Alcohol Use and Deaf and Hard of Hearing College Students

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ABSTRACT

Alcohol misuse on college campuses has been shown to be the cause of physical, socio-emotional, and academic harms. Alcohol is also an issue at Gallaudet University but there is a gap in the literature describing this phenomenon. Using the social ecological model, this qualitative case study explored student perceptions and experiences with alcohol use through interviews with 24 deaf and hard of hearing college students at Gallaudet University. The main themes included: something to do, isolation, coping, communication, "playing catch up with life," belonging, peer pressure, and university dynamics. The results of this study supported the research on alcohol use in the college environment, showing these themes to also be true at Gallaudet University. As a result, researchers recommend for Gallaudet University and other institutions use the education and interventions shown to be effective in the College Alcohol Intervention Matrix with deaf and hard of hearing students. Researchers also identified themes that were divergent from general college students and specific to the experience of being deaf and hard of hearing. This study highlighted the interpersonal level impact and importance of communication with alcohol and related harms. Researchers recommend further research on the spectrum of communication isolation on alcohol use, related harms, and the social-ecological impact of these experiences. In addition, researchers recommend programming and services to specifically address the issues that occur as a result of isolation, coping challenges, desire to belong, susceptibility to peer pressure, and wanting to catch up on life. It is hoped that the insights gained from this study will be used to inform interventions for deaf and hard of hearing college students, to reduce alcohol misuse, and thus to impact positive change.

KEYWORDS: Deaf, hard of hearing, alcohol, college, university, isolation.

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Background

Despite the vast plethora of research on alcohol use in the general college population, research on alcohol use with deaf and hard of hearing individuals and college students is limited. In the existing studies, researchers found that alcohol use for deaf and hard of hearing individuals ranged from 33-75% (e.g., Anderson et al., 2018; Glassman et al., 2021; Hackett et al., 2016; Kushalnagar et al., 2019; Pinquart & Pfeiffer, 2015) compared to 56% of hearing people (Pinquart & Pfeiffer, 2015). Several studies identified that alcohol use is generally the same, except deaf and hard of hearing individuals are more likely to drink higher amounts when they do use (Anderson et al., 2018; Kushalnagar et al., 2019; Pinquart & Pfeiffer, 2015) and possibly may have more substance disorders as a result (McKee et al., 2019). One study showed that 25% of individuals who are deaf or hard of hearing binge drank in comparison to 13.5% of hearing people (James et al., 2022). Deaf individuals are found to use less unless in social situations or environments with many other deaf and hard of hearing individuals, and in those contexts, they use more (Kushalnagar et al., 2019; Pinquart & Pfeiffer, 2015; Tsimpida et al., 2018). Further, deaf and hard of hearing individuals who struggled with serious depression were more likely to engage in risky alcohol use (Park et al., 2021).

In studies on college students who are deaf or hard of hearing, there was a range of alcohol use. In the 2016 Core Alcohol and Drug Study reports done at Gallaudet University, 86.4% of students used alcohol in the past year, 67% drank in the past month, and 50.9% binge drank (Southern Illinois University [SIU], 2016b). Decreases in alcohol use were seen in the Gallaudet University 2022 Core Alcohol and Drug Study report, with 72.5% of students using alcohol in the past year, 56.1% drinking in the past month, and 37.1% binge drinking (SIU, 2022). In comparison, the national Core Alcohol and Drug Study of all students shows higher use, with 81.5% of students using alcohol in the past year, 68.7% drinking in the past month, and 43.2% binge drinking (SIU, 2016a).

Alcohol use was also impacted by additional factors for deaf and hard of hearing students. One study, though dated, showed that students within a mainstream environment versus a school for the deaf were more likely to have consumed alcohol (Berman et al., 2010). Other research shows college students who are deaf or hard of hearing who also have emotional or learning disabilities were more likely to start drinking earlier (Ryding et al., 2022). This risk increases if college students feel disconnected from their parents and do not feel "listened to," but feeling supported by parents also serves to decrease early onset use (Ryding et al., 2022). In addition, college students who are deaf and hard of hearing were more likely to use avoidance or emotional coping, and this was shown to lead to more problematic alcohol use (Baschnagel & Bell, 2023).

