Brief Report: Findings from the Emory Neurodevelopmental Exposure Clinic Survey of Caregiver Experiences with Online Learning

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Introduction
Many children with clinical diagnoses, including children affected by prenatal alcohol exposure (PAE), are at risk for academic underachievement and difficulties with school functioning that may be exacerbated by less time of direct instruction, changes in services, and time out of the classroom (Thompson, 2020). Studies examining time out of in-person school due to inclement weather, extended breaks, or absenteeism have shown declines in academic achievement occurring more in mathematics than in reading (Thompson, 2020; Quinn & Polikoff, 2017). In March of 2020, most schools in the United States, including the state of Georgia, stopped in-person instruction and transitioned to remote learning as a preventive measure against the spread of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), often referred to by its provisional name of COVID-19, or by the common name of coronavirus (Hamilton et al., 2020). Remote learning consists of different types of distance learning instruction that include learning through correspondence, activities for caregivers to work with their child at home, and virtual or online instruction (Kuhfeld et al., 2020; Bacher-Hicks, Goodman, & Mulhern, 2021). Between May 20, 2020 and June 2, 2020, 80% of households with school-aged children reported using online resources for instruction (see https://www.census.gov/data/tables/2021/demo/hhp/hhp30.html#techdoc).

Because of the common use of virtual learning school closures during the pandemic, this survey project examined the experiences of caregivers of children with clinical diagnoses including children with prenatal alcohol exposure, with online learning. It is not clear how the transition and continuation with online learning may impact children with clinical diagnoses and or prenatal alcohol exposure who are at risk for academic and school problems. The information from the survey is to be used as starting point to address learning concerns of the children who receive services through Emory Neurodevelopmental Exposure Clinic (ENEC) as they return to school.

The findings from the survey suggested, regardless of clinical diagnoses of prenatal exposure to alcohol, that most caregivers were concerns about their children’s academic progress and their social, emotional, and behavioral state as a result of school closures and transition to online learning due to the pandemic. Caregivers of children with a clinical diagnosis of developmental delays or intellectual disabilities or caregivers reported less concerns about their children’s academic progress. As indicated by the results from the American Educator Panels conducted by the RAND corporation, it is likely that children with a clinical diagnosis of developmental delay or intellectual disability received alternative instructional approaches such more small group instruction online and adjusted assignments (Stelitano, Mulhern, Feistel, Gomez-Bendaña, 2021). Also, the results showed caregivers reported fewer academic concerns if their children required less assistance and had a reliable working device for online learning. The following sections of this report discuss the procedures, results, and conclusions from the survey.

PROCEDURES

Survey Questions
The survey asked three primary questions:

1. How did caregivers in the clinical sample describe their overall experience with online learning?

2. How did caregiver rate concerns about their children’s academic progress and social, emotional, and behavioral functioning?
3. Were there differences with demographics and online instruction that would influence caregivers’ experience and concerns about their children’s academics as well as social, emotional, and behavior state during school closures?

Survey Respondents

Surveys: In February of 2021, surveys were individually emailed to 1,068 caregivers whose children received services through Emory Neurodevelopmental Exposure Clinic (ENEC). Caregivers had signed approved consent to be in a database for participation in studies through the Center for Maternal Substance Abuse and Child Development (MSACD). To maintain confidentiality of protected health information, identifying information was stored separately from survey responses in a database that is approved through the Health Insurance Portability and Accountability Act (HIPAA) (See https://www.hhs.gov/sites/default/files/ocr/privacy/hipaa/administrative/combined/hipaa-simplification-201303.pdf). A total of 103 caregivers completed the survey giving a response rate of 9.6%. Five survey responses were removed from analysis due to children being younger than school-age (< 5 years of age); therefore, 98 responses were reviewed.

