

INTRODUCTION

Early Intervention

- Early intervention refers to services that are provided by any skilled professional working with children with disabilities to support development and address developmental delays or differences.¹
- Federally-funded early intervention calls for the engagement of families by¹:
 - attending appointments to determine needs
 - setting intervention goals
 - applying the skills learned from professionals to daily life

Social Media

- One growing method of information dissemination that could support these goals is social media.²
- Twitter was one of the widest used social media platforms during COVID/social isolation. Use is associated with the same age range as typical first time parenthood.^{2,3,4}

PURPOSE



The goal of this study is to provide a preliminary assessment of the types of information accessible on Twitter about early intervention.

METHODS

This study was determined to be non-human subjects work by the UConn IRB. Data analysis was supported by Leadership Education in Neurodevelopmental and Related Disabilities (LEND) trainees in the Audiology Discipline as part of their research competencies

Tweet Collection

- A sample of tweets with both text and images including the key term “early intervention” was collected for this retrospective study across three time periods.

Date Selection

- Pre-COVID - 6/20/19 to 12/20/19
- COVID -1/20/20 to 5/10/21
- Post-Vaccination - 6/10/21 to 12/10/21

Tweet Exclusion

- Each tweet was reviewed by a member of the research team to ensure
 - It was in English
 - It discussed Early Intervention as described in the introduction

Data Analysis

- Tweets were assessed based on:
 - Twitter Account of Origin - Based on a review of the account biography and linked website
 - Engagement Statistics - The number of likes, retweets, and replies collected by a web scraper
 - The number of followers the account of origin had collected within a 24 hour period
 - Flesh-Kincaid Grade Level (FKGL) analysis – calculated on the text collected by the web scraper
 - Diagnostic Label - All tweets were coded in the inductive method based on the diagnostic label discussed.

RESULTS

Account Type	Pre-COVID	COVID	Post-Vaccine
Individual/Personal	425	197	329
Clinical Practices/Providers	114	125	109
Nonprofit Organizations	121	33	89
Ambiguous/Undeterminable	109	48	64
Government/State Organizations	53	41	43
Academic	60	15	40
Job Agencies	45	15	55
Commercial/For Profit Organizations	63	16	28
News Outlets	12	25	23
Account Suspended/No Longer Exists	16	11	17
School Districts	19	10	8
Professional Organizations	22	3	6
TOTAL	1059	539	811

Table 1. User Account Types Over Time.

