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Understanding the Themes of Disability Discourse Through Reddit Comments

by

Brandon Palonis

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Software Engineering

Supervised by
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To my parents and brother, thank you for your bottomless love and support.

To Brian and Aizaz, could not have done this without you guys.

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Abstract

With the advent of internet forums, sharing opinions in a public sphere has never been easier, especially for those facing marginalization in their communities. Forums offer a neutral, semi-anonymous space wherein people may feel more compelled to share intimate details about the characteristics of their lives. This paper focuses on internet forums related to disabilities, specifically those found on Reddit, and uses Latent Dirichlet Allocation (LDA) to extract topics from the corpus of 3 subreddits: r/Blind, r/ADHD, and r/Disability. The features are then put into key term groups that are defined by a key phrase. This created category taxonomy is then used to qualitatively analyze the topics of discussion themselves through the posts and how these topics change over time.

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Chapter 1

Introduction

1.1 Motivation

Social media websites are generally very public-facing for users; on Facebook, for instance, a created profile for a user usually would show personal information about them such as their name, location, and family members. Reddit, however, is a pseudonymous social media website, wherein users create an account that does not directly reveal their identity outright, but may feature personalized information for a given user. Such features like the type of subreddits the account is following may reveal their interests, but generally would not be immediately recognizable to someone unfamiliar with the person who made the account. Reddit, being pseudonymous, generally can allow for more intimate discussion between users who do not have to fear that they are giving out too much identifiable public information.

Previous work has focused on studying the sociological factors of posting on Reddit: such as the discussion of potentially stigmatizing topics as they relate to a specific group (parents) [1], the analysis of post interactions over time and behavioral trends of conversations and posts [10, 3], and the impact and design of Reddit's moderation tools and how those affect subreddit behavior [5]. Reddit conversations can be insightful to understanding the discourse between specific types of users or groups of users.

This research investigates the themes of topics discussed on disability-related subreddits and seeks to categorize and label common topics of discussion. These categories are then used to qualitatively analyze comments and posts to understand different factors about

discussion of disabilities in online forums. By reading and categorically defining the topics of conversation on these subreddits, this research seeks to use the resulting analysis of the lives and discussions of people with disabilities in order to support these people and feature their words, ideas, and struggles directly. Furthermore, by using algorithmic methods to generate topics of conversation based on the posts, millions of posts can be analyzed quickly and then the generated topics can be manually refined to be used for greater understanding and qualitative analysis.

Three subreddits were chosen for this purpose: [r/Blind](https://reddit.com/r/Blind)¹, [r/disability](https://reddit.com/r/disability)², and [r/ADHD](https://reddit.com/r/ADHD)³. These specific subreddits were chosen for being communities built around either the concept of general disabilities ([r/Disability](https://reddit.com/r/Disability)) or for being a support system and place of knowledge based around a specific disability ([r/Blind](https://reddit.com/r/Blind), [r/ADHD](https://reddit.com/r/ADHD)). [r/Blind](https://reddit.com/r/Blind) and [r/ADHD](https://reddit.com/r/ADHD) were also chosen for featuring disability discussion relating to "visible" (physical) or "invisible" (mental) disabilities.

1.2 Research Questions

- **RQ1: *What topics are discussed on r/Blind, r/disability, and r/ADHD?*** First, this study aims to uncover topics of discussion between the three subreddits. This is accomplished by running a Latent Dirichlet Allocation (LDA) model over the corpus of subreddits, using this taxonomy to label a dataset of comments, followed by manual analysis of the generated and tagged topics to create a final taxonomy of categories of discussion. The dataset is then labelled with categories to allow for qualitative analysis of the themes present in comments.
- **RQ2: *Which topics receive the most interaction over time per subreddit?*** Next, this study seeks to understand which topics of discussion receive the most interaction per year in each subreddit. This is accomplished by charting the number of categories

¹<https://reddit.com/r/Blind>

²<https://reddit.com/r/disability>

³<https://reddit.com/r/adhd>

per subreddit per year and using this information to understand how topics changed from year to year or from subreddit to subreddit overall.

Chapter 2

Related Work

The focus of this section is literature pertaining to two main areas relating to the observations and discussions of online comments of people with disabilities. First, literature analyzing self-expression online through Reddit discussions. Utilizing Reddit comments as a form of sociological study is becoming an increasingly popular topic. The second area focuses on analysis of data present on social media and the utilization of this data for the purposes of information and understanding. The research of this paper is attempting to bridge the gap between these two concepts by utilizing and analyzing data from people with disabilities on social media for the purposes of understanding their self-expression and forms of discussion.

2.1 Self-Expression for People with Disabilities

Morris et al. [7] use a survey to measure for what purposes do people with disabilities use their mobile devices. The survey asks people to describe their disabilities and then asks people with disabilities to describe the features they use most on their smartphone such as texting, internet, or social media. The paper reports percentages of smartphone activities paired to disabilities and shows the common smartphone activities performed by people with 8 different types of disabilities. Social Media was reported to be a common smartphone activity by roughly 67% of participants. The activity that placed the highest was "Texting" with an average of 87% of people with disabilities reporting it as a common smartphone, followed closely by "Internet" with an average of 81% of people.

Raghavendra et al. [9] perform study with 9 youth from rural Australia by providing them with assistive technology and training them to better to use social media. The goal of this research was to help increase social performance and satisfaction with their performance. They say that youth with disabilities report issues trying to use social media due to limited literacy and lack of knowledge of assistive technologies. Researchers posit that increased social media participation by people with disabilities can strengthen social networks and help with future employment. They say that previous studies focused only on urban youth and did not focus on rural youth, which experience a unique set of challenges in ways that urban youth do not, such as higher levels of socioeconomic disadvantage which helps to put the lack of assistive technologies and technical literacy into perspective.

Hollier [6], a researcher with a visual impairment recounts his life experiences and his participation in organizations like "Web for All" that focus on accessibility issues. Hollier recounts from personal experiences interviewing people with disabilities that he believes social media enables people with disabilities to have a "fair go", which is Australian slang for "equal opportunity." He recounts a hearing-impaired woman using Facebook to better socialize at parties, LinkedIn helping a blind man find work, and helping someone with motor disabilities find coupons for food delivery to make their lives easier. Hollier believes that the ability to talk to devices like Amazon Echo or Google Home as well contributes to helping people with disabilities live with equal opportunity. Ultimately Hollier says that accessibility cannot happen if people do not come together to facilitate it and dedicate their time to perfecting it.

Wang et al. [12] explore how people with disabilities in China are able to access information. They say that important information needed by people with disabilities is spread over a variety of online platforms. They use a semi-structured survey to understand how people with disabilities in China feel about their access to helpful information related to assistive technology and disability information. Through the responses to the survey they present ways in which they feel that the information services for people with disabilities can be improved, particularly through integration of information services and social media

platforms like WeChat and QQ.

2.2 Analysis of Data Present on Social Media

The main study that inspired the work of this paper was the previously mentioned study on the observations of parenting discourse in parenting subreddits. Ammari et. al [1] utilized comments and posts from three parenting-related subreddits and analyzed the differences in topics and posting behavior between throwaway and regular Reddit accounts. A throwaway account is one created for the purposes of making posts that cannot be traced back to a main account. According to Ammari et al., throwaway accounts are used more often to discuss serious or stigmatizing topics than a regular account. By studying what throwaway accounts in parenting subreddits are discussing versus their main account counterparts, the authors are able to understand what topics of discussion are potentially stigmatizing or difficult for parents to be able to ask in a normal public online forum such as Facebook. Ammari et al. creates a taxonomy of themes discussed by throwaway accounts and uses this taxonomy to understand the differences in themes between throwaway and non-throwaways.

Gilbert [5] carries out semi-structured interviews with moderators and community members of r/AskHistorians and analyzes a highly-upvoted post on the subreddit. She uses this data to understand how the rules and moderation affects users and moderators. According to Gilbert, the moderation team of r/AskHistorians is one of the more reputable on the website, and she analyzes how the community combats misinformation among its ranks with moderation techniques.

August et al. [2] wanted to understand if the language used on r/science, the most popular science-based subreddit, created a language barrier that might possibly prevent a layman from being able to interact and participate in discussions. Researchers trained a language model on r/science and used that model on other subreddits to examine the cross entropy to see if the language of r/science differs meaningfully from the language used on other subreddits. They also examined the language used by users that regularly post in r/science versus users that post a minimal number of times to see if new users truly do

experience a language barrier on the subreddit.

Thukral et al. [10] and Choi et al. [3] both use datasets of Reddit comments and perform statistical methods on them to gain insight into the nuances of Reddit discussions, but each have different goals in mind. Thukral et al. focus on studying the interaction of posts over time, categorizing posts based on these interaction patterns, and determining focal points of posts that are interacted with. The ultimate goal of Thukral et al. is to create and present a framework for identifying behavioral trends in Reddit discussions. Meanwhile, Choi et al. model Reddit conversations based on three important factors: volume, responsiveness, and virality. Choi et al. use these factors to understand engagement within Reddit threads and how user behavior determines those three aforementioned factors of engagement.

Vachher et al. [11] also perform a sociological study of behavioral trends on Reddit, but do so in a unique way. During April 2017, Reddit had a crowdsourced pixel drawing page called r/place that was available for a 3-day period. The purpose of r/place was that individual users can place one pixel per 5 minutes, with the ultimate goal being to have communities come together to create crowdsourced art. Researchers observed the conflicts between communities in r/place, conflicts here being dueling pixel placements, in an effort to ascertain the community and culture of the involved subreddits.

Peng et al. [8] observe conversations on r/depression to seek in the creation of a technical writing assistance bot. The purpose of the bot is to either assess a user's comment or recommend examples for a user's comment to help discussions in online mental health communities. The ultimate goal of the bot is to help improve user confidence and satisfaction with their comments and to better steer users towards helpful or supportive mental health discussion.

Eberhard et al. [4] crowdsource a dataset of movie recommendations from r/MovieSuggestions. They use this dataset in the development of recommendation algorithms for movies based on a user's preference for other movies and also genre preferences.

Chapter 3

Study & Methodology

3.1 Dataset

3.1.1 Subreddit Selection

The chosen subreddits for this study were r/ADHD, r/Blind, and r/disability. All three subreddits directly feature disability discussion, education, perspectives, and support from users who report to have disabilities, guardians or authority figures such as parents and teachers, or those who may be disability-adjacent. As of April 2021, r/ADHD is the largest subreddit of the three by a wide margin, featuring 1.2 million members, which contrasts with r/disability's members count of 25.6 thousand and r/Blind's 12.8 thousand members.

The Reddit comments from all 3 subreddits used in the dataset were downloaded using Google's BigQuery¹ by utilizing an existing dataset of Reddit comments. The downloaded comments were dated from January 1st, 2015 to December 31st, 2019. Initially 2020 was to be included as well but was not available in the provided BigQuery dataset at the time of download. Only comments containing upvote scores of at least 1 were taken, the rationale that if a comment was negatively rated then it would not represent typical accepted community discourse. Table 3.1 shows the initial comment counts downloaded from each subreddit before the cleaning process begin, in total 1,722,769 Reddit comments from the three subreddits were downloaded.

¹<https://cloud.google.com/bigquery>

Pre-Cleaning Number of Comments Per Year			
	ADHD	Blind	Disability
2015	154,912	2,227	8,399
2016	203,075	5,765	8,706
2017	275,110	6,599	12,283
2018	411,227	8,957	19,073
2019	554,417	19,428	32,541
Total	1,598,741	43,026	81,002

Table 3.1: Comment counts prior to cleaning

3.1.2 Cleaning

Before feature extraction could begin, the data had to first be cleaned of comments that were considered unhelpful towards the overall goal of understanding major themes of discussion. For the initial round of cleaning, the decision was made to remove comments where the length of total characters in the comment was less than 25. In addition, any comments that appeared as "[deleted]" or "[removed]" were also removed from the dataset. Whenever a user either deletes their account or a comment made by their account, comments appear as [deleted]. If a moderator removes a comment on Reddit, the comment will appear as [removed]. Both [deleted] and [removed] made up sizable portions of the initial downloaded dataset. The reason for comment length being 25 or less initially was to try and remove short, nondescript comments: single emoticons or comments containing only general pleasantries like "thank you", "you're welcome", or variations on words like "Yes" or "Okay." This also removed comments consisting mostly of a single emoticon or series of emoticons.

To test the initial cleaning dataset, a sample of subreddit data was taken and manually reviewed. 60 comments from each year of each subreddit, totaling 900 were reviewed. It was found that, while the initial cleaning process had successfully removed many comments, many that were irrelevant or incoherent managed to remain such as exaggerated replies like "thank you!" containing enough exclamation points or emoticons to bypass the

Post-Cleaning Number of Comments Per Year			
	ADHD	Blind	Disability
2015	138,805	2,059	7,369
2016	182,451	5,114	7,733
2017	246,022	5,913	10,886
2018	364,904	8,065	16,659
2019	484,003	17,290	28,307
Total	1,416,185	38,441	70,954

Table 3.2: Comment counts post cleaning

25 character threshold, or general replies like "Thanks, I'll remember to!". After examination of the dataset, the decision was made to up the character limit to 35 and to take into account the comment upvote/downvote ratio, if a comment was under the limit but received at least 2 upvotes it was kept, otherwise it was discarded. After these new constraints were decided, the cleaning process began again. Upon second review of the data, many types of the aforementioned irrelevant comments had been removed. After both rounds of cleaning, a total of 197,189 comments were removed, for a final total of 1,525,580 comments, which can be seen in Table 3.2

3.1.3 Topic Extraction

After the dataset was effectively cleaned, the next process was to extract features from the data so that topic categorization could begin. The Latent Dirichlet Allocation (LDA)² model was used to extract topics from the subreddits. LDA considers each comment as Document and considers the subreddits a corpus. LDA is run over the comments to generate a group of ten key terms that are determined by an associated probability to be apart of a topic cluster. To allow LDA to be run, each comment being fed into into LDA must first be tokenized into individual words along with having any symbols removed. The comments are then lemmatized to allow words with different forms to be counted as one,

²<https://github.com/RaRe-Technologies/gensim/blob/develop/gensim/models/ldamodel.py>

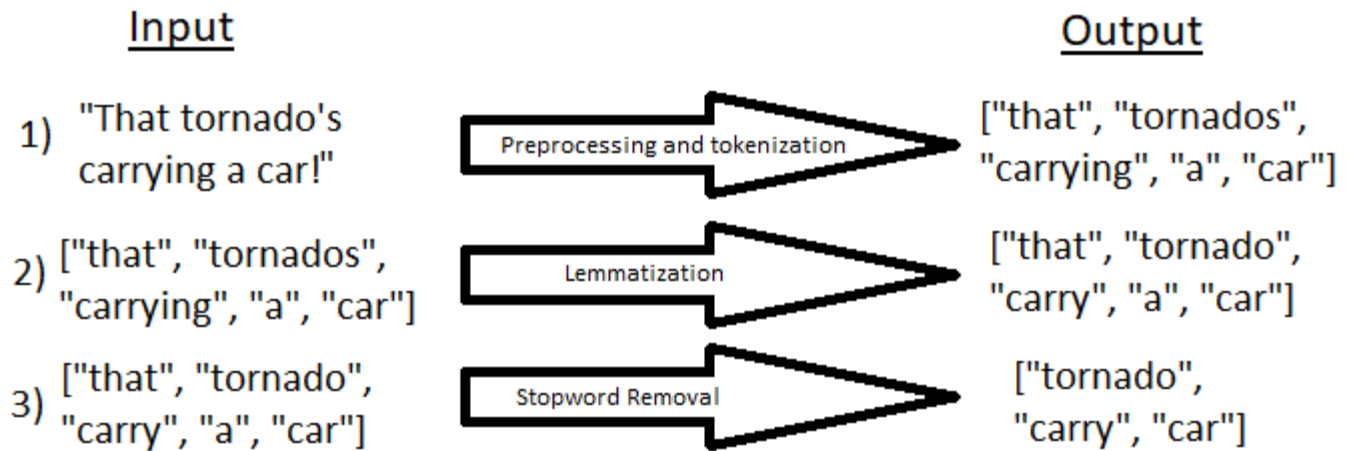


Figure 3.1: The process that each Reddit post went through to be examined by LDA.

such as "read" and "reading." Finally, "stopwords" are removed from the comments, which are common words such as articles, pronouns, and words like "it" or "is". In addition to the aforementioned stopwords, more were found as LDA was repeatedly run over the corpus. The process of running LDA over a post can be seen in figure 3.1

In total LDA was run over the whole corpus ten times in total to continually tune the results and add more stopwords to the matrix of stopwords. LDA was run to generate 10 topics per year of posts from each subreddit, generating 150 topics total in 15 topic files. Each topic file was ordered highest to lowest by coherence score calculated by LDA, where the coherence score is a measure of the coherence of the words used by LDA to describe the topic. The closer the value is to 0, the higher the word coherence. An example of an LDA output can be seen in figure 3.2.

3.1.4 Initial Categorization of Topics

Once LDA had generated a satisfactory output for each year of each subreddit, the next step was to assign initial topic names to the list of key terms for each topic. This was done by manually reviewing each list of topics generated by LDA and approximating the best general term for each group of words. Some topic lists ended up having the same topic twice, by nature of having too similar of an output for a meaningful difference to

```

((0.047838315, 'question'),
 (0.047114674, 'comment'),
 (0.038372725, 'rule'),
 (0.03295544, 'wiki'),
 (0.03273563, 'reddit'),
 (0.03163226, 'anyone'),
 (0.024359312, 'reply'),
 (0.023384843, 'adhd'),
 (0.021870537, 'doe'),
 (0.020096324, 'message']],
-1.1390953869700167),

```

Figure 3.2: A typical output of LDA after analyzing a corpus. The values associated with a given word correspond to the probability of that word appearing in that topic. Topic coherence is the negative value at the bottom. This particular coherence score is close to 0 which means it displays relatively high topic coherence.

be ascertained between the two topics, such as the case in figure 3.3. Some topics had low coherence by virtue of having of 4 or less seemingly unrelated words or had a low coherence score, in this case a low coherence score is considered to be the range of -8 to -11, such as the example in figure 3.4. Coherence scores and related words varied greatly by subreddit by year. The example in figure 3.4 shows a generated topic with both less than 4 unrelated words and a low coherence score. Figure 3.5 shows another topic deemed incoherent but with a comparatively higher coherence score than the incoherent topic in figure 3.4.

After the initial categorization, a total of 31 unique topic labels were created with 9 other topics determined to be incoherent, which can be seen in table 3.3. Of these 31 topics, the largest was Perspective, which appeared 20 times total and appeared at least once in every single topic list generated by LDA for every year of every subreddit. Furthermore, Perspective also appeared no lower than fifth in every list and appeared first in 6 total lists. Perspective commonly contained words like "people", "think", "know", "feel", "life", "someone", "disability", "help", "others", and "need", words that when paired together seemed to indicate a topic based around either wanting others to understand something about the poster or about the poster's possible disability, offering up their

2	(0.01175953, 'help'),	Work	-1.294979594
	(0.009570718, 'work'),		
	(0.008263039, 'time'),		
	(0.0075141713, 'need'),		
	(0.0069008614, 'year'),		
	(0.006472116, 'know'),		
	(0.0060834466, 'go'),		
	(0.005679978, 'even'),		
	(0.0055941953, 'thing'),		
	(0.0054864967, 'disability')		
3	(0.017693672, 'disability'),	Work	-1.408380338
	(0.01206489, 'people'),		
	(0.011712817, 'work'),		
	(0.008732563, 'go'),		
	(0.0086683, 'need'),		
	(0.0072183157, 'know'),		
	(0.0072139204, 'thing'),		
	(0.006880567, 'year'),		
	(0.0068140486, 'want'),		
	(0.0064895274, 'time')		

Figure 3.3: An example of topics being too similar to be able to definitively separate them into distinct categories.

