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The Paint Bucket Model of Dis/ability in STEM Higher Education: Axioms 1-3

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Abstract

Dis/ability is a complex, evolving, and nuanced concept. Recognizing the absence of a clear definition of dis/ability, the first author proposed a “paint bucket dis/ability” theoretical framework through which dis/abled tertiary STEM student’s experiences can be examined. In this paper, we deductively map select experiences and conceptualizations of STEM graduate students to the first three axioms of the paint bucket dis/ability theoretical framework. The first three axioms state that dis/ability is: (1) temporary, episodic, transient, chronic, and permanent variations in mental, emotional, and/or physical functioning or appearance that deviate from society’s accepted norm; (2) the simultaneous (a) oppression of body/minds deviating from the norm and the (b) physical, material, and psychological pain, desire, impact, and fear of having a body-mind that is labeled as deviating from society’s accepted norm; (3) existing within a diverse and often fluid spectrum of apparentness, sometimes being readily apparent and sometimes not so readily apparent. This paper provides tangible excerpts from the experiences of dis/abled STEM graduate students to explore these axioms of the framework. This paper offers a common language from which to discuss dis/ability and illuminate factors that create and maintain marginalization, oppression, and violence by reducing ambiguity and opening dialogue on dis/ability and access needs.

Introducing Dis/ability

There are diverse opinions on how to define disability (including dis/ability[1]) emanating from multiple eras of scholarship and activism. Our understanding of dis/ability, at a societal level, has been limited by difficulty defining the “dynamic and contested nature” of dis/ability [1]. There is no monolithic dis/abled experience. Yet, a common language is needed so that we can critically engage with one another to dismantle oppression. Therefore, a flexible and fluid model is needed so that we may engage in effective discourse around the diversity of dis/abled I experiences.

Historically, those leading the debate on what language we should use to describe dis/ability, illness, and neurodiversity and those developing so-called “dis/ability euphemisms” have been non-dis/abled people [2]. Critical dis/ability studies challenge the status quo of who gets to define dis/ability [3]. Keeping this in mind, the following discussion centers the voices of dis/abled, chronically ill, and neurodivergent scholars and activists.

Language used to describe dis/ability

Terminology and naming with respect to disability are contested and have the potential to perpetuate marginalization and harm (e.g., [4], [5], [6]). We briefly touch on some of these issues below.

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[1] The reason behind spelling dis/ability as “dis slash ability” is presented on the following page.

Identity first language (e.g., “dis/abled”, “differently-abled”, “Deaf”, “Mad”, “Crip”, or “neurodiverse”) emphasizes the role of society in producing dis/ablement [7]. It upholds dis/ability as a non-negative identity [7]. Identity first language centers the dis/ability, illness, or neurodiversity as an inherent part of an individual’s identity in the same way one would refer to “Gay”, “Jewish”, or “Peruvian” people [8]. However, each person experiences their own dis/abilities in a unique way. A person who has cancer, for example, may consider the disease as something that is detrimental and separate from their sense of identity [8].

In contrast, person-first language (e.g., “people with dis/abilities” or “people with different abilities”) emphasizes the value, humanity, or personhood of the individual [8]. It recognizes an individual as a person instead of a condition [8]. However, many self-advocates in the Autistic and Deaf communities, for example, note that person-first language suggests that a person can be or would want to be separated from autism or deafness, respectively [8]. Opponents of person-first language note that it can be demeaning as it can deny dis/ability as an identity [8]. Some argue that person-first language implies that the condition is unfortunate, detrimental, and that the person would be better off if they were “typical” [8].

It is essential to respect and center the language each dis/abled individual or individual with dis/abilities chooses to describe themselves. Some of the participants in this study used person-first and some used identity-first language to describe dis/ability. Similarly, different participants used different terms to describe dis/ability, e.g., “disability”, “neurodivergence”, and “different ability”. We do our best to respect each participant's chosen language. Further discussion regarding language used to describe disabilities is offered in Beardmore [9] and Chapter 2 of Beardmore [10].

