was held constant throughout the vignettes, these findings also mean that laypersons were at least somewhat, though not universally, able to accurately identify situations of poverty as due to more external reasons, as less neglectful, and as not warranting reporting to CPS. The impact of the neglect manipulation on perceptions and reporting decisions, however, was not entirely explained by attributions of blame. Other factors important to consider in future research would include knowledge of and experience with CPS, the legal system, child maltreatment, and resources available to families (low variability in the first three, which were measured in some capacity, did not allow for meaningful interpretation of these factors).

Regarding the COVID-19 pandemic, attributions of blame fully mediated the relation between the COVID manipulation and the outcome variables: Compared to when COVID-19 was not present in the vignette, the presence of COVID-19 was related to perceptions of the situation as due to forces outside of the mother's control (i.e., more external attributions of blame—e.g., bad luck, societal factors), which in turn was related to laypersons saying the

situation was less neglectful and that they would be less likely to report it to CPS. Perhaps the COVID-19 pandemic produced changes in laypersons' perceptions of blame for familial hardships, as they themselves or others around them faced hardship during the pandemic. Or perhaps participants in the COVID conditions directly attributed the situation to COVID-19 itself, leading to more conservative perceptions and decisions, as reflected in a reduced likelihood of labeling the mother's behavior as neglect.

It is possible, however, that the effect of the COVID manipulation was not specific to the pandemic itself. For example, it could be that this effect would appear if some other disaster or event (e.g., earthquake, death in the family) were mentioned in its place. Rather than the pandemic having a unique effect on individuals' perceptions of poverty and neglect, it may be that providing more contextual information regarding the family's situation influenced laypersons toward attributing such situations to external forces. Future research should compare other external factors to assess this potential confound.

Finally, laypersons' experiences with the pandemic influenced their perceptions of neglectfulness and reporting decisions separate from effects of our manipulations. Perceiving the COVID-19 pandemic in 2020 (at its peak) as more serious was *indirectly* related to lower ratings of neglectfulness and a decreased likelihood of reporting the situation to CPS, via more external attributions of blame, following the same pattern as the manipulations. However, direct effects were unexpectedly in the opposing direction. For some, perceiving the COVID-19 pandemic in 2020 as more serious was *directly* related to higher ratings of neglectfulness and an increased likelihood of reporting the situation to CPS. Perhaps the seriousness of the pandemic made these participants more aware of potential harms and more willing to report potential risk to authorities. Further work is needed to determine why laypersons fall into one pattern or the other,

but both indicate that the pandemic has indeed impacted laypersons' identification and reporting decisions. Moreover, the pandemic's influence was due to factors beyond economic conditions, given that this measure was unrelated to change in SES ($r = -.01, p = .84$). Instead, laypersons may have felt the repercussions of the pandemic more intensely because of mask mandates, stay-at-home-orders, or beliefs about the virus itself. Research could examine these findings further, assessing the factors underlying laypersons' concerns about the COVID-19 pandemic and how they relate to identification and reporting decisions.

Limitations

Despite the novelty and significance of the findings, including both the hypothesized and exploratory effects, the studies were not without limitations. First, Study 2A was limited by the available size of the pre-COVID sample. Our COVID-19 sample size was chosen to match the pre-COVID-19 sample (Dickerson et al., 2020) to reduce statistical biases associated with unequal sample sizes. However, given the increased complexity of analyses (i.e., three-way interactions), larger samples for both groups would have been preferable and would have enabled us to interpret and draw conclusions from results that lacked sufficient power. Second, the vignettes used in Study 2A may or may not have been interpreted by participants as intended, given that the vignettes were less explicit in stating that the mother's actions were intentional in the neglect condition. Although the ability to make this distinction was precisely what our study aimed to test, the Study 2B vignettes used clearer indicators of poverty and neglect. Third, although online recruitment methods lead to samples that tend to be more diverse than student samples, such methods do not typically lead to nationally representative samples (Buhrmester et al., 2011). We included language in the CloudResearch description for Study 2B (i.e., that we were interested in "a diverse set of perceptions and experiences") to encourage a wide range of

individuals to complete the study. However, the ethnic makeup of our samples differed from that of the general U.S. population and even more so from that of people who most commonly interact with the child welfare system. Therefore, generalizing our findings must be done with caution, and other recruitment methods should be considered to complement our sample. Data quality can also be an issue with online surveys. We excluded bots and blatantly inattentive participants who failed attention checks. However, some participants may still have failed to fully comprehend the scenarios or questions posed. This could have led to bias in their responses. Conducting research in this way, however, is common and can be interpreted by recognizing the potential for this to occur. Finally, some of our analyses were exploratory, developed after viewing the data and results of our planned analyses. Because these models were driven in part by the data itself, statistically significant results should be considered with a higher degree of skepticism, and replication would be beneficial.