10	(0.022585705, 'crash'), (0.015073118, 'app'), (0.014514767, 'interviewer'), (0.012045644, 'hadley'), (0.009589671, 'bluetooth'), (0.008988796, 'sick'), (0.008485148, 'people'), (0.008197204, 'vision'), (0.008110027, 'recruiter'), (0.006711453, 'need')	-11.18416838
----	--	--------------

Figure 3.4: An example of a topic being too incoherent to be able to given a topic name. The coherence score here is one of the lowest of the generated topics.

```

(0.008836568, 'eye'),
(0.008630834, 'door'),
(0.008023356, 'know'),
(0.007742288, 'say'),
10 (0.0067565083, 'package'),
(0.005241986, 'thing'),
(0.0050465516, 'think'),
(0.0050179586, 'class'),
(0.004800484, 'see'),
(0.004311123, 'keep')
-3.974179747

```

Figure 3.5: Another example of an incoherent topic, this one has a comparatively much higher coherence score, but the words are vague enough to be nondescript in the nature of this topic.

own perspective. Furthermore, r/disability’s own description indicates that the sub contains ”...perspectives pertaining to individuals with disabilities”, which contributed to the definition of that particular category. The second-largest category, Advice, appeared in all but 3 files of topic clusters. Advice also repeatedly appeared among the top categories for all subreddits, which given that the subreddits all represented communities of people with disabilities, it would make sense that one of the most common topics found is about advice or help on managing or living with disability.

3.1.5 Refining of Topics

After the initial creation of topic categories, it was found that 10 of the 31 topics only appeared once, and many had similar or overlapping terms that made coherence with other categories somewhat difficult, sometimes only one word would separate categories. The decision was made to refine the categories by merging smaller categories together to form comparatively larger categories where similar key words from similar, but separate, categories could sit under a single topic. Through this refinement process, 8 new categories were formed. All merged and new categories feature unique words from the subcategories that make them up, duplicates were removed. The words contained in each category are all generated by LDA only. The new categories are as follows:

- **Medical System & Medicine** -This category is combined from: Medical System (9 count), Medication (6 count), and Health (1 count). Medical System and Medicine frequently shared words such as "doctor", "med", or "adderal". Furthermore, medication appeared overall less than medical system did. The Health category only appeared once, but had common words with medical system: such as "brain", "dopamine", "body". Because both categories were found to have overlap with medical system, and medical system appeared the most often of the three, the decision was made to merge all three into one category.
- **Financial & Social Services** -This category is combined from: Finances (4 count), Social Services (5 count), and Housing (1 count). Finances and Social Services both overlap with words like "ssi", "ssdi", and "benefit". Because both topics centered around specific legislation regarding money for people with disabilities (ssi, ssdi), with Finances also containing more general financial words such as "income" or "money" and Social services containing specific financial social programs such as "nif", "state", and "case" the decision was made to merge them. Housing contained words like "apartment", "housing", and "house" and was also merged due to housing also being a major financial consideration for most.
- **Work & Education** -This category is a combination of Work (11 count) and Education (8 count). Work and Education were two of the more common categories overall. "Work", "job", and "task" were the most common indicators that pointed to a cluster being centered around work, but school-related categories also occasionally contained the same words. Work and Education also frequently contained words about timing, i.e. "time", "year", "month", "week". Because of the overlap between the two, they were merged. The words discussing time frames, however, were moved over to the "Life Organization & Routines category, which is discussed below.
- **Support** -This category is a combination of Asking for Advice (or Advice, 12 count)

and Support Network (3 count). Advice was the second-most common category (behind Outsider Perspective) and frequently contained words indicative of discussion or asking questions, such as "message", "question", "comment", "concern", and "answer". Support Network was much less common and contained words such as "feel", "sorry", and "answer". There is slight overlap between the two as well as the fact that the process for both asking for advice and seeking support are similar concepts, and the fact that Support Network appeared less often than advice but with similar words, so the decision was made to merge them.

- **Accessibility** -This category features the most combination out of them all. 6 smaller, similar categories were combined, resulting in Accessibility becoming the largest of all categories in terms of unique keywords. 6 categories were combined: Physical Disability (6 count), Building Accessibility (1 count), Accessible Technology (6 count), Media Accessibility (1 count), Internet Browsing (4 count), and Reading (5 count). These categories were merged for all having similar, accessibility-related word groups. Physical Disability contained words like "accessible", "pain", "wheelchair", "cane", and "chair", Accessible Technology contains words like "text", "phone", "access", "braille", "screen", "reader", "audio", and "nvda", Reading contained words like "braille", "headset", "book", "nvda", "audio", and "accessible". All three of the aforementioned categories feature word concerning accessible technologies, such as wheelchairs, nvda, and audio. There was enough overlap in accessibility-related words to justify merging Reading, Physical Disability, and Accessible Technology.

Two of the categories, Building Accessibility and Media Accessibility, appeared once total. Building Accessibility features overlap with Physical Disability, containing words like "wheelchair" and "accessible". Media Accessibility features overlap with Accessible Technology such as "screen", "text", "video", and "voiceover". Since both were already Accessibility-related categories and both featured overlap within Accessibility already, both were merged into the Accessibility topic. Finally, Internet

Browsing was also merged in, due to the fact that the category featured overlap with Accessibility Technology and Media Accessibility, and because Internet Browsing also contained words like "app", "profile", "blog", and "firefox" so it too was added to allow for more technology-related words in the category to expand out the accessibility technology.

- **Social Situations** -This category features 2 combinations of previously-merged categories, Perspective and Relationships. Initially, there existed a Perspective category that was created from all Outsider Perspective categories merged into one. Outsider Perspective was the largest counted category at 20 total instances, and appeared no lower than the top 5 categories in every file, even when it appeared twice. The name was changed from "Outsider Perspective" to "Perspective" to reflect that the topic should more generally relate to the perspective of a person with disability who may also be sharing a perspective, not just an outsider. r/disability's subreddit description even describes the subreddit as "News, resources and perspectives pertaining to individuals with disabilities.", which helped influence the decision to rename the category as well.

The second merged category, Relationships, featured a combination of two similar, smaller categories: Dating (1 Count) and Relationships (6 Count). Relationships featured words such as "relationship", "feeling", "love", "friendship", and "sexual", whereas the only instance of Dating contained words such as "tinder", "app", and "people". Since the topics of dating and relationships tend to go hand in hand, the decision was made to merge the two into a single "Relationships" category.

Finally, upon review of the two new categories, the decision was made to merge Relationships and Perspective to make a combined "Social Situations" category. The rationale for combining both is that both Relationships and Perspective contained valuable insight as to the social relationships of people with disabilities, romantically and otherwise, so the decision was made to merge them. The Parenting category (1

count) was also added because familial relationships and parenting perspectives are also contained under the much larger "Social Situations" topic.

- **Life Organization & Routines** -This category features a combination of Life Organization (5 count), Routines (4 count), and Eating Habits (1 count). Life Organization contained words like "sleep", "eat", "exercise", "task", and "start". Routine contained similar words such as "sleep", "drink", "morning", and "caffeine". Both categories featured overlap, and similar concepts of eating, sleeping, and scheduling, which is why they were merged. Eating Habits only appeared once and featured similar words to both previous categories, such as "water", "coffee", "diet", "appetite", and "breakfast", so the decision was made to merge it into the new category as well.
- **Disability** -The final merged category "Disability" was not merged from separate, smaller categories, and instead was combined piecemeal from words within the other merged categories that directly related to disability such as "adhd", "blind", "disability", and "deaf." This category was created to better understand direct discussion about disabilities from each subreddit and to understand possible instances of disability overlap, such as posts discussing co-morbidity of disabilities or conditions.

Table 3.4 contains the final created taxonomy along with the key words that make up each category.

3.1.6 Taxonomy Verification

To verify the created taxonomy, the dataset was programmatically labelled utilizing the taxonomy. Every comment was reviewed and the word frequencies of keywords pertaining to each category were counted. 100 random comments were sampled for each category contained within the taxonomy. 800 comments total were manually reviewed and for each comment, it was determined whether or not that comment was correctly labelled. The calculated accuracy across all 8 categories was found to 74%. The category with the highest individual accuracy was Accessibility at 84% , and the category with the lowest individual

accuracy was found to Social Situations at 66%. All category accuracy measures can be found in Table 3.5.

3.2 Qualitative Analysis

Once the taxonomy had been fully developed and the dataset labelled, the next step was to perform qualitative analysis to answer the previously-mentioned research questions. Qualitative analysis was performed by taking a manual, random sample of 132 posts belonging to a singular tagged topic distributed among the subreddit posts. Each post was analyzed by reading the full post thread and all comments on Reddit itself and then categorizing the post according to a theme. Each sample for each topic contained 66 posts from r/ADHD and 33 posts from r/disability and r/Blind each. The sample for r/ADHD was doubled so as to accurately represent the larger amount of posts on the subreddit, while r/disability and r/Blind were smaller and relatively close in count compared to r/ADHD. If a post was found to be deleted when viewed on Reddit, then the post was viewed on Removeddit, a Reddit archive containing all comments and posts deleted or removed from a post. In rare occurrences if a deleted post could not be found and no insight could be gained from the replies to the post, then the post was re-sampled. Posts were tagged with themes or major ideas found within each and then grouped together by similar themes to determine how discussion of those themes may or may not relate. Posts were read until saturation was reached. If enough posts were read but it was found to be difficult to determine major topics of conversation still, then 50 more randomly selected posts were added and read until saturation was reached. The process for qualitative analysis can be seen in 3.6 and ?? The full counts of all measured categories can be found in tables 4.1, 4.2, and 4.3.

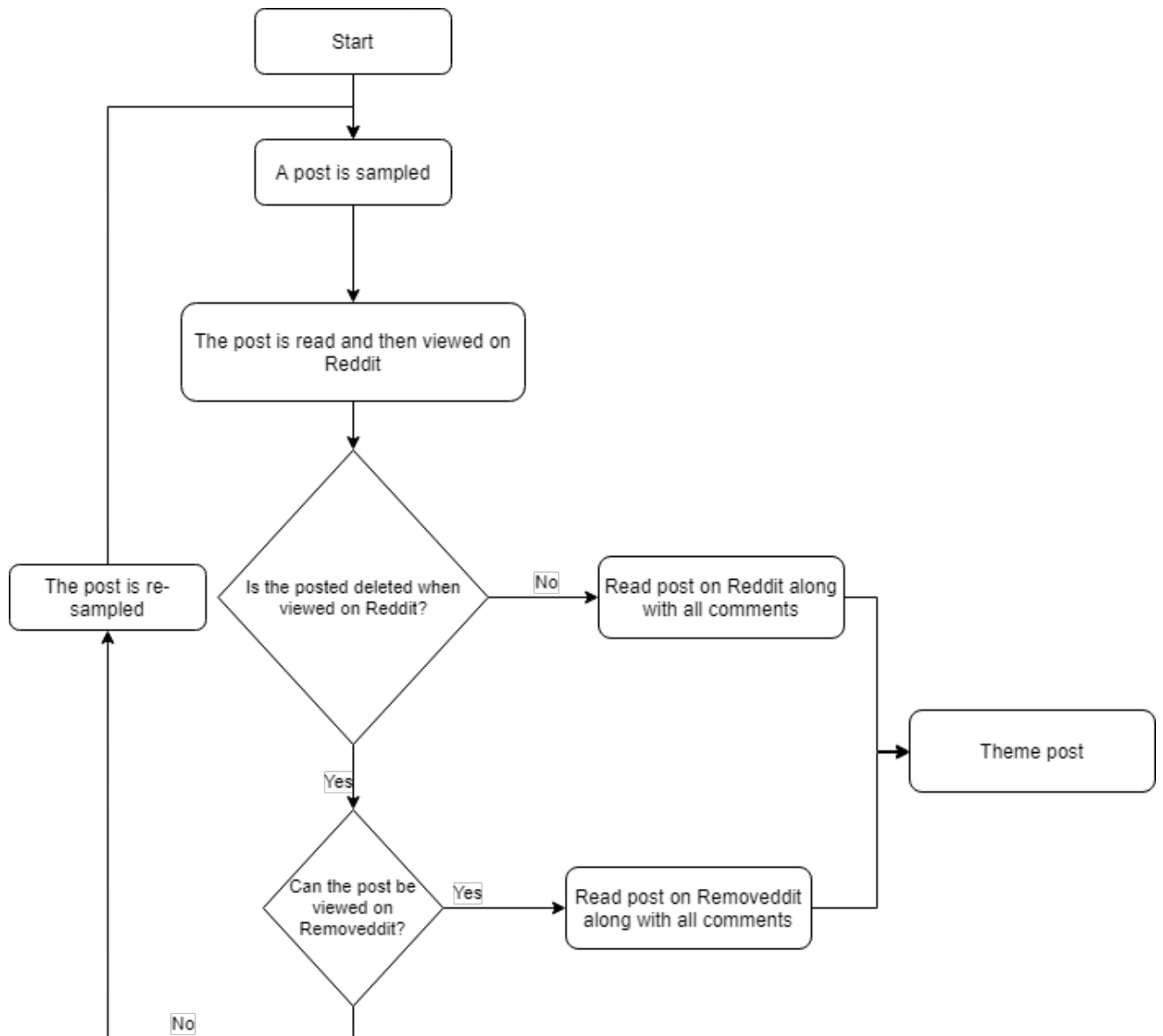


Figure 3.6: 1/2 This flowchart shows the process of reading and adding themes to posts. This is the first part of the qualitative analysis process. This is continued in 3.7

Initial Categories, Pre-Refinement	
Topic Label	Number of Appearances
Perspective	20
Advice	12
Work	11
Incoherent	9
Education	8
Medical System	8
Frustration	6
Medication	6
Relationships	6
Accessible Technology	6
Physical Disability	6
Life Organization	5
Social Services	5
Reading	5
Routine	4
Finances	4
Internet Browsing	4
Guidance	3
Travel	3
Support Network	3
Dress	2
Recreation	2
Information Sharing	1
Parenting	1
Focus Techniques	1
Eating Habits	1
Health	1
Dating	1
Media Accessibility	1
Music	1
Building Accessibility	1
Housing	1

Table 3.3: Topic counts after initial categorization

Final Category Taxonomy	
Topic Label	Associated Words
Medical System & Medication	brain, drug, dopamine, stimulant, effect, med, receptor, body, amphetamine, doctor, help, psychiatrist, medication, appointment, adderall, taking, mg, vyvanse, dose, symptom, anxiety, depression, problem, treatment, prescription, insurance, pill, pharmacy, hospital, medical, record, activity, heart, rate, pressure, eye
Finances & Social Services	benefit, ssdi, case, state, ssi, money, pay, income, medicaid, program, amount, apartment, housing, house, lawyer, social, ssa
Work & Education	work, school, job, college, class, high, training, working, week, interview, emailed, inform, interviewer, recruiter, company, description, manager, math
Support	question, comment, rule, wiki, reddit, anyone, reply, message, answer, contact, action, thread, bot, totesmessenger, submission, link, compose, concern, form, friend
Accessibility	steam, text, phone, image, access, nvda, braille, reader, headset, app, bluetooth, cane, game, screen, audio, accessible, video, site, program, html, voiceover, mode, profile, technology, accessibility, code, button, youtube, link, platform, wheelchair, chair, driver, bus, parking, car, pain, service, dog, room, bathroom, driving, location, gps, animal, harness, music, beta, language
Social Situations	people, think, know, feel, say, thought, way, even, life, want, use, might, completely, others, someone, person, issue, better, live, feeling, self, relationship, faq, tab, love, dating, date, best, tinder, skin, friendship, sexual, hand, intention
Life Organization & Routines	day, sleep, time, eat, hour, exercise, food, bed, night, day, task, minute, drink, caffeine, morning, start, book, week, put, eating, coffee, weight, diet, appetite, breakfast, note, list, pant, shirt, jean, faith, shoe
Disabilities	adhd, disorder, deaf, condition, nystagmus, blind, disability

Table 3.4: Final topic taxonomy after refinement

Measured Accuracy of Topics After Sampling	
Medical System & Medication	74%
Financial & Social Services	83%
Work & Education	70%
Support	75%
Accessibility	84%
Social Services	66%
Life Organization & Routines	77%
Disability	69%
Total Accuracy	74%

Table 3.5: Measured Accuracy of all topics after sampling and verification.

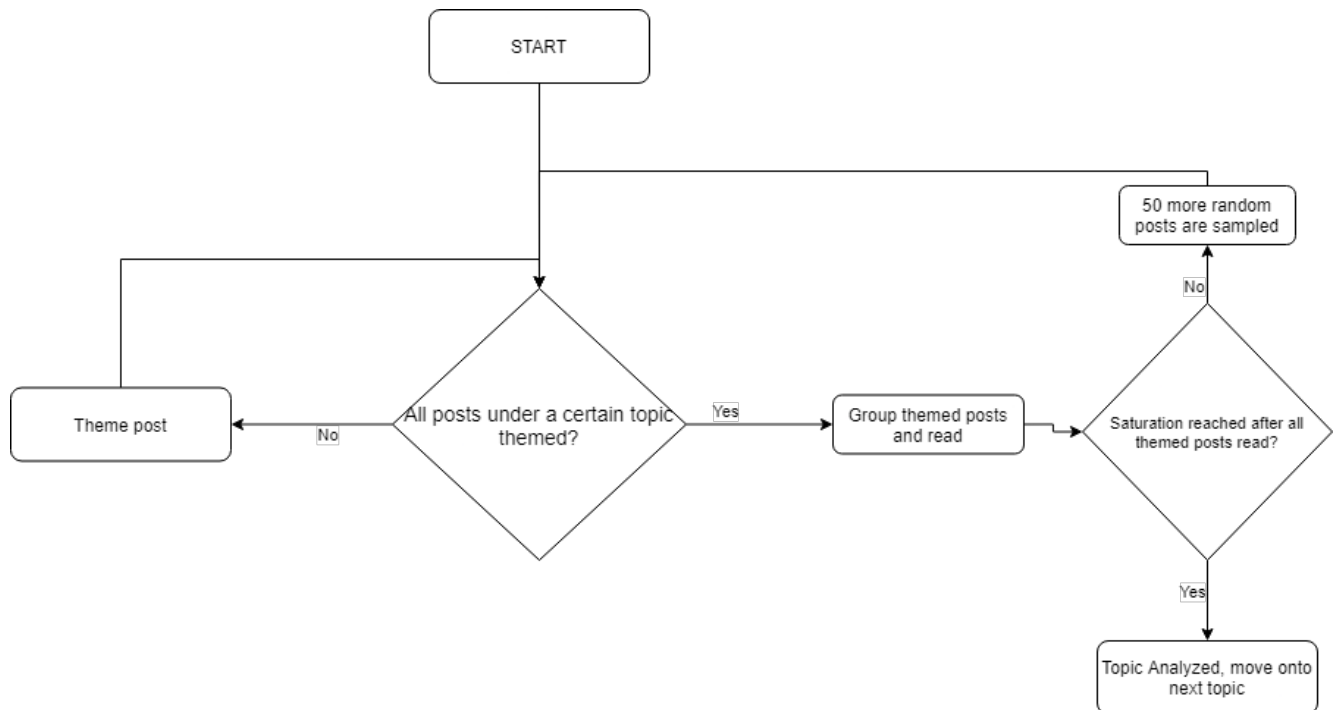


Figure 3.7: 2/2 This flowchart constitutes the second half of the process of qualitative analysis. This begins after a post has been given a theme like shown in 3.6

Chapter 4

Results & Discussion

4.1 Results

Each research question was answered using the previously-mentioned qualitative analysis techniques. Direct quotes from users are presented, with each user's name anonymized according to the following style: UserXY, where X is the first letter of the subreddit to which the comment belongs (A, B, or D for ADHD, Blind, and Disability, respectively) and Y is an integer value representing a unique identifier for the comment which starts at 1 and is incremented by 1 for each quote from a user of a particular subreddit. For instance, the first quote references a UserD1, which means that the comment is from r/disability and is the first comment from that subreddit to appear.

4.1.1 Research Question 1 - What topics are discussed on r/Blind, r/disability, and r/ADHD?

- **Medical System & Medication** - Topics relating to the medical system and to medication were a common theme among all three subreddits. Among comments labelled as "Medical System & Medication" several themes were analyzed: discussion of doctors or hospitals, medical explanations of disability or conditions, discussion of medication, and discussion of treatment or symptoms of a disability or condition.
 - **Doctors and Hospitals** - When discussing hospitals, users tended to discuss different aspects of hospital visits. Users asked about the difficulty of getting

around a hospital while being blind and received replies from others either discussing their own histories with hospitals and how they got used to them as a blind person. Users reportedly posting from hospitals talked about anxiety related to waiting for diagnoses. Users also gave recommendations to others on how to pass time in a hospital and how to prepare for extended stays.