Spelling dis/ability dis-slash-ability

Some critical dis/ability activists and scholars have started adopting the term “dis/ability”, spelled “dis slash ability” [3], [11]. Disability spelled without the slash may imply a deficit or lack of ability to perform culturally defined, expected, and valued tasks. Dis/ability spelled with a slash is used in critical dis/ability theory to acknowledge the validity and value of humans who have dis/abilities and:

- Disrupt the deficit narrative of disability and the normative ideal of ability
- Emphasize the socio-cultural co-construction and co-dependence of disability and ability
- Recognize disability and ability as constructions of ableism, oppression, and fear
- Appreciate the uniqueness of each individual’s intersectional/multidimensional experience and perception of disability and ability.

Foundational frameworks

Before we map the experiences of participants to the “paint bucket” model of dis/ability it is important to first introduce some of the foundational frameworks of dis/ability. Each of these frameworks arise out of dis/ability rights activism and a field of scholarship known as Dis/ability Studies; these frameworks are more fully discussed in Chapter 2 of Beardmore [10].

“Dis/ability Studies is an interdisciplinary area of study examining the significance, nature, and consequences of dis/ability as a social, cultural, legal, and political construct (Syracuse University School of Education, 2019)” [10]. Dis/ability Studies emerged from the dis/ability rights movement of the 1960s [12]. Figure 1 and its descriptive text[2] depicts the evolution of the primary frameworks and theories in the field of dis/ability studies, based on the dates provided in [11], [13], [14]. Please note there are many other frameworks and models, however we only explore the primary models here.

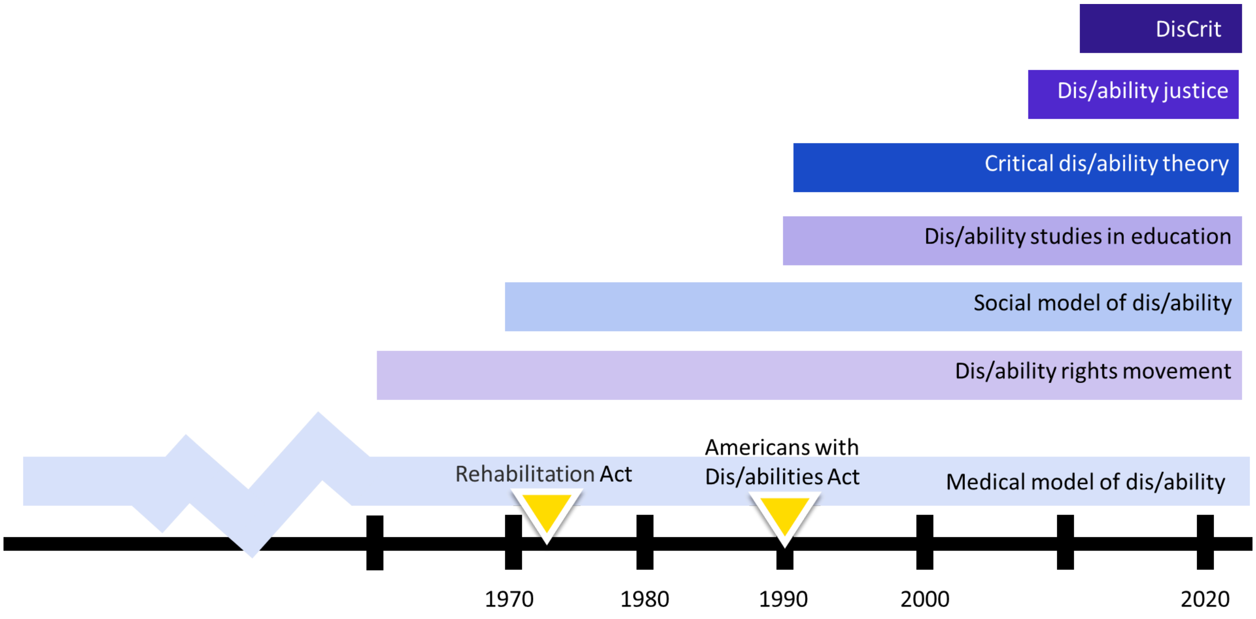

Figure 1: Conceptualization of Dis/ability Timeline (Figure 2A from Beardmore [10])