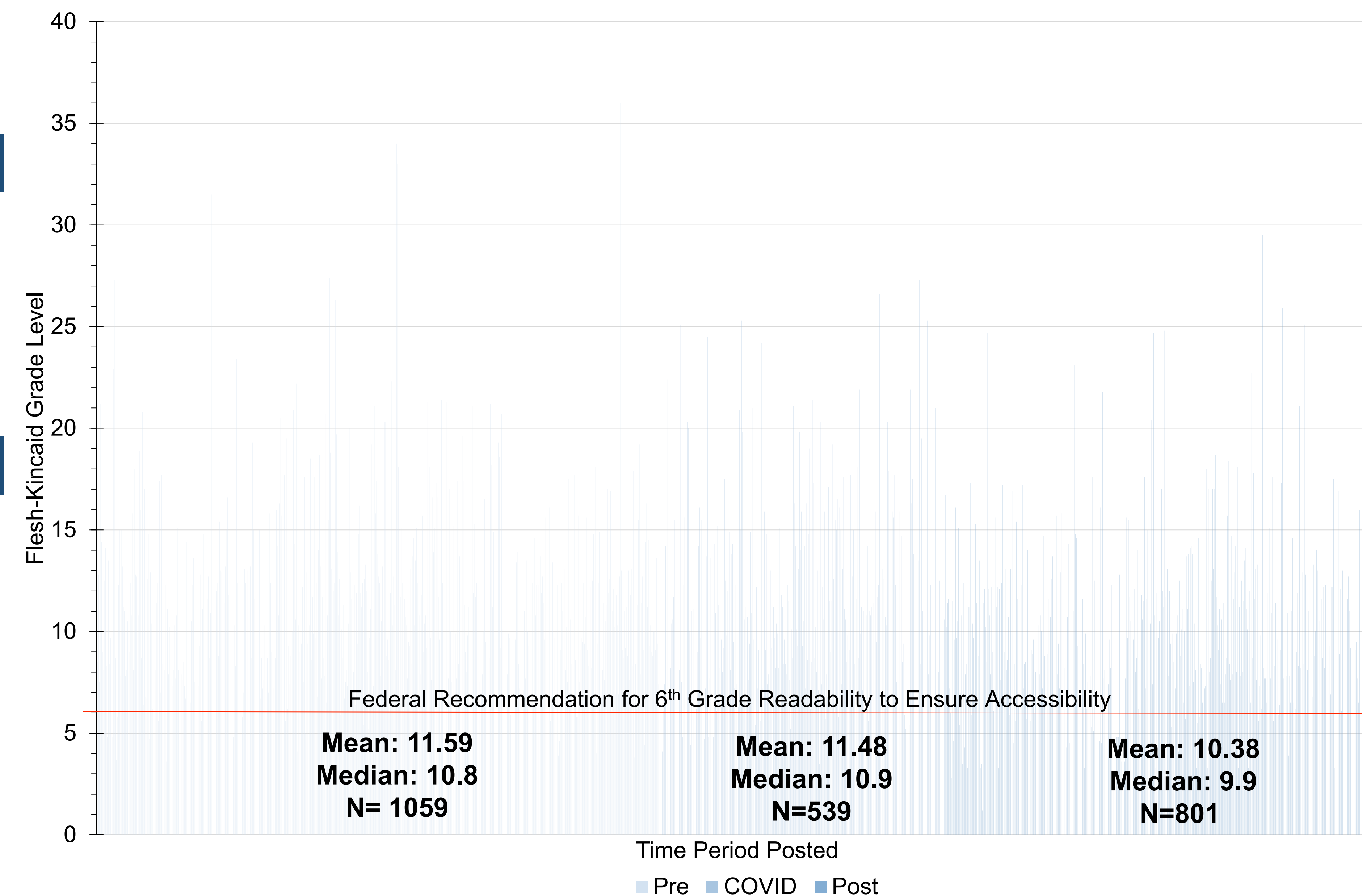


Figure 1. Readability of Tweets Over Time⁶

Measure	N	Percent Included	Min	Max	Mean	SD
Pre-COVID		36.7%				
Reply	1059		0	152	.43	4.74
Likes	1059		0	124	3.38	9.56
Retweets	1059		0	96	1.29	4.68
Followers	1048		0	487900	4401.019	21726.16
COVID		34.1%				
Reply	539		0	16	.35	1.08
Likes	539		0	233	3.91	15.32
Retweets	539		0	56	1.03	3.80
Followers	535		0	110000	16827.82	89978.09
Post-vaccine		28.8%				
Reply	811		0	26	.45	1.42
Likes	811		0	398	6.09	23.21
Retweets	811		0	52	1.39	4.03
Followers	801		0	130000	9324.351	71829.95

Table 2. Engagement Statistics Over Time.