When the subject of doctors were discussed, users mentioned doctors that they felt were notable for either positive or negative reasons. One user lists their positive experience with a doctor in the Office of Veteran Affairs because said doctor was paralyzed which made the poster feel better about their own disability. Other users, however, discussed their issues with doctors ranging from issues about misdiagnoses, incomplete or unsent medical records which inhibited disability benefit applications, and general difficulties within their medical system. One user, UserD1, explains their despair over repeated suffering within the medical system partially due to their misdiagnosis and mistreatment by a doctor that they had previously visited. UserD1 claim that the doctor had yelled at them when, after extended treatment, a diagnosis could not be made. Due to this mistreatment by the doctor, they say that hospital visits are now difficult for them and they cannot receive the help they need as easily.

”My ONLY beef with the hospital is their treatment of me based on his [the doctor’s] say-so...This one doctor is the only one I feel I have to have some recourse against. They...treated me for five days (takes 3-5), and when he didn’t see a problem on day 6, YELLED at me. The ERs are great. They treat me. Then they admit me, expecting me to get the same treatment upstairs, and that’s where the trouble begins. Last time, for example, the hospitalist wouldn’t treat me because he wanted my GI [Gastroenterologist] to. That’s when I sobbed in pain for 10ish hours...My GI consult showed up after 23 hours and my pain

management consult never showed up...The nurse even called Medicare to see if I could go AMA and go back to the ER. Of course, they denied it. For literally 40 years (surgery age 5, first hospitalization age 10) they [hospitals] have treated me the same way. Now, I am treated like above..." (UserD1 - 12/23/2019)

- **Medical Explanations of Disability** - Medical-related posts on r/Blind and r/disability contained several posts that attempt an explanation of disabilities and disability-related concepts such as medical records. No medical-related posts from r/ADHD were determined to be about medical explanations. Posts from r/Blind focus on describing types of visual impairments in detail. Users explain their personal visual impairment and go into details of their limited ability to see or lack thereof. One user of r/Blind, UserB1, clinically explains their visual impairment, the process of losing their site, and how that user was able to adapt over time to their visual impairment.

"I have a spot of reasonably clear vision...Instead of black, I see thick static kind of like an old TV receiving a weak signal. I can see some color and movement through the static, but little detail. What amazes me most is how my brain deals with it. Shortly after I first got sick last year, I struggled to do a lot of things. As my brain got used to processing input through my damaged optic nerves, I found I could function better because my brain got better at ignoring my blind spots and the static." (UserB1, 02/06/2018)

On r/disability, medical explanations focused on helping users understand the correct way to approach their medical records and medical history during their attempts to apply for disability benefits. Users ask for help regarding the content of their medical records and for getting doctors to create statements addressing a disability that can be used to apply for benefits. In one instance, a user

posts about a possible legal issue regarding a mistake in their medical records. This post receives a reply from UserD2, who claims that they read medical records all day, and gives a few pieces of advice for users regarding their medical records and possibility of legal action for incorrect medical records.

”As someone who reads medical records all day - errors on medical records is incredibly common, especially with electronic records (EMR). With EMR history, exam, and other information tends to just get copied over from one visit to the next. I guarantee you that if you looked at the records from all your providers you are going to find errors...Honestly your best bet is to just explain to any future providers if they ask about it. If you go into a new doctor with this long story about how that doctor was wrong, and that you sued, and you swear you’re not a drug abuser - that is going to make any future doctor hesitant to see you, especially if they are going to prescribe narcotics, benzos, etc. Your record is documented that you have an MMJ prescription, so any doctor with common sense is going to be able to see the connection. If a new doctor asks all you have to say is ’that was a miscommunication in my records. I have been prescribed MMJ but my provider coded it as illegal drug use. I don’t use any substance illegally’” - (UserD2, 10/11/2017)

- **Medication** - Medication as a topic was most commonly discussed on ADHD, although the topic did occasionally appear in the other two subreddits. Users discuss many aspects of medication such as which medication they feel is correct for them, appropriate dosing instructions, specific testimonials regarding effects or side effects of medications, and getting doctors to properly diagnosis others and recommend a medication. Users discussed specific medications at length, discussing the benefits and drawbacks of medications. Conflicting testimonials are given regarding the effectiveness of drugs meant for treatment

of ADHD such as Ritalin, Adderall, Focalin, and Vyvanse. One user describes they feel Adderall was the perfect drug for them, while another user complained that they could not eat while on the drug. Several users who have taken multiple ADHD drugs also relay how they felt each drug worked for them and why they may have stopped taking it. In one post, a user espouses wanting to stop treatment with Adderall because they feel dependant on the drug and emotionless when taking it. This post receives a reply from UserA1. In their reply, UserA1 describes their history with different medications and reasons why that they had stopped taking them. Dependence, side effects, and cost all were discussed as a reason that UserA1 moved from one medication to another.

”Stopped Ritalin because of the negative side effects and lost insurance. Stopped wellbutrin because my young dumb mind thought ”hey my depression is cured!” Stopped Dexedrine recently because [i’m] in OP’s [the original poster’s] boat where i cant do anything without it. No energy etc etc.” (UserA1, 01/16/2018)

- **Treatment and Symptoms** For discussion of treatment and symptoms, posted tended to focus on helping users find physical or psychological treatment, discussing one’s one experience with said styles of treatment, discussing symptoms as they relate to treatment, and discussing or recommending medical professionals that help with specific styles of treatment. In posts, users discussed the difficulties in making appointments with health professionals such as psychiatrists, therapists, and general physicians, with the express purpose of either discussing symptoms with these professionals to begin disability treatment such as medication or cognitive-behavioral therapy. Several users share personal anecdotes of treatment that they have received, discussing medical procedures that they have been through or describing discussions with their therapists or psychiatrists. One user, UserB2, discusses issues they had with repeated treatment for their visual impairment. They talk about the symptoms they were

experiencing and about attempting to undergo multiple treatments and diagnoses for their condition from several doctors, ultimately lamenting that they feel doctors had failed to identify or treat the condition in time which allowed it to worsen to full blindness.

”I was born with glaucoma and lost vision in my left eye very early, and since the pressure in my right eye was hard to control I knew that eventually I would go fully blind, however when it started to finally happen nobody was prepared for it, and that includes 3 glaucoma specialists who thought I was lying when I complained about loss of contrast perception, because [apparently it is a common misconception]...among ophthalmologists that glaucoma affects the peripheral vision first, and since my pressure was fine, my field of view remained unchanged, and both my cornea and lens were clear the only possible explanation was that I was lying...A year later a cataract was diagnosed and immediately blamed for the loss of contrast, and I was advised to do nothing about it until I was completely blind. Another year later my pressure started to increase, so I had surgery to implant a glaucoma valve which was supposed to free me from medication, though 3 months after the surgery my pressure was already back to its previous levels. Eventually my contrast perception got so bad that I was having trouble walking on the street, so I decided to have the cataract surgery, which left me seeing everything extremely blurry and didn't restore my contrast perception, leading one of the doctors to finally conclude that it was probably due to optic nerve damage...I had another surgery to control the pressure...but it was already too late...I wish doctors had been quicker to figure out that my optic nerve was getting damaged and attempted the surgeries as early as possible to avoid blindness, but unfortunately due to the aforementioned misconception coupled with

their inability to actually observe the back of my eyes since my pupils don't dilate I ended up going blind.” - (UserB2, 02/14/2018)

- **Financial & Social Services** - For the topics of Financial and Social Services, the major areas of discussion related to the cost of accessibility devices or medicine, financial aid social programs meant for disability such as Supplemental Security Income ¹(SSI) and Social Security Disability Insurance ² (SSDI), legal issues regarding financial and social programs, and tips for responsibly handling money and budgeting.
 - **Cost of Accessibility Devices and Medicine** - Users discussed the costs of finding both medicine, this topic particularly appeared a lot in relation to r/ADHD, and accessible technologies, this topic appeared more in relation to r/Blind. Users discussing the cost of medicine talked of paying for co-pays that insurance would not completely cover. Users also suggested that others check their health plans and benefits so that others could understand what their plans would or would not fully cover. One user posted about receiving a high \$150 co-pay for their Vyvanse prescription. Another user, UserA2, replied to this post with a link to a financial aid program offered by the company that distributed Vyvanse at the time for co-pay assistance. UserA2 also discusses some of the restrictions of the co-pay assistance system that the company offers.

”...Shire (the company that makes Vyvanse) has a patient assistance program called Shire Cares, where if you qualify, you can get Vyvanse for free. Your deductible has to be over \$1000 or your copay has to be over \$50, which with this change, would be. You[r] income also has to be below a certain amount, I think like no more than 300% of the poverty threshold. Buy the application is pretty simple, and costs

¹<https://www.ssa.gov/ssi/>

²<https://www.ssa.gov/benefits/disability/>

nothing to do, so it might be worth checking out. Here is the link.” -
(UserA2, 12/03/2016)

Users discussing the cost of accessible technologies tended to focus on dictation software. On one post a user asked members of r/Blind to provide them with an illegal copy of Job Access With Speech (JAWS), a screen reading program meant for users with visual impairments. The post was unfortunately removed because the act of asking for or distributing downloaded copies of items are illegal, but the post did receive a response from UserB2 empathizing with the user and trying to provide alternatives to JAWS, however they do directly mention that one might need several programs to replicate what JAWS is capable of doing.

”I understand...Jaws cost[s] a hell of a lot...I found a site that has some alternatives . I am not saying it is as good as jaws. You might need multiple programs, that can do the job that Jaws does.” - (UserB2, 10/29/2016)

- **Financial Aid** - The most common topic of discussion related to financial aid centered around U.S. disability benefit programs such as SSI, SSDI, and Medicare, however some posts also discussed disability benefit programs in Canada. Users repeatedly shared opinions urging users struggling financially to apply for Medicare or Medicaid depending on their situation. Users discussed the difficulties they faced in trying to apply for disability services and the legal challenges that they had to go through in order to be accepted into an assistance program. Users talked of the restrictions of financial assistance programs and tried to help others determine if they qualified. Some users discussed needing financial assistance in order to attend higher learning institutions. An issue among users who received disability benefits was the low amount provided and posts highlighted issues with budgets and poverty. In one post a user, UserD3, discussed landing a job that was accommodating to their disability, but they

struggled on whether they should take it because the money the job offered would have been over the limit that SSDI allowed. UserD3 discusses not wanting to lose their SSDI benefits after prolonged period of waiting and refers to a "poverty trap" that surrounds SSDI recipients, given that their SSDI payment amounts are determined by what UserD3 describes as an arbitrary calculation.

"I'm not going to risk losing SSDI after waiting so long...This has been a truly eye-opening experience discovering the 'poverty trap' that SSDI recipients are thrown into. I want to be productive and do something, but an arbitrary calculation of how much I could earn will most likely keep me out of the work force totally. I suppose I'd be a fool to turn down \$2800 per month for SSDI not working, only to work in a position for less money and zero income security." - (UserD3, 12/26/2019)

- **Legal Issues** - Users frequently discussed needing lawyers for help applying to or appealing for disability benefits. Users discussed the necessity of lawyers when applying for benefits, others are repeatedly urged to hire a lawyer to guide them through the process and to make sure they have help. One user, UserD4, discusses the trials and tribulations of not only just applying for benefits, but maintaining benefits after they have been initially accepted. They say the process takes years to even be accepted and usually must be repeated every three to five years afterwards. UserD4 states that if they could they would work full time instead of dealing with the Social Security Administration (SSA) and expresses frustration at the entire system.

"As someone who receives social security disability benefits and has gone through (and continues to go through) the process...[i]t's very difficult to get benefits even when you're clearly disabled and can't maintain full employment.

The process of applying for benefits and receiving a decision takes

years, when you factor in several levels of appeals. And in most cases they review your case every three to five years and basically go through the process all over again. It is a lot of work and a huge amount of stress.

If I was able to work full-time, I would much rather do so than deal with the...bureaucratic nightmare that is the Social Security Administration. Everyone I've ever known who has dealt with disability or any public benefits feels the same...[T]he system is so incredibly complicated that it's a nightmare for everyone on both sides of the process."

- (UserD4, 12/16/2019)

- **Tips for Budgeting and Money Handling** - The topic of tips for money-handling seemed to appear most frequently in r/ADHD, except for an instance where an accessibility technology for money-handling was discussed in r/Blind. Users on ADHD talked off issues with impulse buying and being unable to visualize the amount of money they regularly spend. Replies to posts about impulse spending were met with empathy and suggestions for financial applications and other methods of organizing money. One user, UserA3, replied to one of these posts giving several suggestions of applications and ideas for the post author to help maximize their budget and financial planning. They suggest multiple financial applications, spreadsheets, and even concepts like splitting up money into multiple accounts or simply hiding a credit card to prevent impulse buying.

"I've heard good things about Mint and You Need A Budget; they seem like fairly accessible apps to help you get started on finance management. I tried using a budget app for a while (Money Brilliant, fwiw) but it didn't do the things I needed...I've started keeping a very barebones budget spreadsheet myself that sorta works... so long as I remember to update it. Whiiich I don't always. Splitting your money

up into different accounts is a good idea, as well as deleting login credentials so it's not as easy to automatically purchase stuff. Keeping your credit card in a separate far-away room might be enough to dissuade you....If your spending is really bad and you have someone in your life that you really really trust, you could have them control your finances for you. My brother and I are very close and I trust him with my life so I let him take control of my savings for a while...It really helped curb some of my impulsive spending habits....Of course you might not need to let them control all your money; you could just ask for their help setting up a budget, or for them to help you stick to the budget...There's a few different options, you might need to try a few before you find one that really works for ya." - (UserA3, 01/18/2018)

In one instance in r/Blind, a user posted asking about hypothetical apps for the blind that others might find useful. Users replied suggesting, among other ideas, a paper money counting app to help track physical finances. One user who replied to the post, UserB3, mentions that their son has a device that performs this task already, describing how the device is able to read the denominations on bills and read this back to the user. One user replies to this technology, interested in the device because they typically pay with card but would like to start spending physical money to better track their finances. UserB3 then provides this reply with a link to the device.

"My son has a thing that you stick the corner of the money into and it reads the denomination. It buzzes x amount of times per denomination. I think it's one buzz, two for five, three for ten and so on...It's about the size of a USB reader." - (UserB3, 10/06/2016)

- **Work & Education** - For Work & Education the common topics of discussion were accommodations for disability in school or the workplace, sharing of education history, frustrations around the difficulty of working or finding work with a disability,

and explanations and questions regarding how employment affects benefits for disability

- **Accommodations** - A major theme of discussion between all three subreddits was the discussion of accommodations for disability within a school or a workplace. A repeated idea throughout comments relating to accommodations was a discussion of the difficulty of receiving accommodations for work or for school. r/Blind users talked of the difficulties of working with every day work tools and lamented that they were unable to utilize certain office necessities effectively such as a printer. In one post, UserB4 explains that they have difficulty just using the printer at their office job due to the lack of adequate features available for blind users. They say that, despite braille options being available, the options are merely static buttons while the touchscreen controls which they cannot see regularly change, making the braille options weak by comparison. Furthermore, UserB4 states that the text-to-speech options on the available on the printer are unhelpful and slow.

”There are a number of different systems that assist blind users at the operation panel of the device, but I’ve always thought they seem sub-optimal. This question is mostly directed at completely or nearly-completely blind individuals...Obviously for remote access such as printing from a PC or accessing the system via a web interface, the existing assistance tools for computers do the job without additional special consideration...As an example of a system for the operation panel, there are braille overlays, but these reduce the functionality by reducing the feature set significantly since the screen is dynamically updated for sighted people, but static for the braille interface.

Another example is text to speech, but it is very slow and cumbersome given the large number of options and features available.

Speech control is another option to avoid the issue of giving input on a

touchscreen, but that still requires a way for the device to let you know what is possible to begin with and so still suffers from the same issue as text to speech.” - (UserB4, 10/10/2016)

In r/disability, users also discussed inaccessibility issues in the workplace, such as trouble working with items such as keyboards and discussion of job interview accommodation. Users relayed difficulty in asking for accommodations for interviews, with some fearing that the act of asking for accommodations alone may disqualify them from a workplace. One post features a user sharing a blog post entitled ”As soon as I stopped ticking the ’disabled’ box, I got interviews.” UserD5 explains their own thought process on the matter, saying that they would notify the place of employment for accommodations only if they were called back for interview, but they would not tick the ’disabled’ box on applications. They claim that by telling potential employers of a disability after said employer has called for an interview that they may prevent a stigma from developing.

”In my opinion, in that situation I’d drop the news on them early enough that they can’t be shocked or caught unawares but not early enough that stigma and discrimination have an opportunity to take root - I’d apply for jobs, not tick the box, and when I got a call for an interview then I’d let them know in a matter of fact way that I’m a wheelchair user and that I would need access to be able to attend the interview.” - (UserD5, 10/31/2017)

Besides work, other testimonials and discussions of accommodations, or lack thereof, revolved around accommodations for schools and colleges. Users also routinely discussed instances of mistreatment, abuse, accusations of lying about a disability, and outright refusal from school faculty and staff to accommodate for disability. Users from all 3 subreddits detail different life stories regarding a lack of accommodations for schooling. UserD6 relays their struggle as a

teacher removes them from a project group for them after an extended hospital stay. After UserD6 discusses this with their school's disability office, they hear nothing for 2 months, until they get an angry email from their department telling them that without the class grade from the aforementioned professor, they cannot graduate.

"I have dysautonomia, a neurological disability. I came to my school's disability office before starting my graduate program to get set up. They found that I have a disability that qualifies for ADA protection, and wrote up a disability plan that was distributed to my professors. In November, I briefly went into the Critical Care Unit with heart and balance concerns. I had a professor who would not return my emails after multiple attempts. I guess I should mention I was in the CCU over Thanksgiving break, so no harm- no foul; I didn't miss any classes. Well, fast forward to the day before my final group presentation...I get a message from the professor telling me my group didn't feel comfortable having me in the presentation because I had been in the hospital: he was dropping me from the group, don't come in to the final, and you'll do a brand new, alternate project...I went to the Disability Services director at school to ask if he thought that was reasonable. He basically said, don't do anything; he'd look into it and get back to me. Now 2 months pass... I get an angry email from the department program manager threatening that I can't graduate because I haven't finished my class. I take the exam final the next day. Three more weeks go by... I haven't received a grade. When I asked about it to the program manager, I wasn't even given a chance to explain myself. I was just told, 'The instructor didn't even want to offer you an assignment. I had to pull some strings and you should be grateful.'" - (UserD6, 04/11/2016)

UserD7 describes a similar experience of having accommodations rejected by a professor even after working with their law school's disability services for accommodations.

"...I recently started law school and was just denied accommodations for testing by one of my professors. He had his reasons but my question is, aside from getting in touch with disability services, is there anything else I can do to fix this? My understanding was that since all my documentation/testing was processed and ok'ed by disability services that I was in the clear, but my prof unilaterally denied me accommodations for his class." - (UserD7, 7/02/2015)

- **School History** - The subject of School History was found most commonly in r/ADHD posts, however a few instances of the subject could be found in r/Blind. School History in this cases refers to a given user documenting their time in either schools or college in any fashion for the purposes of either sharing or advice. The most common types of discussion around school history on r/Blind was users asking for recommendations of schools or organizations for higher education, schools with adequate accommodations, and soliciting advice for navigating school life. In one post, a user asks others to list their experiences attending School for the Blind. UserB5 discusses their experience within a School for the Blind, describing how they feel that blind kids should instead be mainstreamed into public schools because UserB5 feels that schools for the blind do not prepare students properly for life or the working world.

"I went to a school called Lindon Lodge...Putting blind people in one school instead of mainstream is a bad idea. It doesn't show the real world and does not prepare you for life. I learnt how to write and read braille, grade 1 and a little of grade 2, but I had to teach myself how to use screen reading software and got bullied quite a lot. I'd highly recommend mainstream schools. Back in my day as far as I know; that

wasn't really an option but now disabled people are going to normal schools." - (UserB5, 06/12/2018)

In r/ADHD, discussion of school history very often included testimonials from people with ADHD claiming that the disorder helped to make school difficult for them. Users describe under-performance in classes, feelings of failure, feeling that they had to work harder to stay at the same pace as others, missing exams and tests, difficulty retaining information and inability to get work done. UserA5 created a post asking for advice for completing their advanced degree, feeling that they might have ADHD after a professor asked them to be tested after showing signs such as inability to sit still and a tendency to talk quickly and ramble. UserA5 also talked of their inability to get work done, focus properly, and repeatedly turning in assignments late.