Figure 2A descriptive text: At the bottom of the figure is a horizontal timeline. The timeline starts without increments. At about one fourth of the way across the figure increments of ten years are labeled on the timeline from 1960 to 2020. The Rehabilitation act of 1973 and Americans with Dis/abilities Act of 1990 are denoted above the timeline with yellow triangles. Models, theoretical frameworks, and activist movements are depicted in solid bands in shades of indigo. The medical model of dis/ability takes up the entire span of the figure including a line break to indicate the long history of the model predating 1960. Then the

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[2] Descriptive text is similar to alternative (alt) text in that it describes the visual content (object, subject, context, etc.) of a photo, image, figure, or graphic. We chose to use descriptive text here for a few reasons. Not everyone who may benefit from such a description may have access to a screen reader. We were also concerned that due to the length of the text needed to describe the figure, the character limit for an alt text field might be exceeded for some document readers or there may be compatibility issues when converting between file formats.

> dis/ability rights movement is shown above the medical model starting in the 1960s. Above it is the social model of dis/ability (starting in the 1970s), the critical dis/ability framework (starting in the 1990s), dis/ability studies in education (also starting in the 1990s), the dis/ability justice movement (starting in 2008) and DisCrit (starting around 2012/2013). [10]

The medical model treats dis/ability as an impairment and remains a dominant ideology in public opinion, medical practice, and law in the U.S. [1]. Impairment is "any loss or abnormality of psychological, physiological, or anatomical structure or function" [15]. The medical model is also the root of the Americans with Dis/abilities Act which defines dis/ability, with respect to an individual, as "(A) a physical or mental impairment that substantially limits one or more of the major life activities of such individual; (B) a record of such an impairment; or (C) being regarded as having such an impairment" [16]. The social model is at the opposite extreme and views dis/ability as the consequence of an excluding and oppressive environment that is impairing to individuals whose natural physical, sensory, intellectual, or psychological differences fail to conform to societal norms set and enforced by those in power [17], [18]. Other models recognize elements of both the medical and social models, focusing attention on other elements.

The key components of these frameworks are compared and contrasted in Table 1 below. Please note that we added a row to the tables in this paper to include some key references for each model. Starting from the top left corner, the first row lists the five models of dis/ability that are highlighted in Beardmore [10] in the second through sixth columns. The first column represents various statements that can complete the sentence "dis/ability is." The cells within the subsequent rows include the following symbols depending on whether the corresponding model:

- does NOT include that description of dis/ability: double hyphen (--)
- does include that description of dis/ability: check mark (✔)
- expands upon that description of dis/ability: a continuation of the sentence

Table 1: A comparison of dis/ability definitions from different models (adapted from Table 2A in Beardmore [10])

Dis/ability is…	Medical model	Social model	Critical dis/ability	Dis/ability Critical Race (DisCrit)	Dis/ability justice
Impairment	And a deficit needing to be fixed	--	✔	✔	And the physical, material, and psychological pain of impairment
Oppression	--	✔	✔	✔	✔
The impact of	--	Disablism, & disablement	Disablism, ableism, desire & disablement	Being labeled or categorized as raced or dis/abled	Having a body-mind that deviates from society's accepted norm as upheld by
A product of the codependent social, political, historical, & legal constructs of	--	--	Ability and disability	Racism, ableism, disablism, (tribal crit: nationality, sovereignty, colonialism, imperialism, consumerism, and white supremacy)	Ableism, racism, capitalism, productivity, sexism, transmisogyny, colonialism, police violence, etc.
Unique to the multidimensional experience and perception	--	--	Of an individual	Of a whole person whose identities, (Tribal crit: lived reality, and ways of knowing) cannot be disaggregated	Of a whole person whose history and experience cannot be disaggregated
References	[1], [3], [7], [11], [19]	[1], [18], [20], [21], [22], [23]	[3], [24], [25], [26], [27]	[11], [28], [29], [30], [31]	[14], [32], [33]

Paint bucket theory of dis/ability

Neither of the authors felt their own experience fit neatly within any of the preexisting models, rather their experiences encompassed elements from several of them. Similarly, when reviewing the participant's experiences we found that the participants' experience of dis/ability could differ in each situation and could change over time.

