

**Understanding and Addressing the Outsized Effects of COVID-19 on the Blind and Low  
Vision Community: How Aira's Users Are Impacted**

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### **Abstract**

In response to the sudden outbreak of SARS-CoV-2 (the virus that causes COVID-19), Aira conducted an online survey on March 17, 2020 that included 33 open and closed-ended questions. The purpose of the survey was to gain an understanding of the virus' effects on Aira's blind and low vision community members. The survey was sent to both current and former Aira users, resulting in a total of 240 participants. The following report incorporates their perspectives, discusses Aira's new "distance learning program", and suggests future steps Aira stands to take or to consider in order to meet the demands of the emerging coronavirus pandemic.

**Introduction:**

The emerging global COVID-19 pandemic continues to sweep through and disrupt economies, industries, and communities in unprecedented ways. In a rush to formulate in-the-moment responses to such crises, public and private sectors often overlook the disproportionate impact these situations have on marginalized communities, such as people with vision loss. At the moment, crisis mitigation experts are asking individuals to practice social distancing and self-isolation techniques. However, the newly formed and ever-changing mitigation strategies for COVID-19 do not address the problems or concerns that blind and low-vision (BLV) individuals often face in readily accessing visual information and assistance in such public health emergencies. This, as our survey suggests, can result in differentiated experiences for many people in the BLV community during this COVID-19 pandemic which is not often reflected in the general population of the country. .

While the exact origin and biophysical properties of SARS-CoV-2 remain unknown, it is clear that human livelihoods are currently being defined by its rapidly changing nature and uncertainty. On March 4, 2020, Silicon Valley's behemoth tech companies began advising their workers to stay home when possible<sup>1</sup>. As of March 28 of this year, approximately 50% of residents in the U.S. will have been ordered to stay at home if they are considered non-essential to basic services.<sup>2</sup> In mere weeks, employees have been forced to adopt new norms that most institutions have not adequately planned for. As a prime example, the education system has

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<sup>1</sup> Moss, J. J. (2020, March 5). Silicon Valley tech companies start giving work-from-home signal over COVID-19. Retrieved from <https://www.bizjournals.com/sanjose/news/2020/03/05/silicon-valley-tech-companies-start-giving-work.html>

<sup>2</sup> Lee, A. (2020, April 7). These states have implemented stay-at-home orders. Here's what that means for you. Retrieved from <https://www.cnn.com/2020/03/23/us/coronavirus-which-states-stay-at-home-order-trnd/index.html>

been thrust into the new reality of virtual teaching and learning. Private and public teachers have been assigned to rapidly create distance learning programs which require specific training and technical skills, including ensuring compliance with the Americans with Disabilities Act (ADA) standards of accessibility.

### **Methods:**

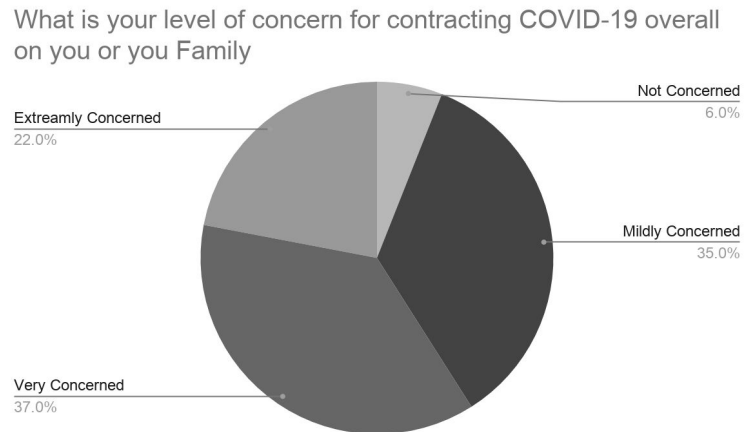
There are 7.5 million people in the U.S. who are either blind or have low vision.<sup>3</sup> While the SARS-CoV-2 virus does not discriminate along ethnic, economic, or political lines, it does disproportionately disrupt and complicate the daily routines of many in the BLV community. In order to deepen the understanding of the way in which the BLV population will specifically be impacted, Aira created an online survey with open and close-ended questions. The survey was sent to past and current users between March 17 and March 24, 2020. A total of 240 individuals participated. The aim of this report is to analyze the information gathered from this survey in order to provide insight into the particular ways that COVID-19 is directly and indirectly impacting the blind and low vision population. This report uses a qualitative analysis approach which is supported by descriptive statistics to describe the effects of COVID-19 on Aira's BLV community. Due to privacy agreements made with the Aira community, the identity of our participants will remain anonymous. The survey questions can be found in Appendix A.