Conclusions

Our research provides new insight into factors that influence laypersons' ability to accurately identify and report cases of neglect and, in doing so, offers valuable information relevant to reducing over- and underreporting of neglect. Although many laypersons were able to distinguish between situations with and without neglect, some continued to view situations of poverty as neglectful and as warranting a report to authorities. The tendency towards internal versus external attributions of blame helped to explain why laypersons perceive situations of poverty or neglect as neglectful and as situations that warrant reporting to CPS. Moreover, the COVID-19 pandemic had a significant, indirect impact on laypersons' identification and reporting decisions via attributions of blame. Understanding when and why individuals both recognize and report neglect is crucial for targeted education and intervention campaigns,

especially when communities and society change in ways that alter how individuals encounter and evaluate potential victims and their situations.

CONCLUSION

The COVID-19 pandemic had a significant impact on the world, not just because of the disease itself, but also because of the policies and mandates implemented to mitigate the spread of the virus. The lives of every family in the U.S. were changed because of the disease and its socioecological repercussions. Three studies examined the impact of the pandemic on the occurrence and identification of child abuse and neglect.

Study 1 addressed how the identification, incidence, and potential severity of child maltreatment changed during the first year of the COVID-19 pandemic (2020) compared to the year prior (2019). Findings showed divergent trends – while reports of suspected maltreatment were lower in 2020 compared to 2019, the proportion of those reports that went on to receive medical evaluations at CMECs were higher across the same period. This suggests an increase in the incidence or severity of cases of maltreatment, or in the relative number of serious cases reported to authorities.

Studies 2A and 2B took a different approach to the topic, addressing how the pandemic may have impacted laypersons' ability to accurately identify and report instances of child neglect, the most common form of maltreatment. Study 2A compared data collected prior to the pandemic (in 2018) to data collected in 2020, the first year of the pandemic. Study 2B built upon Study 2A by testing a potential mechanism that may account for individuals' perceptions and reporting decisions, attributions of blame. Though most laypersons were able to distinguish situations with and without neglect, some conflated poverty with neglect when making identification and reporting decisions. The tendency to attribute the situation to internal versus external factors partially explained laypersons' decisions.

These three studies provide insight into how the COVID-19 pandemic impacted families and our ability to identify and intervene in cases of child abuse and neglect. Study 1 found evidence to suggest that cases of maltreatment may have been increasing in number or severity, though further work is needed to confirm his possibility. Our findings did clearly show that the pandemic had a serious impact on the system used to identify cases of suspected maltreatment, leading to fewer reports to authorities. Moreover, when the system of mandated reporters we typically rely on was impeded because of the pandemic, we relied more heavily on laypersons to report their concerns of abuse or neglect. Study 2A and Study 2B findings showed that these laypersons tend to make mistakes when identifying and reporting cases of neglect. Because intervening in cases of child maltreatment relies on the ability to identify situations in which children are experiencing harm, these findings are concerning and highlight the need to expand methods of identifying children and families in need of services. Broad education efforts and more adaptable identification and service delivery systems would be beneficial avenues to pursue.

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Appendix A

Study 2A Vignettes

Condition 1: Yes Poverty, Yes Neglect

7-year-old Destiny and her mom, Tina, live in a large city. Tina is Destiny's only caregiver. Tina works part-time at a fast-food restaurant, and Destiny attends a local school. After school, Destiny typically walks to a park where she waits for her mom to pick her up by car. Tina picks Destiny up at the park around 7pm, and they then sleep in the car overnight. In the morning, Destiny walks to school and gets breakfast and lunch at school. She says that her mom always finds something for them to eat in the evening and that she gets enough to eat every day. Destiny attends school regularly. Sometimes Destiny can get ahold of her mom on her mom's cell by using a friend's phone when she needs to, and sometimes her mom's number is out of service and not accepting calls. Destiny says that she has felt scared waiting for her mom, and that yesterday her mom did not come pick her up at all, so she walked to a friend's house for the night. Destiny and her mom, Tina, both agree that they are the most important people in each other's lives.

Condition 2: Yes Poverty, No Neglect

7-year-old Destiny and her mother, Tina, live in a large city. Tina is Destiny's only caregiver. Tina works part-time at a fast-food restaurant, and Destiny attends a local school. After school, Destiny typically walks to a park where she waits for her mom to pick her up by car. Destiny and Tina then sleep in the car overnight. In the morning, Destiny walks to school and gets breakfast and lunch at school. She says that her mother always finds something for them to eat in the evening and that she gets enough to eat every day. Destiny attends school regularly. Sometimes Destiny can get ahold of her mom on her mom's cell by using a friend's phone when she needs to, and sometimes Tina's number is turned off and not accepting calls. Tina tells Destiny that when she can't get ahold of her mom, she should go to her best friend's house to wait for her mom. Destiny and Tina both agree that they are the most important people in each other's lives.