Beardmore [10] proposed a 'paint bucket' model of dis/ability to provide a conceptualization of dis/ability that could build on the existing theories of dis/ability to better represent the lived experiences of individuals who are dis/abled in one or more ways. Each of the dis/ability theories are imagined as a pigment being mixed into a one-gallon paint can, to create a particular shade, viscosity (thickness), and density of paint that is unique to each person. Figure 2 depicts the pigments being initially added to the bucket (representing the proposed framework) from a bird's eye or plan view. Each pigment can be imagined as having a different density and viscosity causing it to separate from the other pigments when initially added. "The pigments that are commonly included in the mixture are the medical model of dis/ability, social model of dis/ability, dis/ability studies in education, critical dis/ability studies, dis/ability justice, and DisCrit" [10]. Each individual may add in a unique combination of theories that once mixed (i.e., experienced) blend into their paint shade – with its own unique viscosity and density. However, their paint shade and the pigments used to create it may change over time, just like a person's experience and epistemology may change. Acknowledging that this mental model may not be relatable to persons with some forms of visual impairment, the prior models of dis/ability could alternatively be imagined as musical notes rather than pigments. Then the notes can be thought of as blending together to make a musical cord.

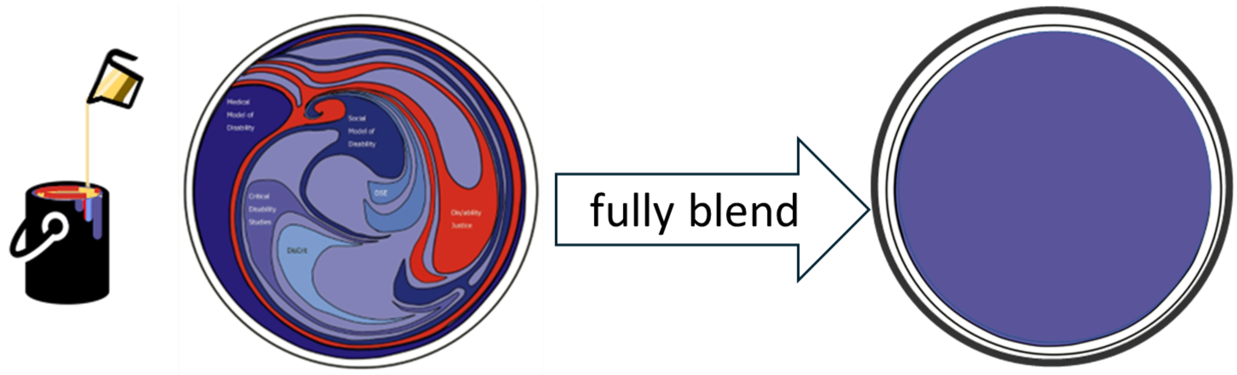

Figure 2: Theories as pigments being swirled together in a paint can (derived from Figures 2-B and 2-D in Beardmore [10])

> Figure 2 descriptive text: The figure includes a profile view of a glass measuring cup with distinct layers of paint being poured into a paint bucket. The figure also includes a plan view of the bucket with paint swirls, each distinct in color and labeled with the names of one of the previously aforementioned models. Then to the right of that there is an arrow that says "fully blend". To the right of the arrow is a bucket with one homogenous paint color.