"I have always had problems completing my work, I have never done my class required readings and I hand in every assignment late...Well... now I am in post-grad, I am taking up one of only 11 spots in my university's Clinical Psychology Program...Every comment about my client interactions is about me talking too much or too fast or fidgeting...I was always able to scrape by in honours...but now I am struggling. In clinical there are no late penalties- it's pass/fail and if I fail three times, I get kicked out. I have failed twice...I try so hard to force myself to do work but it's like some days no matter how hard I try, I just can't. It's like I need to wait for a day when my brain is actually awake to even start something. Some days it's so bad I can't even read. I'll sit there reading the same thing over and over because my mind is simply not paying attention to what the words mean- I'll hear them being read in my head, but they'll have no meaning...It's just so frustrating. I know I could do a lot better if I could just be organized...I have started so many unfinished personal projects and handed

in so many unfinished pieces of work. I know I could do better...if I actually used all of my given time.” - (UserA5, 07/22/2017)

- **Difficulty Surrounding Work** - Posts and comments discussing difficulties surrounding work could be found on all subreddits, focusing on the struggles working while having a disability. In r/Blind and r/Disability, users repeatedly talked about issues being taken seriously in work environments and issues with being able to find steady work due to either issues with their disability, or a misunderstanding of their disability by potential employers. Many users do describe working or having job history as well, but a common refrain is the difficulty of finding work with a disability, even among users who currently have a job. UserB6 succinctly describes the difficulty of applying for work with a disability and the challenges people with disabilities face.

”A good 99 percent of the time, the problem isn’t the job itself. It’s getting in the door. You maybe get one interview. Then the employer realizes you’re disabled, and...suddenly, silence. They never get back to you. You don’t get the job. If you’re not going to just start your own business, the best advice I can offer is: network...I’ve done everything from freelance tech support to web development to copy-editing to writing (especially ad copy and template articles for SEO purposes) to cryptocurrency to podcast transcription to QA testing. Being a jack of all trades seems to have worked well, for me.” - (UserB6, 5/07/2018)

The issue of driving is mentioned several times as well. Many users with disabilities describe difficulties driving or talk of working in places accessible by public transport for ease of use. UserD8 posted their message on r/disability asking for advice on finding accessible work that can accommodate their mild cerebral palsy. They stress that they do not drive and are in need of a job that is accessible by walking or bus.

”...I’m...graduating college in May and I have mild CP [Cerebral Palsy].

I'm pretty physically proficient but I don't drive. I'm looking for jobs but the public transit in my area is lacking. I'm having a hard time finding somewhere close enough that i can either walk to or get to a bus stop. I've considered work at home jobs (telecommunications, web stuff) but that's not really my preference. Basically, has anyone here been through the transition from guided student to independent adult. Note: Moving is not in the cards rn" - (UserD8, 4/20/2016)

On r/ADHD, difficulties surrounding work focused less on finding work and more about the issues that symptoms of ADHD cause in a work environment. Users talked of problems with adhering to work schedules and showing up on time, getting work done on time, having to sit still for long hours at a desk, and inconsistent quality in their work. Several users discuss a marked improvement in their work or work habits after receiving treatment through medication. UserA6 discusses the extreme anxiety they experience while attempting to get their tasks done at work and how their inability to get work done occasionally results in poor self-esteem. They also discuss how, despite knowing that the works needs done and attempting to start it, they are repeatedly unable and feel overwhelmed at the prospect.

"It makes me feel so...worthless.. And the end of each shift at work I have about 30-45 minutes of documentation to do... At first something will happen and I won't get it done, and I say I'll do it when i get home, but I don't, and then every shift after I just can't make myself do it, till I have to do hours worth all at once..This time is the worst, I need to do hours worth literally right now, cause it has to be done before the office opens in two hours.... I haven't slept yet because I need to do it, but sitting down to do it puts me on the edge of a panic attack...I have to get a different job, this ones schedule is all over the place, and I need a set schedule... But I finally have insurance so I need to get my teeth

fixed first, and I need to set an appointment to get medicated again... But I've had insurance for 8 months and haven't done it yet so I'm probably not going to...I'm gonna do my paperwork...then work from 3-9...Even though thinking about starting makes me want to throw up. If I didn't really really like the company I work for...I'd shut off my phone and never go back, it wouldn't be the first time I've done that to a job." - (UserA6, 12/14/2017)

- **Work & Disability Benefits** - Work and disability benefits was a topic exclusively discussed on r/disability. Users discuss issues trying to work while being on disability and having that work affect their benefits in some way. Users frequently mention needing to work on top of maintaining disability benefits because they are unable to work full time in some fashion but need supplemental income as many mention that relying solely disability benefits is insufficient for cost of living. In one case, a user makes a post asking about how to get off of disability benefits because they feel that they would be better served working with a disability then living solely off of their benefits. In one post, UserD9 talks of losing their benefits of over a decade due to unknown reasons. When asked if they worked and if that this could possible have had an effect, they mentioned that they work part time as a cashier to help pay for their epilepsy medication and treatment.

"I work as a cashier and work with paint as a job. I have epilepsy and the job is nothing having to do with that. They claimed I got the disability because of "learning disabilities" and "a depressive disorder" whatever that means as I have never been diagnosed with the latter. My problems are ulcerative colitis and Epilepsy." - (UserD9, 2/10/2019)

In a later reply in the same thread, they describe their issues with the system and the struggle that getting removed from disability has caused for them.

”They did not count me as substantial gainful activity though. I almost wish they had as I would have 2 years to get in easile and 2 years of medicare to cover me while I am working. Now I am not sure what I am going to do. My problem is less that I lost the disability, it is they cut me loose with no plan, no offer to help me plan. No they are like ”oh hey the epileptic will be just fine without insurance for her medicine.” That is my problem they gave me 2 months for a safety net with no plan. I also find it off the severe health conditions I have were not considered. As to ADHD I cannot even take medicine for it because of the epilepsy. As to depression, sheesh they caught me on a good day. I am always frustrated on how to make ends meet. With insurance my epilepsy meds cost about \$6000 a year!” - (UserD9, 2/10/2019)

- **Support** - The topic of Support varied heavily from post to post, but the common themes found were the types of support being offered, posts concerning support focused on several distinct types of support: support for accessibility or accessible technology, support directly related to a disability or condition, emotional support meant to help another feel better or less alone, social support detailing social life questions or issues with a disability or condition, and outsider understanding of how those with disabilities are able to live meant for for the purposes of research or support.
 - **Accessible Support** - Accessible Support appeared in all three subreddits, but was most commonly found on r/Blind and r/disability. r/ADHD did have discussion classified as accessible support, but accessible support topics of conversation on r/ADHD differed from those found on the other two subreddits. On r/ADHD, topics of accessible support focused on support for those taking medication. Many users come to r/ADHD for support regarding their medicine or treatment and several posts focus on users talking directly about how they feel

when they do and do not take medicine. UserA7 details a long post discussing their history of diagnosis and the feelings they had after becoming diagnosed. They also ask questions about the way that their medication affects their ability to get things done regularly, feeling that they cannot get anything done when they are off this medication and this has left them feeling lazy and severely affected their social life.

"I've always had a history of tardiness, lack of interest in schoolwork, and waiting until (and sometimes still missing) deadlines. But until recently, I had never really thought of myself as ADD. I first decided to see a medical professional about it shortly after graduating from college and my tardiness cost me my summer internship. So since Aug 2014, I've been on Adderall...I'm supposed to take that every day, 30 times a month.

But even in the beginning, I was worried about dependence and tolerance. So I take off-days when I can...But as the semester of my next phase of schooling...progressed, I would take it on the very day an assignment is due and crank out the assignment in 5 hours or so. Then came final exams and I took it yet more frequently about 12 hours before each exam. So I'd study, take the exam, and crash and sleep right afterward only to repeat this 12-cycle for the next exam...After finals ended, I took a break from Adderall for a month. That month was my most unproductive ever. I would just lie in bed and watch TV, read easy-to-read nonsense online, play video games, and do other cognitively easy tasks...

I also see a psychologist (i.e., someone other than my -psychiatrist-who prescribes me medications) twice a week but there's so much to cover that, after a dozen sessions, we haven't practiced actual strategies...This psych really made it a point that ADD-my condition-is

”neurological.” That is, there’s something wrong with how my brain works, and I can’t overcome it by just ”working harder” or ”putting more effort in”...

This semester is going down the same road as last semester. Only worse, because at least last semester I can leisurely read and do schoolwork without Adderall. This semester, on the days I’m not on Adderall, I can’t bring myself to do schoolwork or pretty much anything.

My days off Adderall is much like the month right after finals—all I do is lie in bed, let my room get messy, play video games, browse nonsense internet, and watch TV...

I’ve spoken to friends who also say that they’re diagnosed with ADD...I can’t imagine how any of them can be as lazy and unmotivated as I am. The irony is that on my off-days, I can’t do anything but lie in bed. But on my on-days, even though I can get stuff done, the Adderall makes me too anxious to hang out around other people. Sometimes I need to take the Klonopin I’m prescribed just to make a public appearance in class...Since I’ve more frequently avoided classmates, peers, and friends because of either wanting to lie in bed or being too anxious, I’ve become something of a recluse and lost touch with a lot of the friends I made earlier this academic year, when things weren’t as bad....This is all a really long way of asking ”how can I stop being a lazy bum nailed to my bed when off Adderall?”” - (UserA7, 3/22/2015)

On [r/Blind](#) and [r/Disability](#), topics of accessible support focused on accessible devices, accessible housing, supporting recently-disabled loved ones, help finding accommodations, and help with disability benefit applications. Users on [r/Blind](#) asked for help regarding accessible devices like prescription dark sunglasses. In one post, a user discusses issues with photosensitivity and vision and

asks for help and recommendations for finding specialized sunglasses. UserB7 replies, offering support and on the right type of sunglasses that the original poster may need.

”A big part of my eye condition is being sensitive to light. i also struggle in big shops due to their fluro lights, on sunny days and staring at a white computer screen with small black text. It may be worth trying amber / brown / copper tinted glasses. they reduce glare, help contrast and depth of field. they distort colour a bit but not as much as other collars. Yellow and blue are also good options. I suggest having 2 different colours. In low light settings (early morning) yellow lenses would be better than the amber.” - (UserB7, 6/07/2019)

Several posts center around finding housing accessible for a person with disabilities. In one instance, UserD10 describes having a number of disabilities including PTSD and having trouble getting accommodations for a service dog because their landlord refuses to compromise on a solution, and asks for any help they can receive in filing an official complaint against their landlord.

”I’m living with a number of disabilities, my first question is: Are my medical diagnoses, by my PCP and Psych ”enough” to ”qualify” me as being disabled, or is there an official way this needs to be ”proven” for lack of a better term...What I am looking for is reasonable accommodation at work for PTSD, (also suffer from Panic Attacks, Anxiety, Depression and Chronic Migraines)...I currently rent in NYS [New York State]: Landlord lives on premises, there are I believe 6 units, we are currently the only occupants...I want a dog. A companion dog...I feel it would be a huge help to get a dog again. Landlord refused; I gave landlord letter from my psych and another licensed mental health counselor I used to work with to explain the benefits. Landlord was

open to talk, but placed size and breed restrictions, making it difficult to adopt I need this dog to be large to aid my ptsd; a little one or medium is not going to work. Think Labrador. And I don't plan to live here forever so I do want to choose a breed/mix. Landlord is not giving me a straight answer, and giving me the run around; asking to meet and then won't show up even after documentation. Landlord demands rent increase and deposit, which is prohibited under fair housing!? But I was willing to do this. Not allowing a puppy. Not allowing any breeds mixed with pit, Rotweiler, German shepherd etc which is most of the shelter population.

Back to my question: do I need to be certified disabled? Can I file a complaint with HUD as landlord is refusing to accommodate me." - (UserD10, 06/10/2017)

- **Disability Support** - The theme of disability support was frequently discussed by users of all 3 subreddits. Disability support in this case means direct support related to a disability, not posts discussing accommodations or medications, but posts discussing techniques for dealing with disability-related problems, asking for advice following a diagnosis, posts about a disability made for the purposes of understanding other people's symptoms as they relate to an individual's own, and posts asking about getting diagnosed. Adult-aged users on r/ADHD (18 years old and above) discuss hesitancy to get diagnosed or discuss negative feelings with getting diagnosed partially due to a perceived social stigma from others about having adult ADHD. Adults with ADHD discuss validation issues because of the societal perception of ADHD as disorder primarily present in children and because many with ADHD are diagnosed as children. In one post, UserA9 asks about getting medicated as a 20 year old, saying that they are afraid that as a 20 year old they feel they may be seen as just trying to get drugs instead of actually getting help for ADHD, in particular mentioning parental

judgement as a factor.

"I believe I may have ADHD or a similar attention disorder based on some experiments I have been conducting with very controlled dosages of vyvanse and adderall. Im afraid that as a 20 year old college student trying to get a diagnosis and perscription, my parents and doctors will think im just abusing perscription drugs. So is it worth it for me to even try this? I think I really need the medication, but Id rather go my entire life without it if it means my parents will think im a drug addict...

EDIT: Thanks for all the awesome responses and messages guys. Im realizing from these discussions that my issue is more one with my family than with medication. Whether or not I need these drugs is up to the opinion of a medical professional, but I haven't gone to see one about it because of how I know my parents will react. Im not sure whether or not they believe in ADHD, but I know that they don't believe in needing or using drugs to help deal with mental disorders..."

- (UserA9, 12/10/2016)

- **Emotional Support** - The topic of emotional support appeared in all 3 subreddits in similar ways. Users engaging in or asking for emotional support made posts or replied to posts surrounding themes of reaching out for advice and comforting words post-diagnosis, tips on dealing with emotions associated with disability, general venting about a disability or the way it effects the life of a user, and tips for emotionally supporting loved ones with disability. UserA10 describes the elation they feel after receiving, sharing the intense emotions they feel after their diagnosis, ultimately thanking users of r/ADHD for helping them reach this point in their treatment.

"...I'm sitting down at work a mere hour after receiving my official diagnosis, and I feel like the entire weight of all my failures has been

lifted.

For so long I punished myself with all of my personal failures – memories of everything I wanted to do but couldn't, social isolation because I just couldn't fit in as a kid. Now I know – that it isn't my fault, it isn't anyone's fault, and it can be treated.

I feel so validated I could cry. The struggles I've had aren't me, they are a condition – and most importantly, I am not a bad person.

I have an rx, a CBT therapist will be scheduling with me, I have a list of books to read and groups I can attend – and I have all of you. This sub has already been such a boon to me in my pre-diagnosis phase, and I can't wait to keep learning and thriving along with all of you. For the first time in so many years I feel HOPE.

Thank you for reading, and for helping.” - (UserA10, 8/21/2015)

In another post on r/Blind, a user espouses that they are losing their vision quickly, taking it very hard, and in need of support from others. UserB8 replies to this post, talking about their personal experience of losing their vision and assuring the original poster that they are not alone in their feelings and urging them to ask for help if they feel they truly need it.

”...For the most part, I'm ok with the degeneration of my sight, but that's not always the case.

It feels worse when you think about what you could do in the past. Three years ago I could read a book no problem, today I can still read books, but I need a desk light, magnification, and I can't read entire words at once. Or when I booted up Heroes of Might and Magic IV the other day and found I couldn't play it because everything just blended into one. People send me gifs and videos? It's just a mess of colour that I have a hard time distinguishing into anything meaningful. Every day it's like my ability to interpret visual information, track objects,

and keeping my eyes focused gets worse. And when you live on your own without anyone to bounce that experience off for support, that can eat at you.

You aren't alone, focus on what you can do, don't get hung up on what you can't, and don't be afraid to ask for assistance when you need it."

- (UserB8, 5/27/2018)

- **Social Support** - Social support as a theme was found often across the subreddits with users posting about difficulties finding friends, difficulties being social in general, dealing with family issues in relation to disability, and the struggles of isolation. Users talked about the difficulty of getting family to recognize them after a disability or recognize their disability. UserD12 describes attending a family gathering after a diagnosis of lupus left them confined to a wheelchair. They describe feeling separated from their family and talk of how they noticed a definite change in the way that family members approach them now and the overall emotional toll that this takes on UserD12.

"So Back in February I was diagnosed with lupus...Its been rough. I lost mobility in my legs my arms and lately I lost my voice. My extended family knows all this.

Today was my little cousins high school graduation party and I was excited to go...My parents drove me and I was excited but nervous to see my family they are usually pretty good people.

During the party no one would walk within 5 feet of me. They said hi from a distance, and when they heard my voice is gone they just stopped talking and walked away. Didnt ask how I was maybe the occasional asking me what was wrong followed by all the things I should be doing and then walking away. I have a push wheelchair so i cant move on my own.

My favorite cousin came with her new baby and she didnt even say

hi...She wouldn't let me look at the baby...anytime I tried to say hi she just waved and went somewhere else.

My Parents left me sitting at a table alone for 30 minutes...I asked my uncle to move me to be closer to my cousins and then suddenly it was time for them to go. I just felt so ashamed and sad. I don't know yet if this is going to be my life from now on. And if it is, is this how I will be treated from now on.

To be clear my family are huggers. Always hugs, saying hi and saying goodbye. Everyone was hugging eachother while I got maybe a shoulder tap from every 1/5 people.

Everything has been so much. I just dont know how much more I can take. First my doctors making me feel like its all my fault. My parents constantly coming in with their judgements of what I should be doing and now this? I cant do it anymore.” - (UserD12, 6/16/2019)

UserB9 posted asking others for recommendations of subreddits where they can make friends because they say their brother is going to college soon and they want to talk to someone else besides their brother.

”Hello my name is [UserB9]. I am 14 and 2 months old. I am blind and my hearing is limited. My brother is starting college and I would like to talk to someone else. I have looked at the teenager reddit but I do not think I will belong there.Thank you.” - (UserB9, 10/27/2016)

UserA11 discusses feeling socially deficient after starting a treatment for adderall which they feel has hampered their ability to speak in social settings, they ask for confirmation that this is not unique to them and for advice on being able to solve this problem.

”I am prescribed 15mg of generic Adderral IR that I take as needed (two-three times a day). Before starting this, I was a phenomenal public speaker and engaged with everyone in conversation; now I am at a

loss for words when public speaking or speaking with people. Does anyone else experience this? Any recommendations to bring back the ability to communicate well?" - (UserA11, 12/19/2016)

- **Understanding** - The topic of understanding occurred in r/Blind and r/Disability and involved users asking to interview members of the subreddits for academic purposes, helping parents raise a child with a disability, asking questions to determine the best way to interact with people with disabilities, and asking how people with disabilities live a daily life. Posts with this theme tended to feature a direct discussion with a user who does not have a disability attempting to understand the perspectives, lives, and needs of people with disabilities to use this information to help them provide support for others. User D13, a worker at a restaurant, posts questions asking the best way to ask someone if an animal that accompanies them is a service animal and the specifics of the animal's training. She states she is asking so as to not provide inadequate accommodations or infringe on rights established within the ADA.

"I work in a restaurant and I want to make sure I get this right. I know I can ask two questions, 1. "Is this animal (a dog or miniature pony) a service animal related to a disability?" and 2. "What services has this animal been trained to perform?"

If I ask this second question, what kind of answers can I expect?

I obviously don't want to infringe on anyone's rights under the ADA or fail to be accommodating, but I can't allow people to take advantage of service animal status for emotional support and other non-trained pets." - (UserD13, 6/24/2019)

UserB10, a parent to a newborn recently diagnosed as totally blind, posts asking for advice on how best to support their child now and asks questions about the future of the child's condition, necessary future accommodations, and the kind of life the child will live, specifying they want their child to be able to live as normally as possible.

"I hope this post is not offensive, because I'm a sighted person and have no clue of blindness. We're pretty devastated right now, because we hoped that the doctors could fix his eyes, but apparently the leucocoria in both his eyes was not caused by PHPV, but by the retina itself which are completely detached. They suspect maybe norrie syndrome, but it could be something else aswell.

So we got a few initial questions. We will get help with the nearest center for blind, but I'd really like some insight from other blind people.

First, how hard is it for you to navigate through your everyday life? Is it possible, for example, that our son will be able to get out himself and play alone? He's only two months now, but its hard for me to imagine him going to the playground by himself in a few years. Can you go wherever you want to, or only to places where to you know your way very good?

Then there is the question of schooling. I know there is a school for blind kids near where we live, but there might also be options to put him in public schools. Are people here who did either? What would you recommend and why? On the one hand, this special school will accomodate his needs very well, on the other hand I would like my kid to be able to live a 'normal' life, with friends who go to the same school and live nearby. Is this stupid?" - (UserB10, 4/02/2019)

- **Accessibility** - Accessibility discussion was common on all three subreddits but took slightly different forms usually based on the subreddit or the disability being directly discussed. The topic of accessibility was explored through the themes of accessible technology (digital devices meant for accessible purposes), physical accessibility detailing real world accessibility issues such as ramps for wheelchairs, and accessible sound (a topic mostly found on r/ADHD) which focused on music in an accessibility context.