Participants: The children were between the ages of 5 and 19 years of age ($M = 11.16$, $SD = 4$). The children of the respondents were 60.2% male and 39.8% female. The racial make-up of the respondents was 31.6% identifying as Black or African American, 44.9% identifying as white, and 23.5% identifying as Asian, Latinx, or more than one race. Most children resided with their adoptive families (69.9%) or foster families (14.5%). Few of the children resided with a biological parent (5.1%) or in an informal kinship arrangement (9.6%). Most resided within areas of a large a metropolitan center or in counties surrounding a large metropolitan center (85.7%) with remaining residing in counties with very small to medium metropolitan centers or in rural areas (14.2%) (See Ingram & Franco, 2014).

Information about diagnoses or cognitive functioning was unavailable in the database for 21 of the respondents. For the respondents ($n = 77$) with complete information, 41.6% had documented prenatal alcohol exposure, and 58.4% had unknown or no documented history of prenatal alcohol exposure. Also, information about other clinical diagnoses ($n = 72$) was available for some of the respondents. Regardless of documented history of prenatal alcohol exposure 25% had clinical behavioral diagnoses only (e.g., adjustment disorder; unspecified emotional or behavioral disorder; anxiety; depression), 18.1% had a diagnosis of a developmental delay or intellectual disability (e.g., Autism or Intellectual Disability), and 56.9% had more than one diagnosis (e.g., speech and language impairment, learning disability, and at least one other diagnoses).

RESULTS

Participants

There were no differences when groups were examined by documented history of prenatal alcohol exposure ($n = 32$) compared to children with no or unknown history of prenatal alcohol exposure ($n = 45$) regarding sex, age, race, caregiver placement, or classification of county of residence. Also, no differences were noted between the groups on measures of cognitive, adaptive, and behavioral functioning. There were no differences on the same measures when respondents were grouped by clinical diagnoses of behavior only ($n = 18$), developmental delay or intellectual disability only ($n = 13$) or more than one diagnoses ($n = 41$). This suggested that the groups were matched.

Survey Responses

Question 1: How did caregivers in the clinical sample describe their overall experience with online learning? Table 1 presents the responses for the entire group.
There were no differences in caregiver ratings when compared by history of prenatal alcohol exposure or clinic diagnoses. Overall, 67.3% of the caregivers described their experience with online learning as “Fair” to “Poor” with 32.6% describing their experience as “Well”, “Very Well”, or “Excellent”.

Table 1
Caregivers Ratings of Overall Experience with Online Learning (N = 98)

<table>
<thead>
<tr>
<th>Rating</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Excellent</td>
<td>6.10%</td>
</tr>
<tr>
<td>Very Well</td>
<td>4.10%</td>
</tr>
<tr>
<td>Well</td>
<td>22.40%</td>
</tr>
<tr>
<td>Fair</td>
<td>22.40%</td>
</tr>
<tr>
<td>Poor</td>
<td>44.90%</td>
</tr>
</tbody>
</table>

**Question 2a:** How did caregivers rate concerns about their children’s academic progress and social, emotional, and behavioral functioning during online learning? Table 2 presents the caregivers responses about concerns of their children’s academic progress.

For the whole group, 62.2% of the respondents indicated they were “Moderately concerned” to “Very concerned” about their children’s academic progress. There were no differences caregivers’ ratings of academic concerns related to prenatal alcohol exposure. There were differences in caregivers’ academic concerns between children with more than one clinical diagnosis when compared to children with a developmental delay or intellectual disability. There were no differences in caregivers’ ratings of academic concerns between children with a behavioral diagnosis only and children with more than one diagnosis as well as children with a developmental delay or intellectual disability only.
Table 2
Caregiver Ratings of Academic Concerns (N = 98)

<table>
<thead>
<tr>
<th>Concern Level</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Very concerned</td>
<td>45.90%</td>
</tr>
<tr>
<td>Moderately concerned</td>
<td>16.30%</td>
</tr>
<tr>
<td>Somewhat concerned</td>
<td>9.20%</td>
</tr>
<tr>
<td>Slightly concerned</td>
<td>11.20%</td>
</tr>
<tr>
<td>Not at all concerned</td>
<td>17.30%</td>
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</table>

**Question 2b:** How did caregivers rate concerns about their children’s academic, emotional, and behavioral functioning during online learning? Table 3 presents caregiver ratings for the entire group regarding social, emotional, and behavioral concerns.