The "paint bucket" model of dis/ability defined dis/ability, verbatim [10, p. 56], as:

1) temporary, episodic, transient, chronic, and permanent variations in mental, emotional, and/or physical functioning or appearance that deviate from society's accepted norm.
2) the simultaneous
    a. oppression of body/minds deviating from the norm
    b. physical, material, and psychological
        i. pain and desire
        ii. impact and fear of having a body-mind that is labeled as deviating from society's accepted norm
3) existing within a diverse and often fluid spectrum of apparentness, sometimes being readily apparent and sometimes not so readily apparent
4) a product of the co-dependent social, political, historical, & legal construction of disability, ability, ableism, racism, ageism, neoliberalism, colonialism, imperialism, other "isms", and the goal of assimilation
5) unique to each individual's holistic multidimensional experience, perspective, history, lived reality, and ways of knowing (which cannot be disaggregated across their individual identities)

Methods

This research was conducted under the University of Colorado Boulder Institutional Review Board (IRB) protocol: 21-0217. The study consisted of two phases of data collection and analysis as fully described in Chapter 3 of Beardmore [10]. The study employed a convenience and snowball sample. Harvey's [34] process was used in the first phase to broadly explore the experiences of two dis/abled STEM graduate students across a series of in-depth interviews. Narrative style interviews and a post-interview survey were used in Phase 2 to collect data from five additional dis/abled STEM graduate students. After inductive analysis of the interview transcripts, a comparison with prior theoretical framings of dis/ability found that no single theory captured the experiences of the participants. Therefore the prior theoretical frameworks were amalgamated into the paint bucket theory of dis/ability. In this paper the authors deductively map select conceptualizations of the participants' experiences in STEM disciplines to the paint bucket framework.

The participants

The seven participants were seeking master's and/or doctoral degree(s) (or had previously sought a degree within one year of their interview) in STEM disciplines at institutions in the United States of America with varying levels of research productivity. The participants experienced a variety of dis/abling and non-normative physical, developmental, emotional, and sensory conditions which they shared (included in the results section). The participants held various levels of funding/employment at their institutions.

The participants used a variety of terms to describe themselves including: Hispanic and white, Latina, and white; Bilingual, English speaking, English and Spanish speaking, and not entirely fluent in Spanish (note: interviews were conducted in English); assigned female at birth and female; demi-woman, nonbinary, and woman; bisexual, gay, lesbian, LGBTQIA, pansexual, and queer; "in my 20s" and "non-traditional"; atheist and "spiritual but not religious"; and American, American-born Columbian, Mexican American, and second-generation American. They were raised in the American East, Midwest, South, and West. They also described themselves as rich, middle class, on the brink of homelessness, and barely affording to eat.

Presentation of results

The authors collected quotes from among the participants that illustrate the three defining characteristics of dis/ability in the proposed paint bucket framework. We did not attribute specific quotes to individuals to retain anonymity and protect the confidentiality of the participants [35], [36]. Rather, we provided a composite discussion of the dis/abilities and identities of the participants. Then we attributed all of the experiences and quotes to "the participant" which could represent any one (or more) of the seven individuals who participated in the interviews [35], [36]. We used the singular form of "they/them" pronouns to represent the amalgamated participant.

Author Positionalty

The first author (they/them/theirs) was a Ph.D. student at the University of Colorado, Boulder while the study was being conducted. As a dis/abled, queer, nonbinary person, who at times passes as an able body/minded, white, heterosexual, cisgender person they found themselves drawn to the models of disability that affirmed their experience. This likely impacted the theoretical frameworks of disability they found and chose to explore. Their experience of disability influenced how they interpreted the participants' statements even as they conducted the interviews. The first author's experience created a bias that undoubtedly informed their response to the participants and motivated the probing questions they offered. The first author engaged in self reflection in the attempt to recognize their assumptions between interviews. They are still working to identify their implicit biases. The first author provides an in-depth consideration of their current and historical understanding of their positionality on their website dcbeardmore.com.

The second author (she/her/hers) has experienced dis/ability through close family members' challenges with depression, cancer, anxiety, ADHD, and hearing loss. She has also worked closely with students facing an array of dis/abling conditions and non-normative identities.

Results and Discussion

In this section we map participant experiences to the first three axioms of the paint bucket model of dis/ability.