- **Accessible Technology** - Accessible technology was most frequently discussed as a topic on r/Blind and r/ADHD. Both subreddits had discussion based around software meant for an accessibility purpose, but the software and applications that were being discussed differed from r/Blind to r/ADHD as different applications are meant to help different disabilities. For r/Blind this involved discussion surrounding dictation software and screen readers for mobile and computer, discussion of web accessibility, users asking for recommendations of accessible software either for them or a blind loved one, discussion of descriptive audio services in theaters and for YouTube, and general discussion of accessible technology such as calculators. Discussion of screen readers and dictation software featured users naming the various software applications they use for different purposes. In one post, a user asks the members of the r/Blind subreddit about how Blind people are able to use computers as this user has recently started discussing a TV show, Mr. Robot, with a blind person online and this user wants to know how best to type messages that the screen reader is able to effectively read for the benefit of their blind friend. UserB11 replies to this post, offering their perspective on the matter of screen readers and messaging.

”Just to give you a different perspective:

Totally blind, but I use my laptop and occasionally my iPhone. It’s to each their own, I suppose, but I personally don’t like the idea of people catering to me just because I’m blind, you know? Generally if someone is going to gripe at you about using acronyms, it’s just them being picky; it’s not like any sort of text-to-speech has any problem with them. Sure, lol might be pronounced as ”loll”, but that doesn’t change the meaning of the phrase any—we would all still know what it means. Similarly, :P is going to be read as colon P, but that doesn’t mean that we don’t know what it is (most of us, anyway)...I normally have most punctuation enabled...but if there are people that would rather not

hear quotation marks, or brackets and such, they can turn that off; you don't have to be conscious of not using those things...P.S: We can't tell if something is WRITTEN LIKE THIS WHICH A CRAP TON OF PEOPLE USE ALL THE TIME. Heartbreaking for me, but I learn to deal. I had a friend who would start telling me every time he used caps, but it just made me feel like a pleb[ian] so I told him to stop lmao." - (UserB11, 7/13/2016)

In another post, a user asks the members of the subreddit their feelings on the movie-going experience and their general thoughts on descriptive audio for movies. UserB12, in the highest voted comment in the thread, shares their thoughts on descriptive audio systems overall.

"The reliability of descriptive audio systems continues to be a disappointment. It would be much better with ONE change; a test track before the main feature begins.

In the 20 years since the first movie we saw with description the system has worked flawlessly about 25% of the time. I wish I could say it was getting better. The technology is improving but reliability is unfortunately still unacceptable. We thought that the smartphone app synced description track would work better but that has failed us as well." - (UserB12, 5/05/2019)

On r/ADHD, accessible technology discussion focused around applications to help mitigate the symptoms of ADHD, such as applications with a timer, applications meant for scheduling important dates and sending reminders, applications for monitoring medication usage, and devices helping users find things they repeatedly lose such as phones or sets of keys. In one post, a user asks the members of the subreddit what features that they personally would like to see in an application meant to help people with ADHD function effectively from day to day. Users replying to this post heavily mention wanting applications that

track daily tasks, remind users about tasks repeatedly, or allows them to see their tasks from a centralized screen location so that tasks are always visible. UserA12 discusses the features that they would personally design an application meant for helping people with ADHD around.

”My ADHD App idea:

Todo List that shows me ONE TASK.

Below that one tasks are the following options.

- * I’ve done this. - Prompted for anything else that needs to be done.
- * I’m in the wrong place to do this - prompted for location (work/home)
- * I can’t do this now. - Prompted for start date, with a random button for when I just don’t know.
- * I’ve worked on this but not done. - Item is moved to the bottom of the list.

The working list is filtered by those conditions so I don’t see home tasks at work or work tasks at home, and I won’t get prompted about things I can’t work on right now.

In my dreams, it ties into my calendar, so if I have a meeting it shows me the meeting instead of another task. As long as I’m dreaming, there is room for notes on what I’ve done that I can search next time I have to do something similar.” - (UserA12, 9/23/2016)

Accessible technology did not appear much as a topic at all in r/disability, with only one major instance being found. In this instance a user posted about an application they were working on which is meant for people in wheelchairs to rate the overall accessibility of local establishments. They claim the application is meant to rate an establishment’s accessibility in their parking, seating, entrance, and bathrooms. UserD11 replies to this post, suggesting more avenues the application can take and what they would like to see.

”Another suggestion is gathering more info regarding the bathrooms like how many wheelchair stalls are available, is their a family or companion friendly restroom, as a proud owner of an ostomy I also would like to know if there is a sink in the stall or a private place to change out my bag when needed and if there is a trash can for disposal in the stall.” - (UserD11, 7/02/2019)

- **Physical Accessibility** - The discussion of physical accessibility again differed between the subreddits as each dealt with accessibility from the perspectives of different disabilities. On r/Blind, discussion of physical accessibility came from conversations users had about various topics surrounding guide dogs, questions about braille such as learning braille in other languages, and users asking questions regarding the best methods for blind transportation. Discussion of guide dogs was quite common, with users asking about the price of owning and maintaining a guide dog, assessing whether a guide dog may be the correct accessible support for them, discussing concerning behavior in guide dogs, and debating the issue of fake service dogs and how best this can be mitigated by legal action. One user made a post asking about the common costs that are incurred from owning a guide as they wish to fund raise to help a friend purchase and maintain a guide dog. The post they make lists out the costs for a guide dog according to their friend who needs one which includes such figures as \$400 a month for medical care and \$80 a month for grooming. UserB13 replies to post detailing their own knowledge of owning guide dogs and lists off the costs of owning a guide dog that they have experienced.

”Your friend is either tragically misinformed, or is trying to screw you royally. Source: I am a guide dog user of just over 6 years. First of all, the medical expenses... There are vets who take care of service dogs pro bono. Even if there are none of these vets in your local area, the dog only needs a checkup every year, shots, and visits if he gets

sick. Even without the free services many vets provide, the medical expenses should be along the lines of 400 bucks a year maximum. Second, grooming. Guide dog schools give extensive training on dog grooming, along with providing brushes and other assorted grooming stuff. The master grooming his own dog is also an important part of the bonding process, and is emphasized by many schools as a technique for keeping your relationship with your dog at the high level required to be a good working team. Food... Uh, 80 dollars a month on food is insane. The standard food for a guide dog from the school I attended is Purina One. It costs around 35 dollars for a 40 pound bag. This should last a month and a half to two months. As far as transportation, that has nothing to do with the dog. Sorry to say it, but this is a scam. It is infuriating to hear about people trying to get by with this...Your total expenses a month ad[d] up to over 500 dollars...If it cost this much money to have a guide dog, there would be nobody with them.”

- (UserB13, 2/05/2015)

On r/disability, physical accessibility discussion took the form of many discussions related directly to wheelchair accessibility in many aspects and areas of life such as the issue of cars being able to fit wheelchairs, wheelchair ramps making locations accessible or vice versa, getting wheelchair access on planes, getting wheelchair accessibility for social places such as a concert or a high school prom, and recommendations for wheelchairs or other mobility devices. On post begins with a user sharing a Pitchfork article discussing the difficulties of attending concerts while having a disability. This post receives a reply from UserD12 who shares their experiences attending concerts while being in a wheelchair and the problems they face.

”...These problems are only amplified if you’re in a wheelchair. I live in a fairly small city and the most popular venue for smaller bands...is

this tiny...place up above a bar with two flights of stairs. If it wasn't for being in a wheelchair I would be going to multiple shows a month. But because of the chair I think I've been to 5 shows in like 7 or 8 years. The place has no elevator and the tiny bathrooms upstairs are less than accommodating. But if I love the band I'll be damned if I'll let the inaccessibility stop me from going.

Right now I'm kind of dreading it though. A band my girlfriend really loves is playing there in a week and she really wants to go...So I'll do it for her, but I'm not looking forward to making that trek up the stairs and being stuck up there for a few hours and not having access to a functional bathroom.” - (UserD12, 3/11/2015)

Physical accessibility on r/ADHD took on a more varied form than in the other subreddits. Physical accessibility discussion revolved around helping others manage symptoms of ADHD through physical means, in this case physical means meaning using non-digital devices or applications to help them. Instead posts focus on behaviors or actions that people with ADHD could be doing to help support themselves, such as organizing rooms, finding clothing (specifically pants) that can store items to help those who have a tendency to lose things, using meditation practices for calmness and relaxation, and help with bad lifestyle habits such as staying up late or being too focused on scrolling through a phone. UserA13 created a post urging people with ADHD to manage their scatterbrained behavior by investing time in organizing rooms and singing the praises of this approach and how it helped them.

”I recently have taken two full afternoons to organize/clean/shape-up my room, and it has made a world of difference on my attitude and well-being.

I never realized how much of an impact would be made by hanging art, photos of family/friends, having a plant(s), and lots of shelves/cubby

holes.... I have a small room, so this stuff is necessary to create more surface space for all the crap I won't let go of.

The floors are hard-wood, and a rug has done wonders in making the place feel cozier, and it definitely helps keep it warmer in the winter.

There was a trickle affect, and I was able to get through a workout I had been dreading to get back into, as well as get on top of some paperwork I had been putting off.” - (UserA13, 1/19/2017)

- **Accessible Sound** - Accessible sound appeared the most on r/ADHD though there were a few posts relating to the theme on r/disability as well. The discussion of accessible sound on r/ADHD had exactly two main areas of focus: people discussing music as a tool to help them focus and people discussing issues with and tips for managing hypersensitivity to sound. Multiple posts on r/ADHD discuss and emphasize the importance of music for people with ADHD, as many say that music helps them focus on a wide range of actions: driving, exercise, studying, even managing major anxiety when taking medications. Many posts deals with users asking for music recommendations for music that can help with focus or discussing the act of using music to help focus and whether this approach works for some. UserA14 replied to a post from another user asking about using music to help them focus on schoolwork. In their reply they detailed how music helps them focus and their preferences.

”It may be different for you, but music for me is too distracting when I need to put thoughts together. Sometimes, minimalistic music hits that middle ground of not distracting and tuning out the background. Artists like deadmau5, blackmill, things like that. Film scores and soundtracks from my favorite tv shows often have no lyrics and tune out the background sounds as well. I also really like film scores and soundtracks.” - (UserA14, 7/29/2016)

UserA15 posted describes their own preferences and issues for using music to

help them study and asks members of r/ADHD to share their own experiences on the subject,

"I noticed it really helps to listen to music, particularly while doing more repetitive parts of my work. It helps me filter out environmental distractions, and it keeps my racing thoughts at bay.

However, it has to be songs I know well. Else I will be distracted by trying to make out the new lyrics, get curious about the artist etc. and end up wasting time on that instead of working...Then again, if I listen to something for too long, I get bored of it, and my mind gets stuck in "oh gods not THAT song again!" and I just want to stop listening to it. I thought about spending some time each week to discover new music while not working, and then put it on when I work, but I never get around to it...So that's where my dilemma is. I am bored of all the music I know, and I am bad at finding new music while not working."

- (UserA15, 1/12/2017)

Accessible sound discussion was infrequent on r/disability, the few times it did appear it took on the form of conversations about being able to play or listen to music while having a disability. In one post, a user with cerebral palsy asks the musicians of r/disability about how they play their instruments with a disability. UserD13 replies to this post, describing their history with playing musical instruments and making music with a disability, giving the original poster encouragement and recommendations for their own musical career.

"I'm left handed and everyone around me was right handed so I had to learn how to play basic guitar notes upside down and backwards...I didn't learn many chords because I couldn't hold down the notes with my fingers (I have Muscular Dystrophy myself) Maybe finding a smaller guitar could help as well?"

I'm a drummer myself but stopped playing when I stopped walking around 2002 because I got exhausted after only playing a couple songs...That's when I found out about electronic music and went to my first rave. It changed everything, and I found out other ways to make music using computers with music programs that can let me play any instrument I want with a midi keyboard or midi pads you can hit with your fingers or drumsticks. I'm still making music to this day and keep the drumming alive with finger drumming midi controlled hardware. I suggest maybe doing something along the same route since you can play whatever you want without physical limitations. 12 years and I'm still rocking on!" - (UserD13, 1/11/2016)

- **Social Situations** - Discussion of social situations between all three subreddits varied theme-wise. Themes were split between several areas of discussion: threads concerning the societal discussion of disabilities, issues surrounding social interactions, advice and discussion of romantic relationships and general relationships such as with friends, coworkers, or authority figures such as teachers, and posts regarding parenting from the perspective of parents and children.
 - **Societal Discussion of Disability** - Societal discussion of disability was a subject that was found on all 3 subreddits and generally featured overall similar discussion. Societal discussion of disability in this case focused around users talking of their feelings on disability discussion from able-bodied people, such as able-bodied people's thoughts about disability and topics such as jokes at the expense of disability, and talked of how this discourse affects them personally. On r/ADHD this discussion often took the form of anger or frustration at societal misunderstandings of ADHD or jokes about ADHD. Able-bodied people's reactions to accommodations is discussed, such as extra time on tests. People given more time to take tests describe how this results in people telling them that they are "lucky" or "special" to have ADHD and these people wish they

too were not neurotypical so as to receive "special treatment." This can result in people either feeling bad about their own accommodations or refusing to seek accommodations for fear of being perceived as different. Users discuss their feelings when able-bodied people make comments to them implying that they wish they had a disability just for the accommodations. UserA15 posts about their frustrations related to their issues with ADHD when an able-bodied person tells UserA15 that they wish had ADHD so they could get more time on tests.

"Like as if they wish they had a disability. Do you want to loose focus every 5 minutes and forgetting what you just did? Do you want to live as a person who takes longer to do everything such as homework or reading where you basically have no time to do anything else? Do you want to be a person who has such a hard time catching up that you don't really have time for a social life because you're afraid of being awkward. And the worst thing is, even if you do succeed or do well on an exam your peers will just brush it off and say you "had extended time", as if You weren't just as capable as they are. On top of that, some people will use you as a tool and steal your pills just so they can get high. You have to work twice as hard just so you can prove to others that you're capable and teachers may still doubt your abilities."
- (UserA15, 10/11/2018)

On r/Blind a blind user made a post about their affinity for making blind jokes whenever possible. This thread receives many replies from other blind or visually impaired users, including UserB14, all echoing the sentiment of liking to repeat blind jokes as well.

"I have absolutely 0 problem cracking jokes about my situation. It actually surprises some people. but, this has been me for as long as I've been me, so... eh. Honestly, sighted people end up more of-fended about things re: blindness than I do. It's moderately amusing."

- (UserB14, 9/03/2018)

On r/disability, threads pertaining to societal discussion of disability focused very specifically on discussions of ableism³ and discussions of the lenses through which society sees disability. Users talk about the ways that able-bodied people behave towards them and how that behavior makes them feel. They talk about how able-bodied people frequently seem to undermine their disability or talk of wanting to "cure" it. In one post, UserD15 shares common interactions they had have with religious people who comment on their disability.

"So I'm physically disabled. Have been my whole life. I have co(cerebral palsy). I live on my own. I can do things on my own. I use a walker or crutches and when I'm out and about random people I've never met will come up to me and ask if they can pray for me, or that Jesus loves me. This infuriates me...Why would I need reassurance that Jesus loves me. Your praying to cure me. What's wrong with me in your eyes that needs to be fixed . In my opinion religion is used as a shield for bigotry for so many different things." - (UserD15, 12/19/2018)

In another post a user shared an article about the film *Me Before You*, which features an able-bodied man become disabled and then later features him taking his own life at the end of the film as a result of the disability. UserD16 shares their thoughts on why people with disabilities find portrayals like this offensive and the larger societal misunderstandings that results from these types of depictions.

"...I do understand why people are upset about it and I don't think they're offended just for the sake of being offended.

Feeling like a burden is something a lot of people experience and it's massively soul-destroying. I respect the right for people to choose to

³<https://www.merriam-webster.com/dictionary/ableism>

end their lives but we should be careful that that is not corrupted to become the result of inadequate support or a feeling of being burdensome. People internalize these kinds of messages. I know I did.

The author herself has made some non-sensical statements: 'My nephew is in a wheelchair and I hope he will be pleased to see this shown in a way that does not make audiences too uncomfortable. If we had shown Will being taken in and out of his chair, or put in a hoist over a bath, the impression we would give is of difficulty. I wanted to make it more normal.'

Sanitizing the experience of disability whilst at the same time trying to tell people that being disabled is so awful and difficult and horrible that you simply must want to kill yourself is absurd. It is one thing to have these thoughts as an individual disabled person, it is quite another for those feelings to be normalized and legitimized through popular culture through such a simplified lens. I think that's reckless. This is not how we move forward as a community." - (UserD16, 5/30/2016)

- **Social Interactions** - Discussion of social interactions happened most on r/ADHD, but the theme did appear occasionally in r/Blind. On r/ADHD discussion of social interactions focused on the perceived difficulty of social interactions due to challenges presented by ADHD symptoms. Users talk about issues with rejection sensitivity dysphoria (RSD, a symptom of ADHD), a tendency to ramble, and inability to control intense emotions as contributing factors making social interactions difficult for them. UserA16 posted about their troubles with RSD and the difficulties they have in social interactions because of RSD.

"I saw a comment on this sub that mentioned RSD so I googled it, and holy shit. I have never read something that so accurately describes me. I am incredibly sensitive to criticism and rejection. And it is to the point where I am reluctant to try things. College has been less

than enjoyable for this reason; I have been rejected from several jobs, social/professional greek life, honors and departmental activities, and too many internships to count.

I also withdrew from people more and stopped trying to go out of my way to make friends because of my experiences of perceived rejection (people not reciprocating my interest in communicating). So this has resulted in a very unsatisfying, stagnant college experience. With graduation around the corner I have made little effort to look for a job. I got used to rejection and now I expect it. But there's still instances that throw me into deep emotional turmoil. I was rejected from a campus job in the spring and I cried and spent the next week or so in a depressive episode. I thought this was a symptom of depression and learned helplessness, but this is a very interesting perspective to read. How do you all deal with RSD?" - (UserA16, 12/11/2017)

On r/Blind, users discussing social interactions talked about a desire to not be seen as separate from others due to their visual impairment which results in anxiety for them during social interactions. UserB15 made a post discussing their new job and talked about the accommodations they were receiving, saying that despite the accommodations helping, they made UserB15 feel uncomfortable and like they were sticking out. They mentioned that they have had coworkers make occasional jokes about them being blind, which they feel may affect how they perceive their disability in the work place now. They mention they desire to feel less ashamed about asking for accommodations.

"I'm starting a new job as a software developer next week. For me to use a computer comfortably, I have a huge 42 inch display, which makes the text large enough so I can read it at a decent distance away...I've always had this strong dislike for looking different, for standing out, or looking obviously disabled. I worry about what other people must

think of me, and whether it will cause me to be some kind of outcast amongst the group.

At the last place I worked, I got by without this large display because the screens they already had were large enough already, but not ideal. My coworkers cracked the odd blind joke, but I knew for certain they were supportive, and liked me. So it's certainly possible that these fears of mine are entirely unrealistic, based on my past experiences. All of those anxieties, like feeling like you're less competent than other coworkers, taking longer to do things, feeling like you have sub-optimal productivity for the company.... those worries pile up in my head and make me want to just run away from it all. Perhaps this is internalised ableism?

Advocating for my access needs, and not feeling ashamed about adaptive technologies is definitely a skill I need to work on, and believe my success depends on it." - (UserB15, 5/24/2019)

- **Romantic Relationships** - The theme of romantic relationship was found in all 3 subreddits. Users discussing romantic relationships most often discussed tips and advice for dating while having a disability (or just general advice for dating unrelated to the disability), anecdotes from users' personal love lives, and testimonials from spouses of people with disabilities discussing their feelings of living and loving a person with a disability. UserA17 is a spouse of someone with ADHD and discusses their frustration that their husband will not seek treatment for the husband's ADHD and this is causing a rift between the two.

"I just need some advice/different perspective. We have been married for almost 9 years. We have a 2 years old. We have been to counseling as a couple. He has never pursued it for his ADHD. I really believe he thinks there aren't any problems stemming from his behavior, and he's said so in so many words. I have tried for years to help him

and it's only been in the last 2 that I've fully come to terms with the fact that he has to want it in order for me to be helpful. I've read books, podcasts, bought money management tools, apps, we've had serious talks where I thought we were on the same page. I've pursued counseling, everything I can think of.