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<sup>3</sup> Erickson, W., Lee, C., von Schrader, S. (2017). Disability Statistics from the American Community Survey (ACS). Ithaca, NY: Cornell University Yang-Tan Institute (YTI). Retrieved from Cornell University Disability Statistics website: [www.disabilitystatistics.org](http://www.disabilitystatistics.org)

### **Results:**

People in the blind and low vision community experience the world in ways that the majority of humans do not. The daily modifications, creativity, and skill sets employed by this population places it in a unique position during the COVID-19 pandemic. In terms of feeling concerned about the emergency, 93% of survey respondents reported being at least mildly concerned that they or their family would contract COVID-19. This level of concern stands in contrast to a study done by the Associated Press-NORC Center for Public Affairs Research in which the U.S. population as a whole reported a much lower level of concern (of 66%) when asked the same question.<sup>4</sup>



This contrast is a key example of the differentiated experiences that often exist in the BLV community when compared with the rest of the country. One aspect of daily life that is integral in the blind or low vision community is the reliance on tactile exchanges. A participant in the Aira study explains how the reliance on the sense of touch can be risky in a pandemic like COVID-19: “...with having no vision, you touch things a lot more whether they be counter surfaces or what have you, and that’s a concern.” In addition, other health risks for the BLV community during this pandemic include maintaining the recommended 6 feet of distance from others in public spaces. A sighted individual, for example, on public transportation uses essential visual cues to maintain social distance and to move away from people who appear

<sup>4</sup> Associated Press. (2020, March 19). AP-NORC Poll: Coronavirus Concern Now Surpasses That of Flu. Retrieved from <https://www.usnews.com/news/health-news/articles/2020-03-19/ap-norc-poll-coronavirus-concern-now-surpasses-that-of-flu>

sick. In contrast, blind individuals in these settings often lack access to specific visual cues and information that is required to readily follow such safe distancing measures and precautions in public settings.

Reduced visual information is compounded by Orientation and Mobility (O&M) techniques that were not developed with a contagious virus in mind. In order to navigate new environments independently, O&M training emphasizes the incorporation of white canes, guide dogs, and body-centered approaches, including touch --techniques that do not translate well to this pandemic.

When asked about the challenges that *COVID-19* particularly poses for BLV individuals, one participant in the Aira survey reported:

- Identifying things without touching them
- Getting assistance moving through spaces so I don't have to grab onto anyone's elbow.
- Waiting in lines and knowing when to move forward without bumping into people
- Identifying empty seats on public transportation where I can sit with some degree of distance from the next person.

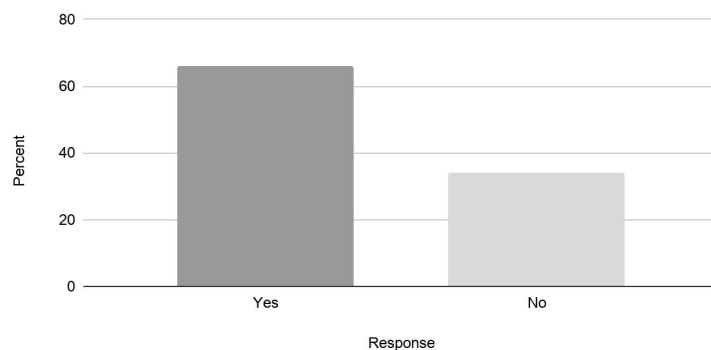
Navigating the situations above including the social distancing practices and public safety measures recommended in the current COVID-19 emergency.