1. Temporary, episodic, transient, chronic, and permanent variations

The first axiom of dis/ability addresses the levels of permanence of variations in mental, emotional, and/or physical functioning or appearance that deviate from society's accepted norm. The participants experienced temporary or transient variations (e.g., using crutches for a short period of time during a healing injury and temporary partial vision loss). The participants experienced fairly permanent variations such as attention deficit hyperactivity disorder (ADHD), dyslexia, and hearing loss. However, even how they experienced these variations could change over time. The participants also experienced chronic variations such as polycystic ovary syndrome (PCOS), panic disorder, scent sensitivity, anxiety, depression, and environmental allergies. Some of these variations were consistent whereas others were episodic in nature (e.g., Irritable Bowel Syndrome, IBS flares, and cluster migraines). Many variations are complex and change their presentation over time due to factors such as environmental triggers and stress. Some dis/abilities developed over time while others were the result of injuries or other impactful events (e.g., post-traumatic stress disorder, PTSD, and traumatic brain injury, TBI). Some participants were diagnosed with dis/abilities in childhood, whereas others were not diagnosed (e.g., anxiety and ADHD) or began having these conditions (e.g., TBI) until they were in graduate school.

Recognizing the varied permanence of dis/ability is important. Each person's functioning and access needs can change over time. It can be difficult or impossible for that person to predict when changes may occur. They may not even recognize changes as they are happening. However, if their functioning changes it may make it very difficult for them to conform to behavior within society's accepted norms. As one example, the participant described how the episodic nature of their dis/ability could make it very difficult to sit silently and take a test when they were sobbing.

> I was almost asymptomatic until I started [degree]. And [some subjects] were super triggering for me, so I went from an occasional nightmare to [a mental health crisis] in a very short amount of time.
>
> I sometimes have very strong physical reactions in my body that are very difficult to deal with, and when I get certain kinds of stressed out… sometimes I don't really know exactly what triggers it, but I will just start sobbing. And it's very embarrassing if I'm taking a test or if I am just like sitting in a darkened auditorium and I'm silently sobbing.

It can be difficult to recognize variance. A participant described the nonbinary nature of dis/ability being more of a "flow". They described how they sought treatment for depression and as a result, found out that they also were experiencing indicators of ADHD and anxiety.

> I feel like we don't have a growth mindset in terms of dis/ability. I know that sounds weird but people don't expect that they could have something that's not diagnosed and they just think that they're either set as healthy or dis/abled when really it's like such a flow… For me it only came about when it was like a bunch of people being like I didn't realize I had a dis/ability and then I went in for depression and came out with ADHD and I have intense anxiety… I would never have thought that it could be something other than me just being really dumb…

2. Oppression, pain, desire, and fear

Dis/ability is both the (a) oppression of body-minds deviating from the norm and (b) the physical, material, and psychological pain, desire, impact, and fear of having a body-mind that is labeled as deviating from society's accepted norm.

The participant actually introduced the social model of dis/ability to the first author, using it to describe their own epistemology. The participant described how the way in which society is set up is dis/abling. It is oppression. They described how realizing the world decides what differences are dis/abilities was such a valuable idea to them.

> I just think it's so important that people understand. The social model for me has worked really well in making me feel like it's okay for me to not hate myself. I think that it's true that the medical model of dis/ability is helpful in other ways, but the social model of dis/ability, let me feel like it's the world that is more broken than me and that I can find my way to get through it. … [the] social model of dis/ability [ ] is basically the idea that the way that society is set up is what causes something to be a dis/ability and something to not be a dis/ability.
>
> …the world decides some things are dis/abilities but they're not really just dis/abilities they're differences that can be valuable so that's why neurodiversity for me is such a valuable idea.

Throughout the interviews the participant described the pain and desire of dis/ability. The participant described experiencing debilitating bouts of physical pain due to their dis/abilities (e.g., PCOS and migraine flairs). They also experienced the debilitating psychological pain of depression, PTSD, panic disorder, and anxiety. The pain as well as its social and material consequences are described further in Beardmore [10]. However, they also described how dis/ability can be desired. As an example, a participant described how ADHD could be dis/abling sometimes but it also meant their brain could work in a “really, really, awesome” way.