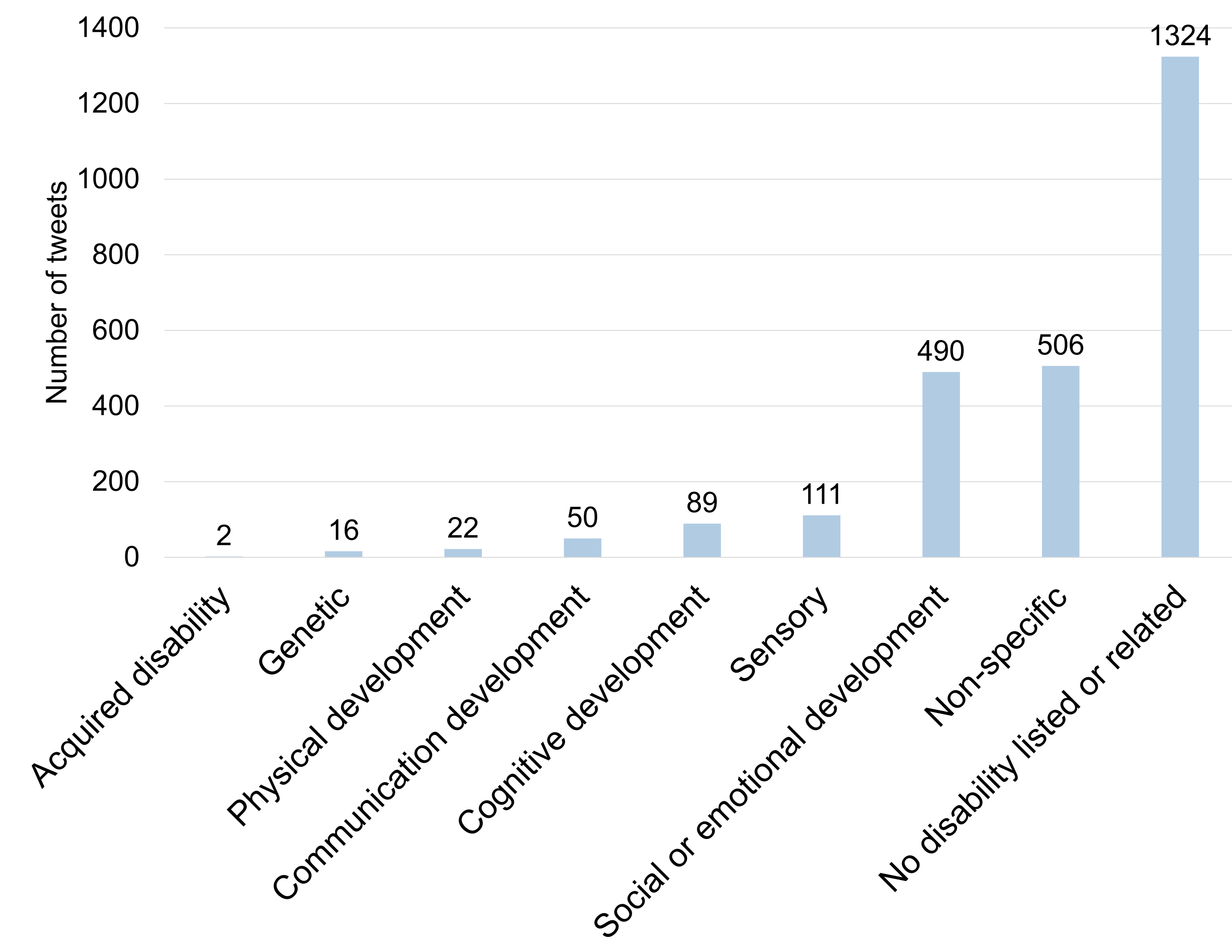


Figure 2. Diagnostic Label Referenced in Tweet
A breakdown of the Sensory Category indicated that 97 tweets directly related to hearing.