Embracing a life guided by social distancing and stay-at-home government mandates may reduce the risk of virus transmission, yet it simultaneously introduces new complexities for the blind and low vision community. Two groups that are specifically impacted by work-from-home guidelines are employees and students. In fact, 69% of survey respondents self-identified as being either an employee or student and two thirds of those individuals had

been asked to transition to a remote role since the *COVID-19* pandemic began. As more employment and education duties and roles are forced to be conducted remotely, new technologies and platforms are being introduced to support these activities, such as distance learning, video conferencing

tools, and workplace chat applications. However, these virtual solutions are often not readily accessible for the BLV community and because of this, may present initial challenges to these

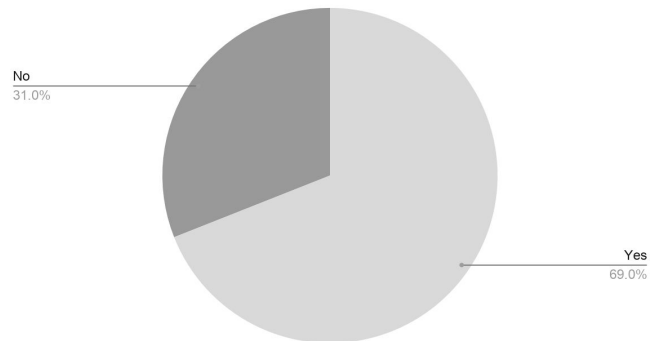
If you have a job where you worked outside your home such as an office or if you are a student who went to classes on campus - are you now being asked to work or participate from home?



somewhat prepared for the transition.

The majority of participants considered an increase in virtual employment and educational opportunities to be positive. Respondents claimed that they felt excited to remove multi-hour commutes to and from work. They stated appreciation for the option to work from home. This appreciation is two-fold. On the one hand, it allows them to reduce their potential exposure to the virus, and enhances productivity by eliminating distractions. However, on the

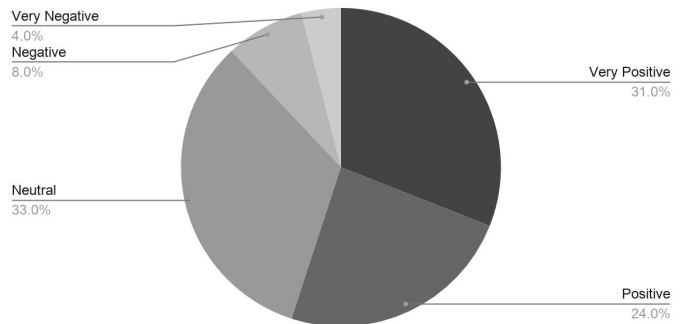
Are you employed or are you a student?



individuals in working or learning remotely. Nevertheless, 88% of our survey participants who were asked to work or learn remotely responded that they felt at least somewhat positive towards the new development. Likewise, an identical number of individuals also felt at least

other hand, even the most positive individuals replied to the open-ended question with trepidation and concern about the challenges that working and learning from home would introduce. Below are a few quotes from individuals who self-identify as “very positive” and “well prepared” for remote transitions:

How do you feel about working or attending from home?



“Some of my work can become graphic-based and without office colleagues to help; this is a concern.”

“Now that I am teleworking full-time, I do not have the visual support of professional reader services and co-workers when dealing with visual tasks and technical problems as I did when in the office.”

“I am concerned about my college classes because I work better face-to-face with my professors. I am also worried about accessibility of websites.”

“Accessing readings for a medieval studies class. The disabilities coordinator always helps me with this but I don’t know if she’ll help me in time.”

“Extra online school work. More help in terms of APA formatting with limited access to the writing center.”



While the above respondents reported optimism and preparedness, their quotes illuminate some of the challenges that the BLV community will encounter in the transition to working and learning in a remote environment. Their perspective exposes the juxtaposition between the benefits of remote participation and the expected difficulties that the BLV community will face. It is this dichotomy that will place the BLV community at a greater risk to lose their jobs and drop out of school.