> I think I like to be referred to, depending on the situation, either dis/abled or neuro diverse, depending on what it is. So for me neurodiversity just means that I have differences in the way that my brain works and sometimes those are really, really awesome really, really great. …I would request that I not be identified with differently abled. that one really grates on me.
>
> I am self diagnosed with ADHD and I've gotten this confirmed by one provider… “It looks very strongly like you have ADHD, but you are able to cover that you have ADHD and pass because you are quote unquote twice exceptional”…
>
> I do believe that I matched the DSM V situation for ADHD and I am a big proponent of being able to self diagnose due to the cost barriers … my parents were basically like ADHD does not exist, and you, we cannot waste our money in order to test.
>
> I would say that, in general I don't view ADHD as a dis/ability, I view it as like a neurodiversity that can be dis/abling sometimes.

The participant also described the fear that can exist around having a body-mind that is labeled as deviating from society's accepted norm. The participant feared the reaction of other people. The participant hesitated in disclosing their identify after a friend told them “that my depression was contagious and that I was going to make everybody I loved sick and suicidal.” The participants’ parents feared having their child labeled as dis/abled so they prevented the participant from being tested and receiving a stigmatized diagnosis. They prevented their child from being tested by refusing to let their adult child use the health insurance (provided by the parents) to pay for the testing. The participant also recounted concerns they, themselves, had around being labeled as dis/abled in different contexts. The participant feared that disclosure could harm their chances of getting a job or even being admitted into their graduate program.

> [My parents] thought that having these labels [diagnosed dis/abilities] would hurt me. like they thought that I wouldn't be able to get where I wanted in life if I had those labels [diagnosed dis/abilities] so they intentionally did not pursue getting official diagnosis because of that, and I totally get that.
>
> In order to become licensed as a [title] in a state… more than half of states ask some variation on Have you ever been diagnosed with a mental illness? And if you check the yes box your life becomes very difficult and very challenging and you may be denied a license.they demand to see all of [your health records] and they review it to see if you are fit [to perform the job]... So basically I've determined that there are 12 states that I can work in now. If I don't want to disclose my medical I lie or I fight this.
>
> For admissions, I kept [my dis/ability] completely silent. Did not tell anybody.

3. Spectrum of apparentness

Dis/abilities exist within a diverse and often fluid spectrum of apparentness, sometimes being readily apparent and sometimes not so readily apparent. The majority of the dis/abilities discussed by the participant were not always readily apparent or visible. The visibility of conditions can differ over time. Having less apparent (also called invisible) dis/abilities can be particularly challenging. The participant described how isolating it was when they believed they were the only one. They described how becoming "visible" forced their department to recognize and address barriers that not only impacted the participant but also others in their department.

> I don't think that a lot of faculty and staff had encountered somebody who was on the surface "good", under the surface "not so good." I think that at the beginning it was hard… I was really closed off about it and didn't really want to talk about my dis/abilities but eventually I hit that breaking point… and I said to myself 'it would have been really great if I knew that others were going through this." So I kind of forced the department to address it, and just being very, very visible myself. I will sit down with anybody who feels they're not being heard and I will sit down and I will hear them and I will help them advocate for themselves and I will also advocate for them if they feel like they need an additional ally.
>
> I really wanted to push for a more inclusive, more supportive environment for people like me and others that are not like me… I was the student representative on the board [for the office of graduate education] and I focused a lot on representation, not just like dis/abilities but also queer representation... I think we just need to try harder and what's on the surface isn't necessarily what's going on below. I think we need to do our due diligence especially for students who have the potential to do great things and support them in whatever form they come in. Believe them, don't make them jump through hoops. Don't make them prove what their diagnosis is…

Recommendations

Even without having specific diagnoses one can start identifying their access needs. Access needs are what each individual needs in order to fully participate in an activity or space [14]. These needs are fluid and dependent on context. Everyone has access needs [14]. It can be difficult to identify one's access needs, especially if your access needs are already being met [7]. Conversely, if your needs change or go unnoticed by those around you, they can also be difficult to identify. Afterall, many adults are diagnosed with or develop dis/abilities after completing their K-12 education [37]. However, access needs go far beyond what we as a society may think of as accommodations. Several of the participants' access needs are presented in Beardmore et al. [38].