DISCUSSION

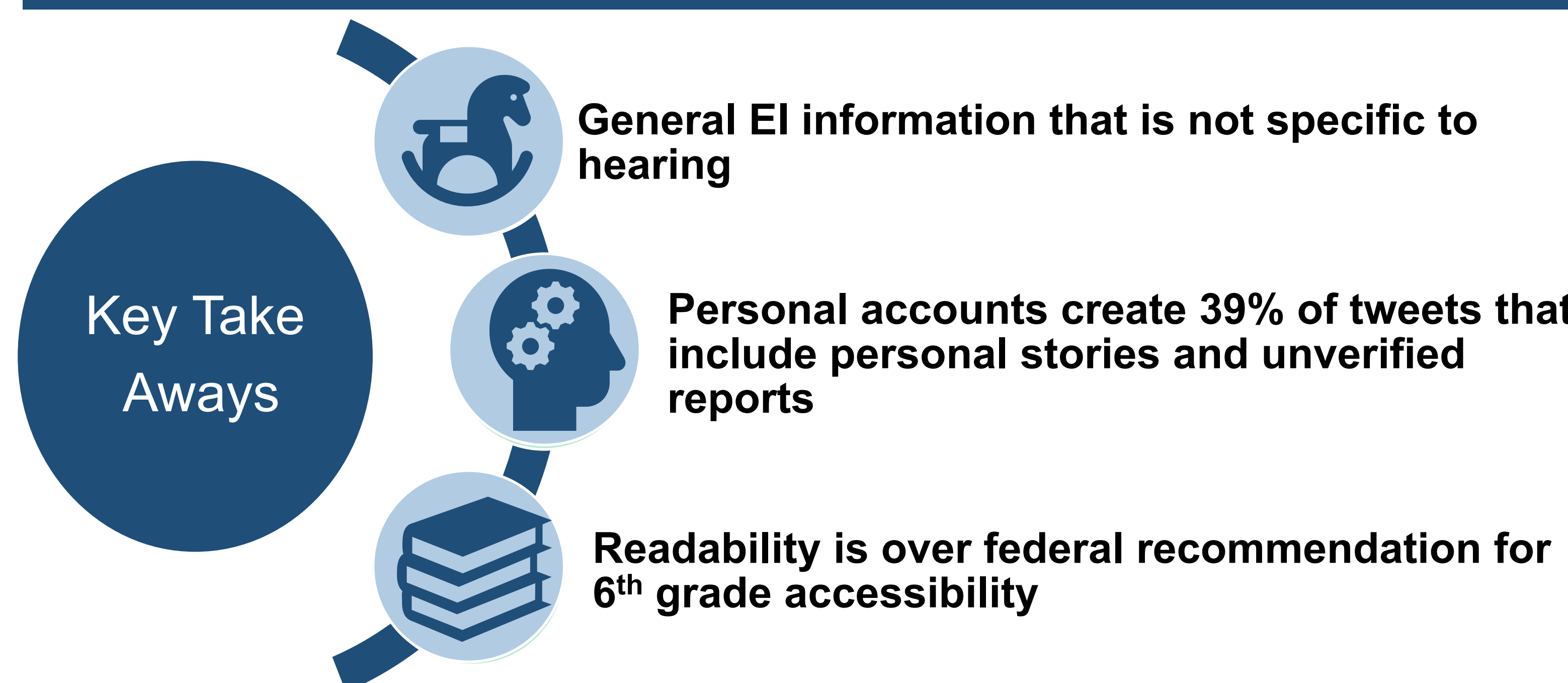


Figure 3. Main components of the dataset.

Future Directions

Continued work in the AR Lab is assessing the content of hearing-specific tweets to determine the type of content that is being distributed.

Twitter represents one means of information distribution, other social media platforms that use different mediums, should be assessed.

ACKNOWLEDGEMENTS

We thank our software engineer, Alexander Gautherin, for building our custom web scraper for this project. CT LEND Trainees Tayla Duntz, Alexis Simmons, Haley Danowski, and Vicky Zysk were key partners in the analysis of this data and were a part of this project as their individual research projects. The development of this paper was supported, in part, by funding from the U.S. Department of Health and Human Services, Health Resources and Services Administration (Award #T73MC30115) and the U.S. Department of Health and Human Services, Administration for Community Living, Administration on Intellectual and Developmental Disabilities (AIDD) (Award #90DDUC0071) awarded to the University of Connecticut Center for Excellence in Developmental Disabilities Education, Research, and Service. The opinions expressed, however, are those of the authors and do not necessarily reflect the official position of the Departments.

REFERENCES

- ¹ Individuals with Disabilities Education Act, 20 U.S.C. § 1436 (2004).
- ² Pew Research. (2021). *Social Media Fact Sheet*. <https://www.pewresearch.org/internet/fact-sheet/social-media/?menuitem=14b718d-7ab6-46f4-b447-0abd510f4180>
- ³ Centers for Disease Control and Prevention. (2022). *Birth and Natality*. National Center for Health Statistics. <https://www.cdc.gov/nchs/natality/natins.htm>
- ⁴ Centers for Disease Control and Prevention. (2017). *National Survey of Family Growth*. National Center for Health Statistics. https://www.cdc.gov/nchs/nsg/key_statistics/b.htm#agefathers
- ⁶ Woodruff, T. & Cienkowski, K. (2021). Readability of Online Hearing-Based Early Intervention Materials. *Journal of Early Hearing Detection and Intervention*, 6(2), 39-44. DOI: <https://doi.org/10.26077/2c6d-c243>