The complications created by a rapidly changing health crisis will have short and long term implications for the blind and low vision community. Raue & Lewis (2011) estimate that 64% of 2 to 4-year degree granting postsecondary institutions have a student who is blind or visually impaired.<sup>5</sup> As of April 1, 2020, the closure of schools were either ordered or recommended in all 50 states.<sup>6</sup> Institutions will be forced to critically assess how their transition to virtually-delivered content will affect not only their general population, but those with special needs. The success rates of students with a visual impairment already lags significantly behind those of their peers. Dave Powers, the CEO of Perkins School for the Blind, estimates that only 40% of students with a visual impairment finish postsecondary education.<sup>7</sup> This is compared to the 60% national average for postsecondary completion rates.<sup>8</sup> This discrepancy highlights the pre-existing challenges within education for BLV students and foreshadows the new and complex ways that these students will be forced to navigate during the COVID-19 pandemic.

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<sup>5</sup> Raue, K., and Lewis, L. (2011). *Students With Disabilities at Degree-Granting Postsecondary Institutions (NCES 2011–018)*. U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

<sup>6</sup> Map: Coronavirus and School Closures (2020, March 6). Education Week. Retrieved March 23, 2020 from <https://www.edweek.org/ew/section/multimedia/map-coronavirus-and-school-closures.html>

<sup>7</sup>Ekiel, E. B. (2016, December 6). *Bringing a Business Mindset to Educating Visually Impaired Students*. Retrieved from

<https://www.gsb.stanford.edu/insights/bringing-business-mindset-educating-visually-impaired-students>

<sup>8</sup> Department of Education. (2019). *The condition of education 2018*. Retrieved from [https://nces.ed.gov/programs/coe/pdf/Indicator\\_CTR/coe\\_ctr\\_2018\\_05.pdf](https://nces.ed.gov/programs/coe/pdf/Indicator_CTR/coe_ctr_2018_05.pdf)

Blind and low vision students spend hours with disability coordinators and professors to plan for accommodations which will allow them to participate fully in their classes. When asked to return home and continue learning online each and every accommodation must be revisited and adapted to the home environment. Students may no longer have access to an on-campus writing center which under previous circumstances supported students in their brainstorming, writing, and editing of papers. One task that is particularly challenging for blind and low vision students is formatting requirements such as APA or MLA. Additionally, in-class scribes assigned to take notes from a professor's powerpoint are no longer available; and the large braille printers that are used to transcribe textbooks and class readings are physically out of reach.

Furthermore, online learning platforms often lack proper accessibility testing which results in students who are blind or have low vision being unable to complete their coursework without external support. The primary way digital text is accessed by BLV students is with a screen reader.<sup>9</sup> However, screen readers bring their own challenges. A seemingly simple “I agree” checkbox left unlabeled at the HTML code level could turn into hours of troubleshooting after an error message alerts the user of a seemingly unidentifiable missing element.

While distance learning might be a great immediate short-term solution to keep students learning during a pandemic, it is not a panacea and must be properly supplemented to overcome the accessibility shortcomings. Otherwise, the above mentioned challenges could lead to higher school dropout rates -- a result that would be devastating for BLV individuals who live and work in a society that prizes the completion of college. Finishing college is as much about intelligence as it is inertia. The more things that slow and obstruct a person's progress,

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<sup>9</sup> Center for Persons with Disabilities. (2017, December 21). Screen Reader User Survey #7 Results. Retrieved from <https://webaim.org/projects/screenreadersurvey7/>

the less likely they are to finish. This is especially true of those who are already navigating numerous obstacles to start.<sup>10</sup>

As the U.S. economy sheds jobs at an unprecedented rate during the COVID-19 pandemic, the additional complexities of working from home places the job security of the BLV community at greater risk than their sighted colleagues. The Great Recession in 2008 serves as a prime example. Between 2008 and 2011, 6.5% or approximately 410,000 of BLV workers lost their jobs. This was a 2.29% greater loss in employment than the wider US population. It took an additional 2 years after the broader economy turned around for the BLV community to begin adding jobs back and decreasing their unemployment. The American Disabilities Act does necessitate that employers make reasonable accommodations that allow a person to perform their jobs as described. However, the definitions of reasonable accommodations as well as the added costs associated with those accommodations often means that hiring individuals who are blind or low vision is simply avoided. Reader services, replacing sighted guides with visual interpreting services, telework accommodations and accessible employee applications are just some of many useful, but cost prohibitive measures employers may need to take to bring