We invite you to ask yourself about your access needs. You might consider the access needs you have in reading this paper. Would having a screen reader, reading all or part of it out loud be supportive? What about your environment? Is the lighting and temperature supportive? Are you in a comfortable position/location? What might support your engagement with papers such as this today vs tomorrow? Whatever task led you to reading this paper, what would be supportive in holding your interest and keeping you motivated on that task? Figure 3, below, includes a graphic the first author uses when asking an audience what are some of their access needs.

Figure 3: Considering access needs (from REDACTED)

> Figure 3 descriptive text: Figure 3 includes a collage of icons positioned above text descriptions of the icons. The text descriptions include, movement, lighting, glasses, transport, direction, finance, caffeine, headphones, creative freedom, pace, comfort, climate control, makeup, rest, belonging, gum, reminders, communication, shelter, tools, snacks, and organization.

Bringing our access needs into the fore is essential in breaking down barriers. Normalizing the open discussion of access needs in academia will benefit us all. It will help us identify barriers and opportunities. It also has the potential to help us disrupt and supplant the deficit narrative of dis/ability and the normative ideal of ability.

Concluding Remarks

Each individual's experiences, identities, access needs, and ways of knowing are different. The paint bucket model of dis/ability emphasizes the importance of the language we use to describe diverse experiences. It upholds the right of each individual and community to choose the language we use to describe ourselves and our access needs.

This paper offers students, staff, faculty, policymakers, and administrators a common language to describe dis/ability. It provides a starting point from which to open a dialgone around dis/ability and access in STEM education. The paint bucket model and language it provides is intended to be expanded and adapted as we, the dis/abled and STEM education communities, learn and grow together. Only by working together can we better understand the variety of multidimensional ways in which dis/ability (and difference more broadly) is experienced and recognized.

We, the authors, center the experiences and conceptualizations of seven dis/abled STEM graduate students in exploring dis/ability. Specifically, we deductively map select interview excerpts from a broader qualitative study to the first three axioms of the paint bucket dis/ability theoretical framework. The first three axioms state that dis/ability is: (1) temporary, episodic, transient, chronic, and permanent variations in mental, emotional, and/or physical functioning or appearance that deviate from society's accepted norm; (2) the simultaneous (a) oppression of body/minds deviating from the norm and the (b) physical, material, and psychological pain, desire, impact, and fear of having a body-mind that is labeled as deviating from society's accepted norm; (3) existing within a diverse and often fluid spectrum of apparentness, sometimes being readily apparent and sometimes not so readily apparent.

This paper will support researchers and practitioners in highlighting factors that create and maintain marginalization, oppression, and violence. The paint bucket theory of dis/ability offers the opportunity to reduce ambiguity and uncertainty around the definition and boundaries of dis/ability. This paper draws upon a series of excerpts to expound upon and contextualize the paint bucket theory of dis/ability to supplant the normative ideal of ability and disrupt the deficit narrative of dis/ability.

We must work interdependently, through all forms of resistance, to dismantle all systems of oppression. This paper offers practical recommendations in supporting the identification of access needs (what each individual needs to fully participate in a space or activity) so that we can collectively ask that each individual's needs be met. Normalizing the discussion of dis/ability, difference, and access needs will support the education and STEM communities and individuals within them in confronting violence, abuse, and oppression. It will support us in advocating for access and inclusion from a perspective informed by multipositional experience. Perhaps most importantly, we must resist the artificial sense of urgency. Instead, we must move at a pace that encourages movement sustainability and supports our own wellbeing.

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