He still checks out and physically leaves every chance he gets. He tells me what I want to hear when it comes to therapy and medication. He tried adderall and said he didn't like it and he doesn't want to take meds. He nickel and dimes all of our money away. I tried to communicate my needs for our relationship and spark conversation and he just diverts, ignores, makes jokes. All of the household and parenting is completely on me. I try to tell him I need assistance and he brushes it off. I don't feel heard.

I just wanted to hear some opinions...Does anyone have a similar experience? I just feel like he isn't making the effort. I'm at the point where I feel like the only option is to spend time apart because I'm so exhausted mentally, emotionally, physically. It's easier when he's not around to disrupt the flow of the day and I don't have to rely on him.

I really love him and I want us to succeed but I feel like he's trying to push me away." - (UserA17, 5/05/2018)

In one post, a user posts on r/Blind saying that they are going blind and need tips for dating and meeting new people. UserB16 replies to the post, discussing their own history dating as a blind person and offers support and suggestions for the original poster.

"Just be you doing the things that you enjoy doing. I'm fully blind so have a pretty set routine and regular wingmen who go out with me. I call into the same bar each week and know the staff, have a coffee in the same cafe most days, and it soon becomes non threatening for any

one to talk to you if you're chatting with staff.

Bar staff will occasionally suggest quietly that I call a cab home rather than make a move, they can see stuff I can't obviously, and I take part in everything I can.

I have a sighted bf [boyfriend] who I met at my gym, he spotted for me when my brother couldn't make it and the staff asked if he'd like to help me for 1/2 hour. Took longer than most relationships to develop as I needed to get comfortable with him..." - (UserB16, 9/19/2018)

- **General Relationships** - The subject of general relationships was found on all three subreddits and contained similar discussion between them. The theme of general relationships was accompanied by personal anecdotes of people relating their feelings on sharing their disability with others such as family members, friends, coworkers, and authority figures such as bosses, case workers, or teachers. Users also post on the behalf of friends or family members currently dealing with disability asking for information on a disability and for understanding of the best terms and actions they can use to help others. In one post, UserA18 discusses getting diagnosed with ADHD at age 29 and is worried about being able to tell their loved ones about the diagnosis. They relate the heavy anxiety they feel and ask users on the subreddit for advice and reassurance on how to talk to their loved ones.

"Hey guys, 29 year old photographer/writer who, until today, has been living undiagnosed with ADD/ADHD...Been feeling a ton of mixed emotions, but I got home around 5 to try and figure out some organizing techniques. It's now almost 10, and I've gotten as far as clearing my corkboard full of trivial things, dividing it into 4 and using thumb tacks to write the words 'Idea', 'To Do', 'Do' and 'Done' on each corner....I start thinking about how when my wife comes home and sees this mess, based on past experience, I won't go into too many details

but her A-type personality mixed with being tired from work mixed with my inability to explain what's going on, mixed with her unwillingness to understand, and my anger taking over just will not be good, I already know....I started feeling even more sad, but now major anxiety starts to kick in. If I can't explain it to my own wife, How will I explain this to my boss/business partner? It's all been professional til now, but he's the one who founded the company so it's his baby, and he's already mentioned before that my severe difficulty with sticking to deadlines and sometimes missing small details are problems we really need to take steps to correct.

How will I explain this to my parents, who have played a part in why I'm depressed right now due to a lot of overbearing strict parenting that made me internalize a lot of things...It will absolutely lead to a fight because I can only step away, breathe then come back so many times before it's just too much." - (UserA18, 6/03/2015)

UserD17 posted about how they recently developed a motor disability that causes them severe pain and now requires them to use a cane. They discuss their frustrations at continued jokes and comments about the cane by coworkers and they relay that they receive different, worse treatment from coworkers post-disability.

"I dislocated my knee last year and my recovery was far less than ideal and ever since I've been riddled with complications from it. On good days I can get around alright for the most part, but I have some spinal nerve damage from throwing my back out from said complications that causes extreme shooting pain down my body whenever it feels like it - especially when I'm under stress or feeling anxious and it's literally debilitating when it happens. I have miserable depression and anxiety issues already so it's quite frequent, and I can't leave home

without my cane.

I have a shitty coworker who just can't...keep herself from calling me nicknames that insinuate I'm less of a person from these conditions and it drives me literally insane. I'm already finding it hard to get out of bed in the morning and then have to deal with her...I have a whiteboard behind my desk and she wrote one of her...little nicknames for me on it with a permanent marker with an arrow pointing to my chair. I've politely asked her to stop on numerous occasions and she doesn't. I finally lost my [cool] at her yesterday.

Then I have every...dumbass in the office telling me to get a sword cane at least three times a week, often times going on some...tangent wasting 5-10 minutes of my time every time I try to get a damn cup of coffee or refill my water bottle. I'm not going to get a sword cane. Ever. No amount of persuasion will convince me otherwise. Just...treat me like you did before this...happened." - (UserD17, 6/04/2018)

- **Parenting** - Discussion of parenting was found most often on r/ADHD and r/Blind. Discussion of parenting had two distinct paths: parents asking how they can support their child with a disability or a child with a disability discussing parents either being overbearing, mistrustful, or not supportive regarding a diagnosis. UserB17 relays that they are a parent of a child with a visual impairment and several other conditions, relays the conditions their child faces and asks for help in being able to improve their child's living conditions however they can.

"My son is 8 years old and has cerebral palsy. He also uses a feeding tube for his nourishment. He is not able to communicate verbally so I am unsure what the world is like for him. He responds to light by squinting and seems to at times seem to respond to images and loves watching things closely on his iPad. His diagnosis is Cortical Vision

Impairment. My understanding is that there can be some people who can somewhat see even if they are cortically blind. Is there anyone who could explain more about their experiences with this type of vision loss. I want to help him in as many ways as possible and a clearer understanding may help. Any suggestions to improve his quality of life would be great.” - (UserB17, 3/21/2016)

On the other end of the parenting spectrum, UserA19 posts updating the members about the contents of a previous post. The previous post they had made asked for suggestions on getting their parents to recognize that ADHD is an issue that UserA19 may have and because of this, UserA19 wants to get tested. They relay that their parents did not take kindly to the conversation and that they still refuse to acknowledge the possibility that UserA19 has ADHD.

”...I was told to talk to my parents to try and get therapy about my adhd.

I told them that i researched and thought that my behaviour might be because of my adhd, they told me its nonsense, and that I should keep in my head to do work on time. My mom literally laughed in my face and said it wasnt like that. They dont [care], they dont even know how this...feels or how adhd makes my mind work but they think they know better. They KNOW i have ADHD but refuse any connection of my school problems with it, and just say that my problems in school are all linked to me not really wanting to work. Im done, i’ve tried, but i really dont know what to do anymore.” - (UserA19, 11/13/2017)

- **Life Organization & Routines** - The topic of life organization and routines was relatively common on all subreddits, however the general advice being given and the themes of the discussion varied between the subreddits. Life organization and routines contained themes of general lifestyle improvements advice and ideas, organization techniques, healthy and consistent eating habits and schedules, and general

advice and discussion related to exercise.

- **Lifestyle Improvements** - Lifestyle improvements was the most common theme in this topic found between the 3 subreddits and was the theme that had the most posts out of any of the other themes found in this topic. Discussion of lifestyle improvements varied by subreddit. On r/ADHD, discussions of lifestyle improvements revolved around users offering advice on proper medication management, strategies for tackling symptoms of ADHD without medication such as meditation, and tips for how best to maintain a proper morning or sleep schedule. In one post, a user who recently had started taking Adderall and asked about the possibility that Adderall was exaggerated their hypersensitivity to sound and asks the users of the subreddit for advice. UserA20 replies, giving step by step advice for how the original poster can adequately manage these issues when taking medication.

”I can only speak as someone who also takes dex, I am not a medical professional or anything of the sort.

I’ve noticed if I’m not ”doing something” while my medication is in effect, that outside stimulus becomes frustrating. I’ve spoken to my doc about this and his conjecture was that it may be due to the elevated stress that stimulants cause...As for how to avoid this: I’ve been given the mindfulness/meditation speech a thousand times by my doc...[I]t has very much helped center me and focus on what I need to be focusing on...

First: Slow down and take measured breaths.

Second: Slowly scan your surroundings, and take note of 1 object in particular, give it a brief description in your head, pause, then move to another object. Repeat this 4 times.

Third: Open your ears and listen to your surroundings, take note of one sound, give it a brief description in your head, pause, then move

to another sound. Repeat this 4 times.

Fourth: Take note of what you feel, your socks, your shirt, maybe your wrist watch, pick one and give the feeling a brief description in your head, pause, then move to another feeling. Repeat this 4 times.

Then repeat the second third and fourth steps but with 4 experiences for each of your senses, then 3. I'd recommend doing this for 2 and 1, but only if you have time. Make sure you're taking calm breaths the entire time.

The purpose of the exercise I've been told is to help re-center people with anxiety so they can get through panic attacks. For me, it really helps me come to terms with my environment. When I've acknowledged my surroundings, I no longer feel as drawn to random interruptions, I can go about my business unimpeded..." - (UserA20, 3/24/2018)

On r/Blind, posts concerning the theme of lifestyle improvements focused tips and advice for cooking, cleaning, adjusting to vision loss, and reading to their children. In one post, a user with a visual impairment asks for advice on how best to cook with a frying pan and receives advice from UserB18, another visually impaired user, replies to this post offering up an explanation for how best to do so based on their experiences.

"It's all about timing, spatial awareness, and experience. I use an Ove Glove, kevlar and silicone based gloves that allow me to manipulate hot meat without getting burned, or at least provide a hand as I'm trying to turn and flip things with spatulas and tongs.

For eggs and general sauteing, I use a standard silicone spatula to push things around and stir, and I pay attention to the resistance I'm feeling to gauge how done my eggs are. I can feel onion and other veggies softening up through tactile feedback from a spatula, and for all things,

I have timers nearby...If you cook a mir pois on medium-high heat in olive oil for 5 minutes, you can feel the difference in the resistance of the contents in the pan as you stir, plus take in the smells as well since that is also a great indicator of how things are cooking.

So get your timing down for whatever you are trying to cook, get your heat right, use Oven Gloves to help with your food manipulation, use spatter guards, smell how well things are cooking, and don't be afraid to touch the surface of meat when it's in the pan to tell it's doneness. I'll use my bare fingers to steady a fillet of fish or meat as I get a spatula under it and make sure I flip it well. Quick touches, confident manipulation, all that comes with experience." - (UserB18, 6/19/2019)

On r/disability, posts discussing lifestyle improvements involved discussions of dealing with boredom, taking care of oneself if a caretaker is not available, tips for clothing that is conducive to disability concerns, finding a therapist, and tips for caring for family members with a recent disability. In one post, a user asks about alternatives to care-taking because their primary caretaker, their husband, is going away for an extended period of time and they are worried about their ability to take care of themselves without their husband. They mention that they can't afford a full caretaker during this time because of the expense. UserD18 replies to the post offering a number of suggestions for potential autonomous care-taking.

"One thing that might help a bit is looking into devices that can help reduce as much strain as possible. This might be out of budget as well though, but bathing tools / stuff for the litter box / making sure you can make basic meals or have them prepared ahead of time would be good. You may need to compromise with spongebaths / wet wipes baths, ordering out, etc when you cannot face something harder. Can you ask a neighbor for help? Obviously they may want to be paid,

but perhaps it'll be cheaper than a full time caregiver.” - (UserD18, 7/25/2019)

- **Organization Techniques** - Organization techniques appeared most often on r/ADHD, but did appear a select number of times on Blind and very occasionally on r/disability. When discussing organization techniques, users discussed tips for consistently remembering important items like keys or medication, organizing important items like computer work or class notes, and good time organization habits such as routines like morning or evening rituals, hygiene, and studying. One user makes a post regarding their frustration at getting routines to a point where they feel regular. They discuss a struggle in getting routines to stick and are starting to feel that the act of getting routines together is hopeless. UserA21 replies to this post, offering up the ways they help keep themselves to their routines and general advice on organizing around a routine to make it more manageable.

”...My best suggestion is to put in the work ahead of time to make these decisions as easy as possible when you need to make them.

For instance, I sometimes go to bed with my workout clothes on and have everything else I need to go for a run (apartment key, socks, sneakers, gps watch) sitting by the door, ready to go. I pre-prepare lunches and dinners ahead of time. This doesn't always work - sometimes I procrastinate on the prep work until another week of sleeping in and take-out has gone by. But this does help me get out the door and eating healthy, homemade meals more often than if I tried to do all the prep at the same time as when I need to take the actual action. Another thing is to take things one small step at a time. When I'm lying in bed at 6 AM and think "I need to go for a run," that rarely works. Instead, I think, "I need to sit up." Okay, that I can do. Now, swing my legs over the side of the bed. Then stand. Then walk to my

shoes. One baby step at a time. Even if you only get dressed and get to the door, you got further than if you'd just stayed in bed.” - (UserA21, 3/26/2017)

In other post, a user asks members of r/Blind how they organize their studying time along with notes and any audio archives. The original poster is sighted but claims to be asking for research and development purposes for possible technology that may help with this purpose. The post receives a reply from UserB19, a visually impaired user, who goes into detail about how they went about organizing their work for school and makes suggestions on how this process could have been improved.

”I recorded all my lectures in university, with the best of intentions. Later in the week, I'd listen to them a second time, while transcribing them! It would be a good way to study, and to organize my recordings...The problem with taking notes during the class itself is that keyboards are loud, and if you use speech, you need to have headphones on one ear, and that distracts you from actively listening to the lecture, or participating in the class. Some universities offer paid note takers to help with this, but mine only offered them to students with physical challenges, not blind students.

Transcription services are available today, but though I haven't used them much, I don't think they cut it. What we need is something where we can search the auto generated text transcript, and then play the lecture audio starting from the word or phrase we found. That way, a blind student while in the class, would only need to note down a list of unique sounding keywords. After class, the student could search for those keywords that seemed important, and make more complete notes from the recording. That would be much less work than having to listen to the entire lecture a second time, so it would be more

reasonable to expect that students would actually do it. Also, if portions of the transcript were accurate enough, we could just copy those directly into our class notes.” - (UserB19, 3/28/2018)

- **Eating Habits** - Eating habits as theme appeared exclusively from posts within ADHD and usually centered around posts wherein people discussed difficulties eating or maintaining a diet due to either the symptoms of ADHD or the medication used to treat it. Users frequently discuss problems in remembering to eat, feeling hungry, or having to force themselves to eat despite not feeling physically able to do so. Replies to these posts either share tips for best eating habits or talk about their own difficulties eating. In one post, a user says that they no longer feel hungry because they take Adderall. UserA22 replies to this post, sharing their insight and history about eating with ADHD medications.

”I’ve had a lot of problems with this in the past. I wouldn’t eat, and when the meds wore off, I would be so hungry that I would feel sick and not want to eat. Eating before you take your adderall can help. What has helped me is setting a time to eat lunch and dinner and eating even if I’m not hungry. Cuz food always tastes good even if I’m not hungry.” - (UserA22, 4/16/2015)

Another user made a post as a reminder to other members of the subreddit telling them to make sure they do not forget to eat. UserA23 replies, saying that they forget to eat, even when hungry, while on medication.

”This is actually a problem for me when I’m on meds. I forget to eat even though I’m hungry.” - (UserA23, 10/11/2016)

- **Exercise** - Exercise as a theme appeared all subreddits and usually involved users asking questions about getting workout or cardio routines started or featured specific discussion related to how to work out or do cardio if one has a

disability. The exercise discussion on r/disability focused specifically on exercising with a wheelchair or a motor disability. UserD19 posts about their difficulties losing weight and ask questions about being able to lose weight while having a motor disability but without exercise. They complain about the way they feel their spina bifida has affected their life and say that they want to be able to lose weight but are unable to do much because of the limitations of their disability.

”Is it possible to lose weight without exercising or dieting?

Frankly...I’m too...lazy to get much (if any, let alone sufficient) exercise, and

I don’t want to change/limit my diet because...as stupid as it may sound, I feel like so much of what ”most people” get to do in life was ”stolen” from me by my disability (being able to walk normally - let alone run, playing sports, driving a car, having sex, etc.)...I don’t want my disability to ”take” from me the ability to a lot of foods either because their ”unhealthy” or whatever. I know this is unreasonable but it’s how I feel dammit, lol.

And as far as exercising goes, I’m quite simply too lazy to do the little bit of exercising my disability (Spina Bifida) will actually allow me to do, and even when I do try to exercise I feel like I’m not really burning enough calories to make a legit difference as far as burning fat goes...”

- (UserD19, 10/19/2019)

On r/blind, a blind user asks how members of the subreddit are able to use the gym independently and receives a reply from UserB20 detailing their experiences.

”I go to the gym independently ! When I first went, I had a guy from the staff show me around every machine. Gyms are usually organized in a way that makes sense (like my gym is organized in four sections

and in rows. Every row has a different machine, free weights are lined on the right wall of the gym and them are organized from lightest to heaviest, bunch of little stuff like that that stays consistent). I had the staff member explain the layout to me, i wrote it down on my phone and memorized it, now I know where every machine is. I never went to a gym before loosing my sight so I was double confused because I didn't know what the machines did anyway. Got the dude to explain how they work and how to load the weights and now I just know how to do it it's not that hard when you get used to it" - (UserB19, 12/22/2019)

- **Disabilities** - The topic of disabilities was present on all three subreddits, and was a wide-ranging topic overall. Discussion of Disability included themes of questions regarding disability, treatment, or benefits, commiseration over the negative aspects of a disability, co-morbidity of multiple disabilities in a given person, general discussion about disability culture, and sharing of diagnoses or information related to diagnoses among users.
 - **Disability Questions** - Questions regarding disability appeared on all three subreddits with the questions being asked differing heavily between the three. On r/ADHD, users asked questions related to ADHD such as the possibility of tackling the disorder without medication, women asking about how ADHD symptoms and menstrual cycles affect each other, users asking about possible issues in their lives being symptoms of ADHD, questions about symptoms themselves, and users asking others to share the details of their symptoms to better understand their own. In one post, a users asks members of the subreddit with primarily inattentive ADHD to share their experiences and to see if their symptoms line up with the symptoms of others. UserA24 explains their own experiences with primarily inattentive ADHD and details their thought processes and how the disorder affects their life on a daily basis.

"I daydreamed a lot in school. I kept to myself a lot. When I talk I miss social cues like when to speak. I interrupt people. As a result I tend to stay silent. Sometimes I forget my sentence in the middle of speaking it, or I forget an everyday word and people look at me like I'm crazy because I'm describing something ordinary.

My mind feels like a music show, talk show, and TV is on simultaneously. I thought this was normal.

I lose things several times a day. At work I seem to leave my water bottle everywhere except my office.

The one thing I loved doing at work was the thing I did really well. I could do it all day. The other stuff - forget it. I was organized on the computer but not with paper..." - (UserA24, 9/17/2015)

On r/Blind, questions about disability were focused around how to do specific tasks while being blind either from other visually impaired users or from sighted users looking to understand being visually impaired. In one post, a sighted user asks members of r/Blind what household tasks they struggle with most. UserB20 responds, talking about the difficulties that their boyfriend has with cleaning.

"Rinsing dishes is hard for my boyfriend because of sharp items. Even if he is only grabbing stuff to put in the dishwasher, a knife faced in the wrong direction can seriously injure him.

When we buy matching sets of stuff, like a salt and pepper shaker, or a shampoo and conditioner bottle, he struggles figuring out which is which since the bottles will be the same. So lots of cleaning products feel exactly the same to him." - (UserB20, 2/03/2017)

on r/disability, questions of disability focused on issues with disability benefits and how best to proceed if an application is rejected or a person is stuck waiting, discussion of how users feel about their disability and what they do if they feel

others portray that disability in a negative light, and discussions of how to talk to children about disability. In one post, a user asks how to explain the fact they are in a wheelchair to children who ask, because they have been asked before and are unsure of what to say. The post receives a reply from UserD20, who discusses how they explained their motor disability to their young niece.