<sup>10</sup> Rassen, E., Chaplot, P., Jenkins, D., & Johnstone, R. (n.d.). Understanding The Student Experience Through The Loss/Momentum Framework: Clearing the Path to Completion . Retrieved from <https://rpgroup.org/Portals/0/Documents/Archive/CbD-Understanding.pdf?ver=2016-10-24-234102-113>

additional BLV employees into the workforce. As coronavirus spreads and companies balance sheets are tightened many companies are looking at ways to reduce costs. While telework strategies can work, and as seen in our survey even increase the job satisfaction of some BLV employees, there is still apprehension to their successful implementation.

As a result of COVID-19, the United States experienced the most rapid shift in joblessness seen since unemployment insurance was created after the Great Depression<sup>11</sup>. In just one month, nearly 20 million people had filed for unemployment insurance. To put that into perspective, that is 7.6 million more than in the entire two year period of the Great Recession<sup>12</sup>. In recent years as unemployment has reached historically low levels not seen in five decades, employers have been forced to diversify the pool from which they hire. This has meant a significant effort to hire those with disabilities. It follows that those who are blind and visually impaired have increasingly been hired to fill positions they had not previously been considered for. During the recovery between 2011 to 2017 those who were blind or had a visual impairment added back 1.7% more jobs than the broader economy. Indicating as the labor market tightens a growing need for those historically left out of the economy are drawn back in. The inverse is also true though. The rapid decline in employment while widespread throughout the economy may present an increased challenge for those individuals hired during the best of times, to regain the jobs lost during the worst of times.

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<sup>11</sup>Jones, C. (2020, April 8). Thursday's Unemployment Claims Could Match Last Week's 6.6 Million. Retrieved from <https://www.forbes.com/sites/chuckjones/2020/04/08/thursdays-unemployment-claims-could-match-last-weeks-66-million/#78f5d08a5fcf>

<sup>12</sup> Dam, A. V. (2020, April 3). Analysis | This week's awful jobs numbers, in perspective. Retrieved from <https://www.washingtonpost.com/business/2020/04/03/understanding-march-job-report/>

Aira is a five-year-old commercial startup that provides on-demand 24/7 service to those who are blind or have low vision. Users connect with a trained live agent through a camera equipped smart device to receive visual information described to them verbally. Tasks can be as small as “what is the expiration date of this milk,” or as large as “I need help to build this Ikea crib for my new baby.” For five years Aira has bridged the gap in accessibility technology not only for general home tasks, but also in educational and work settings. When COVID-19 swept across the globe, Aira was already positioned to step up and continue providing its services to those needing to navigate a rapidly changing world. Aira’s service is free to use on a daily basis for any five-minute call. For those with or without a subscription to the service, Aira stepped in to provide its services for free for 90 days to any individual needing to transition to distance learning whether because of the COVID-19 or not. We look forward to partnering with educational institutions to continue to provide our services on a long-term basis to their blind and low vision students.

**Further Work:**

Future research is necessary to better understand how COVID-19 is affecting the broader population of individuals who are blind or have low vision. One direction to be explored is how public and private institutions can better deliver accessible information, resources, and services for the BLV community, and how technology-driven companies like Aira can assist these institutions.

Aira is partnering with industry leaders in a collaborative effort to understand and address the impacts of the COVID-19 pandemic on individuals who are blind or low vision. The objectives of these new partnerships include:

1. To drive a greater impact by forming a collective of key organizations.
2. To deploy the collective organizations resources to collect data to more broadly illuminate the impact of COVID-19 on individuals who are blind or who have low vision.
3. To analyze the collected data and disseminate the analysis - driving awareness of others to current and evolving impacts over time.
4. To provide a platform to secure the safety, health, productivity, and independence of the community by focusing organizational efforts.