For the entire group, 51.1% of the caregivers reported “Moderately concerned” or “Very concerned” with their children’s social, emotional, and behavioral functioning. Out of the whole group, 37.7% indicated “Somewhat”, “Slightly”, or “Not at all concerned” with their children’s social, emotional, and behavioral functioning. There were no differences between those with or without / unknown prenatal alcohol exposure and those with clinical diagnoses.

Table 3
Caregiver Ratings of Social, Emotional, and Behavioral Concerns (N = 98)

<table>
<thead>
<tr>
<th>Concern Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very concerned</td>
<td>37.80%</td>
</tr>
<tr>
<td>Moderately concerned</td>
<td>13.30%</td>
</tr>
<tr>
<td>Somewhat concerned</td>
<td>17.30%</td>
</tr>
<tr>
<td>Slightly concerned</td>
<td>10.20%</td>
</tr>
<tr>
<td>Not at all concerned</td>
<td>21.40%</td>
</tr>
</tbody>
</table>
**Question 3:** Were there differences with demographics and online instruction that would influence caregivers’ experience and concerns about their children’s academics as well as social, emotional, and behavior state during school closures?

There were no differences in demographics, cognitive, adaptive, and behavioral functioning, amount of online instruction, receipt of special education services provided through an Individualized Education Program (IEP), receipt of instructional supports that are not special education services, and amount of caregiver help between clinical groups or children with prenatal alcohol exposure. Additionally, there were no difference between groups or demographics regarding accessibility and reliability devices and internet needed for online learning.

Caregivers of children with more than one diagnosis reported more academic concerns when compared to children with developmental delay or intellectual disability only. No difference was found between children with a behavior only diagnosis when compared to children with more than one diagnosis or a development delay or intellectual disability only. Factors of the amount of online instruction, amount of special education services, amount of caregiver help with online learning, and device accessibility were examined to see if they were associated with caregivers’ ratings of academic concerns.

The findings indicated that children who had a diagnosis of developmental delay or intellectual disability only, received less caregiver help, and had easy access to a device were associated with caregivers’ rating fewer academic concerns. The RAND Corporation American Educator Panels interviewed teachers regarding their experiences with online learning and distance learning during the coronavirus pandemic (Stelitano et al., 2021). It was noted that approximately 40% of teachers interviewed reported making alternative instructional arrangements to support students with disabilities with online learning. The alternative arrangements included meeting in small group or having one-on-one interactions to support learning. It is likely that children with developmental delays or intellectual disabilities received more support online or given their needs for more intensive instruction, the children may have returned to in-person school before children with less intensive needs. The RAND report indicated that the additional support with online learning occurred less often in high-poverty schools with a majority of non-white students (Stelitano et al., 2021). Cultural or racial differences were not identified in this survey study. This might reflect the socio-economic status of respondents and the sample size of this survey. Additionally, children who required less caregiver support during online learning and access a device with ease, may reflect those who are higher function and generally have fewer learning challenges.

**SUMMARY AND SUGGESTIONS**

**Summary of Findings**

- There were no differences in groups related to clinical diagnosis, history of prenatal alcohol exposure, caregiver placement, classification of residence (e.g., urban-rural), and ethnicity.

- Regardless of diagnoses or prenatal exposure to alcohol, most caregivers (67.3%) rated their experience with online learning as “Poor” to “Fair”.