”...I told her the phone from my head to my legs is broken, so my legs don’t hear when my brain tells them to move. So my chair lets me move my legs around with me anyway. (She’s not quite 4. This is my preschooler answer.)” - (UserD20, 3/08/2017)

- **Commiseration** - The topic of commiseration was most common on r/ADHD, though it did appear on the other subreddits rarely. Users discussing commiseration would usually describe issues they have that they feel are because of their disability diagnosis or because of ADHD symptoms. These posts do not typically ask for advice, support, or encouragement, instead focusing on releasing frustrations by sharing their personal struggles with others who may understand and empathize or sympathize. In one post, UserA25 rants about the physical, emotional, and social issues they face routinely because of their ADHD.

”What I’m confused about is that I’ve never really found that my focus drifts away...The times when I haven’t paid attention were mostly by choice, like once when I was obsessed for about a month about the possibility of having ADHD. I couldn’t ignore the thought during some classes and analyzed how much I fidgeted. I didn’t care about school much, and spent most time at home researching about ADHD. Most of my distractions seem to come from me wanting to pay attention but then some sort of noise interrupts my train of thought and I have to start all over again.

Group discussions are difficult not because I can’t pay attention but because I’m not sure when I should speak...A lot of times, I know

what's happening in class, but it still seems foggy because it hasn't been explained in detail.

I've got a hard time making friends. I can listen to them talk for a long time, I try to be interested and ask questions. But sometimes I find it difficult to be interested in their teenage issues because sometimes it doesn't really make sense to me.

And they always drift away when they find other friends who relate to them...Since I started my ADHD meds, I'm less interested in talking to people. I'd rather skip my lunch and go to the library. My interest in making friends has gone away. I get annoyed now when there's some 'teenage' conversation going on during a group discussion, mostly because I envy that I don't understand them.

Despite my meds helping tons, I'm less interested in trying to fake social skills. In classrooms, I can focus on thinking about ideas, but I get frustrated when the other kids aren't on task; and if they are, I have a hard time interjecting during the conversation and explaining things accurately. I can block out sensory distractions now and my mind sorts useless thoughts out, but conveying my ideas is still difficult. Thus, I get very low marks when it comes to participation...Since my teen years, every time we have to find a partner in class, I'm left alone. Recently, even a teacher said that no one would want to work with me. Things have been getting more difficult in school due to the workload, and almost every week, I feel like losing control and crying and screaming...It's horrible since I don't have any close friends to help me in such situations." - (UserA25, 1/05/2017)

- **Co-morbidity** - Co-morbidity is the existence of multiple disorders, illnesses, or conditions in a given person. Discussion of co-morbidity was a topic most common to ADHD but occasionally appeared on the other subreddits. The types

of co-morbid conditions being discussed involved generalized anxiety disorder, depression, autism spectrum disorder, heart conditions, motor disabilities, sensory processing disorder, obsessive compulsive disorder, insomnia, alcoholism, eating disorders, diabetes, and unnamed developmental disorders. UserA26 describes their history with ADHD, depression, and alcoholism and details the difficult situation they are now in because of this history.

"I'm almost a year sober. Getting sober has been a tough journey, I've spent the best part of 3 years relapsing, countless hospital admissions, trialing anti depressants, ECT, inpatient and outpatient for an eating disorder. I'm now weight restored, and I'd say 80% recovered.

The antidepressants were making me worse, I gradually weened off them recently (Cymbalta) which was 3 weeks of hell in itself. I feel for the first time in years that I have a clear idea of what I'm actually like, how my brain works without the cloud of booze, drugs or an ED hovering above. This is both a relief and terrifying.

I'm coming to realise this is what may be my problem. I relate 100% to the ADHD diagnosis.

I was diagnosed with ADHD as a kid, and took Ritalin for years. My mum took me off the meds after a big scare campaign that was big at the time about medicating kids with ADHD meds. I wish she didn't, apparently they changed me for the better. I think I wouldn't have failed school and ended up self medicating with alcohol if I had continued.

I live in Australia where I've heard it's pretty hard to get a diagnosed. I know my chances are probably non existent with my past history, but considering I was diagnosed as a child I might have a chance. I'm not chasing drugs, I'm not out to lose weight, without getting into an essay long detail of my symptoms and woes, I think a diagnosis would

change my life...” - (UserA26, 7/18/2019)

- **Disability Culture Discussion** - Discussion of disability culture as a theme was found most often on r/disability, but it did appear once on r/ADHD and occasionally on r/Blind. Disability culture discussion included users discussing disability as it appears in media such as movies and TV, discussion of controversial treatments and “cures” for disability, infantilization of people with disabilities, and discussion of “passing” as an able-bodied person. UserD21 describes their frustration because they say they are not visibly disabled but have OCD and rickets (a disorder causing soft bones in children) and they feel they are judged by people who might not be totally aware of their disability.

”Is anyone else not “obviously disabled”? I don’t know whether to be annoyed for it, or grateful for it..

I’ve had way too many occasions where people have assumed that I’m being rude for moving slowly through a hallway or any other walkway, or when teachers (I’m currently in high school) get upset at me for not making it to their class on time like everyone else. I even have a medical pass, but it still doesn’t stop judgement. Sometimes I feel like if I were “obviously disabled” I wouldn’t be judged as much for being unable to move nearly as quickly when I should be near my physical peak.” - (UserD21, 1/12/2019)

In another post, users discuss the ethics of casting non-disabled people in roles meant to be disabled characters. A user shares an article about *In The Dark*, a show featuring a blind main character being played by a sighted actress. Users argue whether they feel it is right to cast a non-blind actress in the role. One user repeatedly posits that since an actor’s job is to be able to fake life experiences then it should not be a problem for an actor to pretend to be blind. This comment receives a succinct reply from UserB21, a blind user, on their opinion of the matter.

”The thing is, if you’re creating a show about the actual experience of blindness, and you can’t find an actual blind person who can convincingly play your lead character, that should perhaps raise a warning flag. Maybe your lead character as written doesn’t do a good job of reflecting the experiences of actual blind people.” - (UserB21, 4/06/2019)

- **Diagnosis Sharing** - The sharing of information related to a disability diagnosis was found on r/ADHD and r/Blind. Diagnosis sharing involved people sharing their happiness are receiving a diagnosis for ADHD or being excited to start treatment, asking questions about the effectiveness of diagnoses, and sharing symptoms of their disabilities. In one post, UserB22 thanks the members of r/Blind for previous support and discusses the benefits of using a cane that they are now using because of the recommendations of users of r/Blind.

”Thanks so much for everyone’s feedback!

My first morning with the cane, I went to the 7-11 store I always go to in the morning on my way to work. It’s always packed and that morning was no different. I walked over to the iced coffee as I do every morning, got my cup and as I slid it under the ”mocha” tap, I noticed some kind of things taped to the dispenser handles. As I leaned in to see what they said, I heard a voice behind me say ”mocha” as I turned he said ”the other one’s vanilla”. Turns out the little paper simply said ”press down” but I was thrilled at this random assistance, even if it wasn’t exactly what I needed at the time. I made sure to say ”thank you”.

Today, I was walking across the street to get lunch. As I exited the building, a vehicle was pulling through the parking lot. It stopped. This is always the worst for me. I can see the vehicle, but I never know if the driver is waving me on or not. I don’t want to just walk

out so when they stop, I usually try to look away until they go (and I always feel like an asshole, especially if they were waving me on). Today though a guy behind me said "go ahead" and then quickly said "wait" as both he and the driver realized simultaneously that I couldn't see if they were waving or not.

I've also noticed strangers tend to say "Hi" more when they see me and certainly seem friendlier versus the usual expressionless silence of stranger passing...I'm pretty excited to see such a dramatic change so suddenly. Again, thank you all so much!" - (UserB22, 5/07/2015)

4.1.2 Research Question 2 - Which topics receive the most interaction over time per subreddit?

This research question was answered by analyzing the full topic counts of each subreddit over time which can be found in tables 4.1, 4.2, and 4.3.

- **r/Blind** - In 2015 the most talked about topic of discussion on r/Blind was Social Situations, which appeared in 697 posts (34% of all posts in 2015), followed closely by Accessibility which appeared in 477 posts (23% of all posts in 2015), with Disability being third with a total of 391 posts (19% of all posts in 2015).

By 2016, the total number of posts in r/Blind had increased from 2,059 to 5,114, a 60% increase from 2015. Because of this increase in posts, every single topic count in r/Blind had also increased by large factors in the range of 49% (Work & Education) to 65% (Disability). The ranking of the most popular topics remained the same: Social Situations, then Accessibility, then Disability. Social Situations still remained the most discussed topic at 1,723 tagged posts (34% of all topics in 2016, same as 2015) and in total increased by 59% while Accessibility increased from 477 to 1,140 tagged posts (22% of all posts in 2016, down 1% from 2015), a 58% increase. Despite being third, Disability only holds this ranking by a low margin as the topic was tagged in 1,128 posts (22% of all posts in 2016, a 3% increase in distribution from 2015), only

Topic Counts of r/Blind									
	M S & M	F & S S	W & E	S	A	S S	L O & R	D	Year Total
2015	118 [6%]	40 [2%]	152 [7%]	119 [6%]	477 [23%]	697 [34%]	65 [3%]	391 [19%]	2,059
2016	285 [6%]	81 [2%]	300 [6%]	320 [6%]	1,140 [22%]	1,723 [34%]	137 [3%]	1,128 [22%]	5,114
2017	431 [7%]	104 [2%]	310 [5%]	408 [7%]	1,321 [22%]	1,988 [34%]	172 [3%]	1,179 [20%]	5,913
2018	566 [7%]	157 [2%]	517 [6%]	491 [6%]	1,830 [23%]	2,767 [34%]	238 [3%]	1,499 [19%]	8,065
2019	2,717 [16%]	311 [2%]	1,162 [7%]	928 [5%]	3,514 [20%]	6,262 [36%]	613 [4%]	3,183 [18%]	17,290
Total	4,117 [11%]	693 [2%]	2,441 [6%]	2,266 [6%]	8,282 [22%]	13,437 [35%]	1,225 [3%]	7,380 [19%]	38,441

Table 4.1: The total number of tagged posts under a topic per year in r/Blind. All topic names are abbreviated by the first letter of each word. The farthest right column is the total number of posts for that year and each percentage in brackets refers to that topic's percentage of the total number of posts for that year. All percentages have been rounded up to the nearest whole number.

12 posts behind Accessibility. Disability also holds the largest increase in tagged posts from 2015 to 2016, with an increase to 65% of tagged posts. All three top ranked topics are the only tagged topics in r/Blind to reach over 1,000 posts, with Support as the next highest topic after Disability at a total of 320 posts, which was only 20 posts larger than Work & Education's total.

In 2017 the total number of tagged posts per topic had again increased, but the increase was less severe than the increase from 2015 to 2016, going from 5,114 to 5,913 posts, a 14% increase. As a result, the number of tagged posts per topic increased by much lower margins of 3% (Work & Education) to 34% (Medical System & Medication). The top three topics were once again the same three topics in the same ranking: Social Situations, Accessibility, and Disability. Numbers of posts tagged with Social

Situations increased by 13% to 1,988 (still 34% of all posts for the year). Accessibility saw a 14% increase in tagged posts to 1,321 (again, 22% of all posts in 2017). Disability, despite being the third highest topic, increased by a much smaller margin than 2016, 4% for a total of 1,179 posts (20% of all posts, 2% decrease from the previous year.) All three of the largest topics again contained 1,000 total posts but the next largest topic after Disability was instead Medical System & Medication in 2017, which had increased 34% from the previous year, from 285 to 431, the largest single relative increase in a topic from 2016 to 2017.

In 2018 the total number of tagged posts per topic had again seen a larger increase than in 2017, going from 5,913 to 8,065 posts, a 27% increase. The total number of tagged posts per topic increased to the range of 17% (Support) to 42% (Work & Education). The three largest ranked topics remained the same once again: Social Situations, Accessibility, and Disability. Social Situations increased by a margin of 28% to 2,767 posts (34% of all posts in 2018, again unchanged from the previous year), the highest number for any topic and also the only topic so far to be tagged in over 2,000 posts. Accessibility also increased by 28% to 1,830 posts (23% of all posts in 2018, a 1% increase from the previous year) and was the closest topic to 2,000 tagged posts. Disability increased by 21% to 1,499 posts (19% of all posts in 2018, a 1% decrease from the previous year). No topics besides the Social Situations, Accessibility, and Disability reached anywhere close to 1,000 total posts. The next largest topic after Disability was again Medical System & Medication at 566 posts (7% of all posts in 2018, no change from the previous year).

2019 saw another dramatic increase in total number of posts with the number going from 8,065 to 17,290, a 53% increase overall, the second highest increase from year to year since 2015 to 2016. The total number of tagged posts per topic increased in frequency from 47% (Support) to 79% (Medical System & Medication). The top three categories remained unchanged from the previous year: Social Situations, Accessibility, and Disability. Social Situations increased 56% from 2018, bringing

the total to 6,262 posts (36% of all posts in 2019, a 2% increase from the previous year and also the only change in distribution for this topic from a previous year). Social Situations was also the only topic in r/Blind to reach over 5,000 total posts. Accessibility increased by 48% going from 1,830 to 3,514 total posts (20% of all posts in 2019, a 3% decrease from the previous year) making Accessibility the second topic to reach over 3,000 posts. Disability saw a marked increase of 53% for a total of 3,183 posts (18% of all posts in 2019, a 1% decrease from the previous year), becoming the third topic to reach 3,000 posts. Despite the top rankings remaining the same, Medical System & Medication had the most dramatic increase in topics in all of the years of r/Blind, with total number of tagged posts for the year increasing 79% for a total of 2,717 posts (16% of all posts in 2019, a 9% increase in distribution from the previous year and also the largest increase for a topic from year to year in r/Blind). Because of this increase, Medical System & Medication became the fourth topic to reach over 2,000 posts. Work & Education also saw a large increase of tagged posts with a 56% increase, bringing its total to 1,162 posts (7% of all posts in 2019, a 1% increase from the previous year) and making it the fifth topic to reach over 1,000 posts. By 2019, a total of 5 of the 8 categories had reached over 1,000 posts.

The top three topics never changed ranking from year to year, when all posts from 2015 to 2019 were totalled the ranking of total top tagged categories remained at: Social Situations (13,437), Accessibility (8,282), and Disability (7,380). In total, Social Situations accounted for 35% of all tagged posts in r/Blind from 2015 to 2019, with Accessibility accounting for 22% and Disability accounting for 19%. Medical System & Medication was the next highest distributed topic, appearing in 11% of all posts in r/Blind from 2015 to 2019, with the large increase in tagged posts in 2019 helping to push the topic over the edge in terms of percentage and ranking. The only topic not to reach 1,000 posts or more when totalled for all 5 years of r/Blind was Financial & Social Services.

Topic Counts of r/disability									
	M S & M	F & S S	W & E	S	A	S S	L O & R	D	Year Total
2015	706 [10%]	812 [11%]	434 [6%]	421 [6%]	727 [10%]	2,786 [38%]	293 [4%]	1,190 [16%]	7,369
2016	1,035 [13%]	1,138 [15%]	500 [6%]	374 [5%]	678 [9%]	2,650 [34%]	246 [3%]	1,112 [14%]	7,733
2017	1,188 [11%]	1,452 [13%]	692 [6%]	554 [5%]	959 [9%]	3,962 [36%]	411 [4%]	1,668 [15%]	10,886
2018	1,907 [11%]	2,276 [14%]	1,118 [7%]	837 [5%]	1,374 [8%]	5,424 [33%]	704 [4%]	3,019 [18%]	16,659
2019	2,893 [10%]	2,880 [10%]	1,817 [6%]	1,222 [4%]	2,584 [9%]	10,393 [37%]	1,203 [4%]	5,315 [19%]	28,307
Total	7,729 [11%]	8,558 [12%]	4,561 [6%]	3,408 [5%]	6,322 [9%]	25,215 [36%]	2,857 [4%]	12,304 [17%]	70,954

Table 4.2: The total number of tagged posts under a topic per year in r/disability. All topic names are abbreviated by the first letter of each word. The farthest right column is the total number of posts for that year and each percentage in brackets refers to that topic's percentage of the total number of posts for that year. All percentages have been rounded up to the nearest whole number.

- **r/disability** - In 2015 the most popular topics on r/disability in order were: Social Situations, Disability, and Financial & Social Services respectively. Social Situations was the absolute largest topic in 2015, totalling 2,786 posts (38% of all posts on r/disability in 2015), more than double the amount of Disability, which was in second place with 1,190 posts (16% of all posts in the subreddit in 2015). Only Social Situations and Disability contained more than 1,000 posts. Despite Financial & Social Services being third, it contained only 812 posts (11% of posts in 2015) which is close in number to the fourth and fifth highest rated topics: Accessibility with 727 and Medical System & Medication with 706 (both topics individually account for 10% of posts), respectively.

In 2016, the number of posts overall increased from 7,369 to 7,733, only a 4% increase in total number of tagged posts from the previous year. Only 3 of topics

increased in number of tagged posts by margins of 13% (Work & Education), 29% (Financial & Social Services), and 32% (Medical System & Medication). Every other topic saw a decrease in the number posts tagged to a topic within a range of -5% (Social Situations) to -16% (Life Organization & Routines). The top topics still ended up as the same three topics but now in a different order: Social Situations, Financial & Social Services, and Disability. Social Situations lost 5% of posts from 2015 to 2016 and still managed to remain the top category by a wide margin, with 2,650 posts (34% of all posts in 2016, a 4% decrease in distribution from the previous year) it was still the only category that appeared over 2,000 times. Disability lost 7% of its tagged posts from 2015 to 2016 which dropped it to 1,112 posts (14% of all tagged posts in 2016, a 2% decrease in distribution from the previous year). Financial & Social Services saw a massive increase of 29% to bring its total to 1,138 posts (15% of all tagged posts in 2016, a 4% increase in distribution from the previous year) and giving it a 26 post lead over Disability to shift the topic rankings. Both Medical System & Medication and Financial & Social Services had the highest increase overall from 2015 to 2016, with both now having more than 1,000 posts.

In 2017 the number of posts in all topics increased from 7,733 to 10,886, a 29% total increase in number of tagged posts from 2016 to 2017. The total number of tagged posts for topic all increased this time within a range of 13% (Medical System & Medication) to 40% (Life Organization & Routines). The top topics shifted order again but remained the same three topics: Social Situations, Disability, and Financial & Social Services. Social Situations posts increased by 33% to 3,962 (36% of all tagged posts in 2017, a 2% increase in distribution from the previous year), making it the first category to breach over 2,000 and 3,000 posts in r/disability. Disability reclaimed second place, increasing 33% from 2016 to 1,668 posts (15% of all tagged posts in 2017, a 1% increase in distribution from the previous year). Financial & Social Services followed closely behind Disability with an increase of 22% to 1,452 posts (13% of all tagged posts in 2017, a 2% decrease in distribution from

the previous year), separating them by a relatively small gap of 216 total posts. Life Organization & Routines had the largest increase from 2016 to 2017 with 40% but only increased from 246 to 411 posts (4% of all posts in 2017, a 1% increase in distribution from the previous year), putting it in last place for topics in 2017. No topics that had less than 1,000 posts increased to be over 1,000 posts from 2016 to 2017 in r/Blind.

2018 saw a dramatic increase in posts on r/disability, with the total number of tagged posts increasing from 10,886 to 16,659, a 35% increase from the previous year. All topics increased their total number of tagged posts by margins of 27% (Social Situations) to 45% (Disability). The ordering of the top topics did not change despite the overall increase in post volume, once again the ranking of top topics was Social Situations, Disability, and Financial & Social Services. Social Services increased 27% for a total of 5,424 posts (33% of all tagged posts in 2018, a 3% decrease in distribution from the previous year), and became the first and only topic to reach the 4,000 and 5,000 post marks. Disability had the largest increase in number of posts from 2017 to 2018 with an increase of 45% to bring its total in 2018 to 3,019 posts (18% of all tagged topics in 2018, a 3% increase in distribution from the previous year). Disability also became the second topic in r/disability to reach over 3,000 posts. Financial & Social Services also saw a marked increase of 36% bringing its 2018 total to 2,276 posts (14% of all tagged posts in 2018, a 1% increase in distribution from the previous year), and became the third topic in r/disability to reach over 2,000 posts. The gap between Disability and Financial & Social Services widened considerably, going from 216 in 2017 to 743 in 2018. All topics except for Support and Life Organization & Routines increased to over 1,000 posts in 2018.