Condition 3: No Poverty, No Neglect

7-year-old Destiny and her mother, Tina, live in a large city. Tina is Destiny's only caregiver. Tina is a high-level executive at a large firm in the city, and Destiny attends a local private school. After school, Destiny typically walks to a park where she waits for her mom to pick her up by car. Destiny eats breakfast at home, brings a lunch to school, and says that her mother always finds something for them to eat in the evening. She says she always gets enough to eat every day. Destiny attends school regularly. Sometimes Destiny can get ahold of her Mom on her mom's cell by using her own cell phone, and sometimes her mom's phone is turned off and not accepting calls. Tina tells Destiny that when she can't get ahold of her mom, she should go to

her best friend's house to wait for her mom. Destiny and Tina both agree that they are the most important people in each other's lives.

Condition 4: No Poverty, Yes Neglect

7-year-old Destiny and her mother, Tina, live in a large city. Tina is Destiny's only caregiver. Tina is a high-level executive at a large firm in the city, and Destiny attends a local private school. After school, Destiny typically walks to a park where she waits for her mom to pick her up by car. Tina picks Destiny up after she is done with work around 7pm. Destiny eats breakfast at home, brings a lunch to school, and says that her mother always finds something for them to eat in the evening. She says she always gets enough to eat every day. Destiny attends school regularly. Sometimes Destiny can get ahold of her mom on her mom's cell by using a friend's phone when she needs to, and sometimes her mom's number is out of service and not accepting calls. Destiny says that she has felt scared waiting for her mom, and that yesterday her mom did not come pick her up at all, so she walked to a friend's house for the night. Destiny and Tina both agree that they are the most important people in each other's lives.

Appendix B

Study 2B Vignettes

Condition 1: Poverty, Neglect, COVID

Please read the following story carefully.

Location: A large urban city in the United States

Time: August 2020

Mother: Tina

Daughter: Destiny

7-year-old Destiny and her mom, Tina, moved into a motel in a large city. Tina is Destiny's only caregiver. Tina lost her full-time job due to COVID-19 and was unable to pay rent. She finally started working again as an essential worker at a grocery store, although only part-time. While Tina is at work, Destiny stays alone during the day and walks to pick up free lunch every day at her school. Tina is sometimes home by dark, but sometimes chooses to go out at night and does not come home until very late. Sometimes Destiny can get ahold of her mom on her mom's cell, but other times her mom ignores her phone calls. Destiny says that she has felt scared waiting for her mom at night and is sometimes hungry. Yesterday her mom did not come home at all, so she slept in the closet. Destiny and Tina, both agree that they are the most important people in each other's lives.

Condition 2: Poverty, No Neglect, COVID

Please read the following story carefully.

Location: A large urban city in the United States

Time: August 2020

Mother: Tina

Daughter: Destiny

7-year-old Destiny and her mom, Tina, moved into a motel in a large city. Tina is Destiny's only caregiver. Tina lost her full-time job due to COVID-19 and was unable to pay rent. She finally started working again as an essential worker at a grocery store, although only part-time. While Tina is at work, Destiny stays alone during the day and walks to pick up free lunch every day at her school. Tina is sometimes home by dark, but sometimes has to work late into the night and does not get home until very late. Sometimes Destiny can get ahold of her mom on her mom's cell, but other times her mom cannot answer the phone. Destiny says that she has felt different but always has enough to eat. Tina tells Destiny that when she can't get ahold of her mom, she should go to her best friend's house to wait for her mom. Destiny and Tina, both agree that they are the most important people in each other's lives.

Condition 3: Poverty, Neglect, No COVID

Please read the following story carefully.

Location: A large urban city in the United States

Time: August 2018

Mother: Tina

Daughter: Destiny

7-year-old Destiny and her mom, Tina, live in a motel in a large city. Tina is Destiny's only caregiver. Tina finally started working at a grocery store, although only part-time. While Tina is at work, Destiny stays alone during the day and walks to pick up free lunch every day at her school. Tina is sometimes home by dark, but sometimes chooses to go out at night and does not come home until very late. Sometimes Destiny can get ahold of her mom on her mom's cell, but other times her mom ignores her phone calls. Destiny says that she has felt scared waiting for her mom at night and is sometimes hungry. Yesterday her mom did not come home at all, so she slept in the closet. Destiny and Tina, both agree that they are the most important people in each other's lives.

Condition 4: Poverty, No Neglect, No COVID

Please read the following story carefully.

Location: A large urban city in the United States

Time: August 2018

Mother: Tina

Daughter: Destiny

7-year-old Destiny and her mom, Tina, live in a motel in a large city. Tina is Destiny's only caregiver. Tina finally started working at a grocery store, although only part-time. While Tina is at work, Destiny stays alone during the day and walks to pick up free lunch every day at her school. Tina is sometimes home by dark, but sometimes has to work late into the night and does not get home until very late. Sometimes Destiny can get ahold of her mom on her mom's cell, but other times her mom cannot answer the phone. Destiny says that she has felt different but always has enough to eat. Tina tells Destiny that when she can't get ahold of her mom, she should go to her best friend's house to wait for her mom. Destiny and Tina, both agree that they are the most important people in each other's lives.