- Approximately, 62% of the caregivers indicated they were “Moderately concerned” to “Very concerned” about their children’s academic progress. Caregivers whose children had more than one clinical diagnosis had more concerns about academic progress when compared to caregivers with children who had a diagnosis of developmental delay or intellectual disability or a behavioral only diagnosis. There were not differences in caregivers’ concerns related to prenatal alcohol exposure.
Analyses indicated that caregivers of children who had a diagnosis of developmental delay or intellectual impairment reported less concerns about their children’s academic progress. Similar to the findings reported by Stelitano et al (2021), it is likely that children with a developmental delay or intellectual impairment in this survey received alternative instruction and more support or special education services while online due to their level of need.

Nearly, 51% of the caregivers responded as “Moderately concerned” to “Very concerned” about their children social and emotional development and behavior. There were no differences between clinical diagnoses or prenatal exposure to alcohol in caregiver ratings.

There were no differences between in caregiver ratings related to clinical diagnoses or prenatal alcohol exposure regarding hours online with instructors, instructional services, and reliability of internet or devices.

Caregivers had less concerns about children’s academic progress when devices were easily accessible, and children required less assistance from caregivers during online learning.

Suggestions

In this clinical sample, many of the caregivers expressed concerns their children’s academics, social-emotional status, and behavior when having to transition to online learning due to the coronavirus pandemic. There were no differences in caregiver experiences with online learning and concerns about academics and social, emotional, behavior functioning in children with clinical diagnoses and/or prenatal exposure to alcohol. The results reflected findings from surveys of caregiver concerns related to children’s online learning recruited from the community (see Horowitz, 2020; Li, Harries, Ross, 2020).

Based upon the findings from this and other surveys, children with clinical diagnosis and/or prenatal alcohol exposure and their families will need support to protect their general health, learning, and social and emotional well-being when they return to in-person school (Li, Harries, Ross, 2020; Kuhfeld et al., 2020). Some considerations might include:

- Children with a clinical diagnosis and/or prenatal alcohol exposure, who may be at further risk for academic problems and school failure due to the extenuating circumstances from the pandemic, will need academic and school supports including
  - Access to year-round instruction or summer school to support learning or to remediate possible learning loss during the pandemic.
  - Tutoring and other instructional supports to help children review material and skills or recoup skills that were not used during school closures and online instruction.
  - Careful monitoring of children’s learning progress.
  - Afterschool programs that provide academic support, homework assistance, as well as supervised social activities

- Children’s individual learning rates and academic progress prior to closures and transition to distance learning need to be compared to their learning rates and progress after participating in distance learning to adjust their learning plans, classroom accommodations, and special education services.
• Many children with a clinical diagnosis or affected by prenatal alcohol exposure will require supports to manage and cope with differences in school expectations and social demands of in-person instruction as they return to a school setting. Suggestions include
  
  o Adult supervision and support during unstructured school time (e.g., recess, lunchroom) to help children cope with the demands of a large setting and to interact with peers.
  
  o Social skills classes to help children with negotiation in group settings and different peer interactions.
  
  o Access to mental health services or counseling to help children cope with stress and/or changes with expectations in a group setting.
  
  o Clearly defined protocols at school on how to support the mental health needs of children as they return to school and throughout the school year. This would include training instructors to recognize children who are experiencing stress or have other mental health needs, steps to contact the appropriate school staff (e.g., social workers, counselors) to speak with families, and to refer for services.

• Collaboration between schools, caregivers, and community organizations. This would include working closely with parent organizations (e.g., Parent-Teacher Associations) and other community organizations to ensure wrap-around supports to meet caregivers’ needs.

• Develop guidelines for the use of digital instruction, devices, and instructional approaches for in-person instruction and distance learning. This includes amount of time children are to be on a device, types of activities and response modes, and protections related to children’s social media use, entertainment, and access to making consumer purchases online while at school.

• Preparation to provide effective distance learning in case of recurrence of the pandemic or another large-scale emergency where schools need to be closed for long periods of time. Some areas to consider would include teacher training, children’s accessibility to reliable devices, alternative methods to provide instruction, support for parents while children are home with online learning, and access to consistent special education and other school-related services.
REFERENCES