2019 saw the largest single increase in total tagged posts from year to year, going from 16,659 to 28,307, a 41% increase in total posts. The total number of tagged posts for each topic increased within a range of 21% (Financial & Social Services)

to 48% (Social Situations). The top three topics changed slightly from the previous year: Social Situations, Disability, and Medical System & Medication, which claimed the third place spot from Financial & Social Services. Posts tagged with Social Situations increased by the largest amount of any topic from year to year on r/disability, increasing 48% to 10,393 posts (37% of all tagged posts in 2019, a 4% increase in distribution from the previous year). Disability also saw a marked increase in tagged posts going up 43% from 2018 to bring the number of tagged posts to 5,315 posts (19% of all tagged posts in 2019, a 1% increase in distribution from the previous year.) Medical System & Medication posts increased by 34% from the previous year, bringing the total to 2,893 posts (10% of all posts in 2019, a 1% decrease in distribution from the previous year). Despite Medical System & Medication overtaking Financial & Social Services for third place, the two are only separated by a total of 13 posts. Two topics with less than 2,000 posts, Medical System & Medication and Accessibility, both increased to total more than 2,000 posts. Two topics that had less than 1,000 posts in 2018, Life Organization & Routines and Support, both increased to be over 1,000 posts. By 2019 all tagged topics reached a minimum of 1,000 posts.

The rankings for the top three topics for all years changed several times. Although Social Situations was first every year, second and third place changed multiple times in different years. When all counts of tagged topics were totalled together for all 5 years of the dataset, the top topics were: Social Situations, Disability, and Financial & Social Services. Social Situations was the largest topic by a wide margin with a total of 25,215 tagged posts under this topic (36% of all posts on r/disability from 2015 to 2019). Disability was the second largest topic counted overall at a total of 12,304 tagged posts (17% of all posts on r/disability from 2015 to 2019), putting second place a total 12,911 posts behind first place. Disability was ranked second every year except for 2016 where it was ranked third. Financial & Social Services, the third largest topic of r/disability, had a total of 8,558 tagged posts (12% of all

Topic Counts of r/ADHD									
	M S & M	F & S S	W & E	S	A	S S	L O & R	D	Year Total
2015	36,796 [27%]	1,466 [1%]	8,200 [6%]	4,312 [3%]	3,954 [3%]	38,540 [28%]	14,482 [10%]	31,055 [22%]	138,805
2016	44,745 [24%]	2,107 [1%]	11,573 [6%]	5,631 [3%]	5,686 [3%]	53,003 [29%]	19,733 [11%]	39,973 [22%]	182,451
2017	56,501 [23%]	2,993 [1%]	15,793 [6%]	8,478 [3%]	7,907 [3%]	73,768 [30%]	27,065 [11%]	53,517 [22%]	246,022
2018	81,959 [22%]	4,828 [1%]	23,474 [6%]	11,912 [3%]	12,305 [3%]	111,087 [30%]	41,211 [11%]	78,128 [21%]	364,904
2019	96,932 [20%]	6,911 [1%]	31,940 [7%]	17,437 [4%]	17,854 [4%]	149,538 [31%]	56,299 [12%]	107,092 [22%]	484,003
Total	316,933 [22%]	18,305 [1%]	90,980 [6%]	47,770 [3%]	47,706 [3%]	425,936 [30%]	158,790 [11%]	309,765 [22%]	1,416,185

Table 4.3: The total number of tagged posts under a topic per year in r/ADHD. All topic names are abbreviated by the first letter of each word. The farthest right column is the total number of posts for that year and each percentage in brackets refers to that topic's percentage of the total number of posts for that year. All percentages have been rounded up to the nearest whole number

posts in r/disability from 2015-2019). Financial & Social Services appeared in third place for 3 out of the 5 observed years of the subreddit (2015, 2017, and 2018), second in 2016, and fourth in 2019, being replaced by Medical System & Medication in 2019 by the aforementioned small margin. Medical System & Medication was close behind Financial & Social Services, appearing fourth overall for all years of the subreddit at 7,729 posts (11% of all posts on r/disability from 2015 to 2019).

- **r/ADHD** - In 2015 the top topics on r/ADHD were Social Situations, Medical System & Medication, and Disability respectively. Social Situations was found to be tagged in 38,540 posts (28% of all posts in r/ADHD in 2015). Despite Social Situations being first, the margin for first place was narrow as Medical System & Medication came in a close second with 36,796 posts (27% of all posts in r/ADHD in 2015), with

only 1,744 total posts separating them. Disability was the third most popular topic of 2015 with its total number of tagged posts being 31,055 posts (22% of all posts in r/ADHD in 2015). There is a gap of 16,573 posts between Disability and fourth place, with Life Organization & Routines taking fourth place with 14,482 posts (10% of all posts in r/ADHD in 2015).

In 2016 the number of tagged posts in r/ADHD rose 24%, from 138,805 to 182,451 posts. All topics saw a marked increase in the number of posts tagged with that topic within the range of 18% (Medical System & Medication) to 30% (both Financial & Social Services and Accessibility). The top topics for 2016 remained the same as the previous year and maintained the same order: Social Situations, Medical System & Medication, and Disability. Social Situations increased in number of tagged posts by 27% to 53,005 posts (29% of all posts in r/ADHD in 2016, a 1% increase in distribution from the previous year), becoming the first topic to reach over 50,000 posts. Medical System & Medication remained second, with an 18% increase in posts from the previous year for a total of 44,745 posts (24% of all posts in r/ADHD in 2016, a 3% decrease in distribution from the previous year) becoming the second topic to reach over 40,000 posts. Disability was third with an increase of 22% bringing its total to 39,973 posts (22% of all posts in r/ADHD in 2016, no change from the previous year in distribution). Life Organization & Routines remained fourth place with 19,733 total tagged posts in 2016.

2017 saw the total number of posts increase again, from 182,451 to 246,022 which is a 26% increase in volume. The top three topics from the previous year remained the same 3 topics in the same order: Social Situations, Medical System & Medication and Disability. Social Situations increased in total number of posts by 28% for a total of 73,768 posts (30% of all posts on r/ADHD in 2017, a 1% increase in distribution from the previous year) becoming the first topic to reach 60,000 70,000 posts simultaneously. The gap between first and second place also widened in 2017, from an 8,258 post gap in 2016 to a now 17,267 post gap. Medical System & Medication

increased in number of tagged posts by 18% bringing the total in 2017 to 56,501 posts (23% of all posts in r/ADHD in 2017, a 1% decrease in distribution from the previous year) becoming the second topic in r/ADHD to reach greater than 50,000 total posts. Disability had an increase of 32% in number of tagged posts, with the 2017 total being 53,517 posts (22% of all posts in r/ADHD in 2017, no change in distribution from the previous year, becoming the third topic in r/ADHD to reach greater than 50,000 posts. Life Organization & Routines remained in fourth place with 27,065 posts, becoming the fourth topic to reach over 20,000 posts.

2018 had the largest increase in the number of posts on r/ADHD in a given year, going from 246,022 to 364,604, a 33% increase in post volume. The top three topics from the previous remained the same with the same order: Social Situations, Medical System & Medication, and Disability. Social Situations saw a 34% increase in total number of posts from the previous bringing the tally to 111,087 posts (30% of all posts on r/ADHD in 2018 with no increase in distribution from the previous year) which also made Social Situations the first topic to reach over 100,000 total posts. Medical System & Medication saw a 31% increase in total number of tagged posts bringing the 2018 total to 81,959 (22% of all posts in r/ADHD in 2018, a 1% decrease in distribution from the previous year) and became the second topic to reach greater than 80,000 posts. Although Medical System & Medication was second, the gap between second and third is narrow at 3,831 posts, a relatively small gap for r/ADHD. Disability increased in number of tagged posts by 32% bringing the total to 78,128 posts (21% of all posts in r/ADHD in 2018, a 1% decrease in distribution from the previous year) and making Disability the third topic to reach over 70,000 posts. Life Organization & Routines again remained in fourth with 41,211 tagged posts in 2018, becoming the fourth topic to reach over 40,000 posts.

In 2019, the total number of posts increased by the largest margin yet, from 364,904 to 484,003 posts, a 25% increase in total posts. The top three topics remained the same as before, but now with a different order, Disability had overtaken Medical

System & Medication for second place, making the new rankings: Social Situations, Disability, and Medical System & Medication. Social Situations remained the most popular topic and saw a 26% increase in the total number of tagged posts, bringing the total to 149,538 posts (31% of all posts in r/ADHD in 2019, a 1% increase in distribution from the previous year) and making Social Situations the only topic with greater than 140,000 posts total. Disability overtook Medical System & Medication to take second place for 2019. The gap between Disability and Medical System & Medication was relatively small each year, never surpassing a 6,000 post gap in any year before 2019, which is a relatively small gap for r/ADHD posts given the large number. Disability tagged posts increased by a factor of 27% for a total of 107,092 posts (22% of all posts in r/ADHD in 2019, a 1% increase in distribution from the previous year and making Disability the second topic to reach over 100,000 total posts. Medical System & Medication posts increased by the smallest margin yet of 15%, bringing the total to 96,932 posts (20% of all posts in r/ADHD in 2019, a 2% decrease in distribution from the previous year) and making Medical System & Medication the third topic to reach 90,000 posts. Life Organization & Routines kept its fourth place once again at 56,299 total posts, becoming the third topic to reach over 50,000 posts.

The top three topics in r/ADHD never changed from one year to another, except in 2019 where Disability and Medical System & Medication switched places, but both had still consistently been in the top three topics for all years of the subreddit. When all posts from 2015 to 2019 were totalled, the order of the top topics remained the same as the first four years of r/ADHD: Social Situations, Medical System & Medication, and Disability. Social Situations was the largest tagged topic overall for r/ADHD at 425,936 total posts across all 5 recorded years of the dataset (30% of all posts in r/ADHD from 2015 to 2019). The difference between the first place topic and the second place topic was a matter of 109,003 posts. Medical System & Medication came in second for top overall topics for the period of time of the dataset, with

a total of 316,933 posts (22% of all posts in r/ADHD from 2015 to 2019). Disability came in an extremely close third with 309,765 posts (22% of all posts in r/ADHD from 2015 to 2019) trailing behind second place by a mere 7,168 posts.

4.2 Discussion

This section is concerned with the discussion of software as a solution to problems experienced by people with disabilities.

4.2.1 Software as a Solution to Problems Posed by Disability

Software is repeatedly mentioned among the top solutions to problems posed by disability. For instance, dictation software and screen readers are constantly mentioned as major solutions to using the internet while having a disability, particularly a visual impairment. Other software artifacts are mentioned as solutions to help people with ADHD as well. Spreadsheet programs like Excel and Google Sheets are used as ways to keep organized, and money-budgeting applications are mentioned to help curb impulse spending.

Other problems are mentioned in this research as well that have much potential for a software solution. For instance, users with visual impairments mention difficulty in getting around hospitals and getting to know the layout of unfamiliar hospitals. A hospital navigation service with audio descriptions and screen reading integration may help to both alleviate the issues of getting to know a hospital and would help to build confidence in blind users getting used to their surroundings. Another issue mentioned repeatedly is the issue of transportation for people with disabilities, particularly finding reliable transportation to and from workplaces or other important areas. This could be alleviated with an application meant for people with disabilities focused on documenting and recommending accessible public transportation spots, as well as giving users the ability to rate and discuss the features of the areas. An application like this is useful for presenting people with peer-reviewed accessible locations and allows them to feel more secure in their choice of public

transportation.

Many users discuss difficulties finding accommodations for their work or school environment or are met with hostility when asking for said accommodations. One way to help this problem would be to have a service that rates schools and places of employment based around their accommodations they provide for people with disabilities. This would allow people with disabilities to have a comprehensive list of a school's or workplace's history with accommodations from the perspective of people with disabilities who have attended either institution. Such a public rating system would also help to show the major issues on display in institutions that refuse accommodations or act in ways that may be perceived as ableist. Such a system is mentioned briefly in a posts on r/disability, and would be a massive help to people with disabilities.

Applications detailing best practices for performing certain tasks like cooking while blind would also be helpful. Many people ask questions on r/disability and r/blind on how to perform life tasks like cleaning or cooking. An application functioning as a database with information related to proper ways to cook or clean would provide people with disabilities with the tips they need to be successful and would help establish a sense of independence by having them learn through the application.

4.2.2 Software Engineering for People with Disabilities

Users also discuss working in software engineering and programming fields. Many members of r/Blind and r/disability, when asked about possible career paths, mention careers in software as extremely viable career paths for people with disabilities. Many people with disabilities work in the avenues of software and programming. Current and former engineers relate their work histories, with many saying they joined this career path *after* they had been diagnosed with a disability. Users feel that the field is open and generally welcoming to people with disabilities. Major strides in accessible technology such as the ones mentioned above make working within software for users with visual impairments much

easier. Software jobs have very few physical artifacts that engineers must interact with, most necessary items can be found on the computer, and things like dictation software or screen readers make working on computers much more manageable for people with disabilities. Physical accessible devices also work well in office environments, such as special glasses meant to soften the light from the computer screen and custom-designed office chairs for people with physical disabilities or motor impairments.

The biggest hurdle in the field of software is the use of keyboards which users with motor disabilities find difficult to use. Dictation software may be able to help in this case as well, so that users can type less but still be an active participant within the software realm. Users who do use this software within the software world report that it generally works well, with the main issue being how well the machine can sometime read back code and the tendency of this software to misread messages or code. Accessible software is able to also be licensed to be used in work environments usually allowing people with disabilities to subsidize the cost of these technologies or receive them free. Screen readers, dictation software, and magnifiers are all software that has obtainable licenses to be used in work environments.

4.2.3 Where Software is Insufficient

Software solutions are a great way to help improve the lifestyles of people with disabilities, as mentioned above. However, software alone is insufficient for a number of reasons. The first of which is the cost of this software. Specialized software for people with disabilities is repeatedly mentioned as being expensive. Open source solutions do exist, but it's clear that sometimes it can take several open source solutions to accomplish what one, more expensive piece of software is able to do. Furthermore, many open source solutions are found entirely on repository services like Github, and attempting to use software directly downloaded from Github can be difficult for the people less familiar with technology or programming. Entirely technological solutions to disability also risk alienating people

with disabilities who may not actively use computers or mobile devices for accessibility reasons or because of the price of owning these pieces of technology. The other major issue present with entirely technological solutions is that, despite accessible computing options existing, the wider internet at large is not accessible in many places. Users mention repeatedly how websites like Reddit can be difficult to navigate with accessible technologies. Messaging between users can also be made more difficult by dictation software and screen readers, as speech recognition software might not fully be able to read back or understand slang words or misspelled words, possibly creating and facilitating communication difficulties for people with disabilities. Programmers also relate the occasional difficulty getting screen readers like NVDA to read code back without issue. Software can be an extremely powerful tool to help people with disabilities but has many drawbacks before wider adoption of these accessible technologies can take place.

Chapter 5

Limitations & Future Work

5.1 Limitations

This section discusses several limitations with the study.

- **Time Frame of Data** - The dataset used in this study represented a sample from all three subreddits from a time frame of 2015 to 2019. All three subreddits were created in 2008 and therefore have a much larger post history than what is contained within the subreddits. Furthermore, the year 2020 was not included which included the onset of the Covid-19 Pandemic across the world, which had special impact on disabled communities. This dataset therefore does not feature data from this important time frame for disability discourse.
- **Selection of Subreddits** - This dataset featured a selection of 3 disability related subreddit, but many more subreddits based around the topics of disability exist. There exist subreddits for invisible disabilities such as r/socialanxiety, r/OCD, or r/schizoffective as well as other subreddits visible disabilities such as r/wheelchairs, r/MultipleSclerosis, or r/Fibromyalgia.
- **Categorization of Topics** - The labelling, categorization, and refinement of topics was done manually and ultimately reflects a single perspective on the data gained from the specific dataset used.

5.2 Future Work

This section discusses potential future work for this style of experiment

- **Utilize more comments and subreddits for feature extraction** - By expanding the corpus of subreddits for feature extraction, more topics of discussion could be found to further expand the taxonomy of topics. This would reveal more insight in disability discussion in general and could help to highlight the differences in discussion between communities and disabilities.
- **Feature more comments from earlier years of the subreddits** -To better understand how topics change and discussion is affected over time, more comments from previous years of the subreddit would be useful. This way, historical trends of community behavior can be established.
- **Multi-label Classification of Comments** - By utilizing multi-labels, comment labels can be more granular and allow for multi-classification of a comments, which can be used for further investigation of topic discussions among disability-related subreddits.

Chapter 6

Conclusion

This research analyzed major topics of discussion on disability-related forums on Reddit with the purposes of using this information for the benefit and understanding of all people, regardless of the existence of disability in their lives. People with disabilities face many struggles that comes as a result of both their disability and the larger societal systems that exist which interact with that disability. Despite the existence of struggle, people with disabilities are clearly very capable and able to adapt to their situations and many people with disabilities go on to lead rich and fulfilling lives. The existence of struggle in one's life does not remove the presence of happiness, competency, and adaptations to new or difficult situations. People with disabilities in general do have systems of government and social support, but it's also clear from many discussions that these systems are lacking, confusing, and sometimes difficult to be accepted into. Furthermore, users can be taken off of these systems without warning or explanation which in many ways is unhelpful. Software solutions for disability also exist, but these can be expensive to obtain, which narrows the amount of people that these pieces of software are made to help. Even with this accessible software, many people with disabilities still struggle to use it around the internet as websites must also be made accessible, which not all websites can be. It's clear that, despite the strides made in helping and supporting people with disabilities, there are still many ways in which this support is inefficient.

Bibliography

- [1] Tawfiq Ammari, Sarita Schoenebeck, and Daniel M. Romero. Self-declared throw-away accounts on reddit: How platform affordances and shared norms enable parenting disclosure and support. In *Proceedings of the ACM on Human-Computer Interaction*. ACM, 2019.
- [2] Tal August, Dallas Card, Gary Hsieh, Noah A. Smith, and Katharina Reinecke. Explain like i am a scientist: The linguistic barriers of entry to r/science. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, pages 1–12. CHI, 2020.
- [3] Daejin Choi, Jinyoung Han, Taejong Chung, Yong-Yeol Ahn, Byung-Gon Chun, and Ted ”Taekyoung” Kwon. Characterizing conversation patterns in reddit: From the perspectives of content properties and user participation behaviors. In *Proceedings of the 2015 ACM on Conference on Online Social Networks*, pages 233–243. COSN, 2015.
- [4] Luka Eberhard, Simon Walk, Lisa Posch, and Denis Helic. Evaluating narrative-driven movie recommendations on reddit. In *Proceedings of the 24th International Conference on Intelligent User Interfaces*, pages 1–11. IUI, 2019.
- [5] Sarah A. Gilbert. “i run the world’s largest historical outreach project and it’s on a cesspool of a website.” moderating a public scholarship site on reddit: A case study of r/askhistorians. In *Proceedings of the ACM on Human-Computer Interaction*. ACM, 2020.

- [6] Scott Hollier. Technology, education and access: A 'fair go' for people with disabilities. In *Proceedings of the 14th International Web for All Conference*, pages 1–2. W4A, 2017.
- [7] John T. Morris, W. Mark Sweatman, and Michael L Jones. Smartphone use and activities by people with disabilities: User survey 2016. In *Journal on Technology and Persons with Disabilities*, pages 50–66. CSUN, 2016.
- [8] Zhenhui Peng, Qingyu Guo, Ka Wing Tsang, and Xiaojuan Ma. Exploring the effects of technological writing assistance for support providers in online mental health community. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, pages 1–15. CHI, 2020.
- [9] Parimala Raghavendra, Claire Hutchinson, Emma Grace, Denise Wood, and Lareen Newman. “i like talking to people on the computer”: Outcomes of a homebased intervention to develop social media skills in youth with disabilities living in rural communities. pages 110–123, 2018.
- [10] Sachin Thukral, Hardik Meisheri, Tushar Kataria, Aman Agarwal, Ishan Verma, Arnab Chatterjee, and Lipika Dey. Analyzing behavioral trends in community driven discussion platforms like reddit. In *International Conference on Advances in Social Networks Analysis and Mining*. IEEE/ACM, 2018.
- [11] Prateek Vachher, Zachary Levonian, Hao-Fei Cheng, and Svetlana Yarosh. Understanding community-level conflicts through reddit r/place. In *CSCW '20 Companion: Conference Companion Publication of the 2020 on Computer Supported Cooperative Work and Social Computing*, pages 401–405. CSCW, 2020.
- [12] Wenke Wang, Yen-Chun Jim Wu, Chih-Hung Yuan, Hongxia Xiong, and Wan-Ju Liu. Use of social media in uncovering information services for people with disabilities in china. In *The International Review of Research in Open and Distributed Learning*, 2017.