Researchers found deaf and hard of hearing students reported higher consequences when they drank (Baschnagel & Bell, 2023; Mason & Schiller, 2009). Examples of consequences range from academic, physical, and socio-emotional (SIU, 2016b; SIU, 2019; SIU, 2022). As a result of drinking in the past year, deaf and hard of hearing students also experienced harm, with 20.1-34.3% of study participants experiencing conduct issues, including interaction with the police, fighting, a DUI, or vandalism while drinking (SIU, 2016b; SIU 2019; SIU 2022). 26.3-35.5% of students faced challenging issues as a result of drinking, including suicidal thoughts or attempts, attempts not to use, and or sexual assault (SIU, 2016b; SIU 2019; SIU 2022).

Understanding the role of alcohol use in a community and on a college campus informs prevention and intervention. Yet further data are needed in order to fully develop a sense of the alcohol issue and related consequences with deaf and hard of hearing individuals at Gallaudet University. The purpose of this study was to explore the perceptions and experiences of alcohol

use and alcohol-related consequences for deaf and hard of hearing college students at Gallaudet University.

Theoretical Framework

The social-ecological model was developed by Bronfenbrenner (1981, 1999) to recognize the interplay of the levels of influence on an individual's health decisions and behaviors. Academics have recognized the levels of influence and the importance of the social-ecological approach when examining and addressing alcohol use in the university environment (e.g., Haardörfer et al., 2021; Hirsch & Khan, 2020). Researchers used Bronfenbrenner's (1981, 1999) model as the theoretical basis for this research, as adapted by Sogari et al. (2018) to focus on intrapersonal, interpersonal, and university influences. By using this framework for this study, researchers are able to explore the social ecological impacts of the unique experiences as deaf and hard of hearing individuals on alcohol use.

Methodology

Researchers conducted a qualitative case study with an in-depth exploration of the phenomenon and many of the interrelated dynamics that impact it. By exploring additional dynamics of an individual's experience—that of being deaf or hard of hearing—the goal was to gain increased insight into this issue. The lead author interviewed participants individually once for 30-60 minutes and recorded these through Zoom. The first author conducted the interviews in the language of the participant's choice: American Sign Language (ASL) or English. This researcher has an ASL proficiency interview score of "3," which is assessed by trained language professionals and is the level commonly found with interpreters (Lapiak, 2024).

The first researcher used a priori themes, including risk behaviors, protective behaviors, adverse childhood experiences, communication barriers, lack of incidental learning, (alcohol) prevention/education, social isolation, parental influence, peer influences, and alcohol-related harms, to design a semi-structured interview guide. The interview questions were also grouped by intrapersonal, interpersonal, and university levels, the constructs of the social-ecological model. See Appendix A.

The study was approved by the Gallaudet University IRB, as well as the Walden University IRB. Trustworthiness was established with audit trails, including detailed notes tracking recruitment, participants, and data. During interviews, researchers took field notes and used these to spot-check transcripts. The researchers developed transcripts from the Zoom recorded videos, triple-checked the English with the ASL, and then used member checks. 75% ($n=18$) of participants reviewed the transcripts. There was no corrective feedback. Data, including audit trail, field notes, transcripts, and videos, was stored in a password-secured location and will be kept for five years, after which it will be destroyed.

Participants

Purposeful sampling was used to recruit participants. Researchers posted printed flyers on campus as well as shared information through email distribution lists. The inclusion criteria were for participants to be current full-time students at Gallaudet University, ages 21 and older, residential (living on campus), and deaf or hard of hearing. Researchers also established exclusion criteria for any student with a direct, established relationship with the primary researcher, who is a member of the community. In the recruitment materials, this researcher disclosed her identity and

roles so that participants could consider this prior to consenting to the study. Consent materials were provided in both ASL and English. When concepts began to repeat, and no new ones arose, researchers decided that they had reached data saturation and concluded interviews. Participants were given a $20 gift card for their participation.

There were 24 students who participated in this study. The majority of students were white (54%, n=13) and female (54%, *n=13*) and had a mean age of 27 years old (Table 1). 58% (*n=15*) identified as deaf, 79% (*n=19*) were undergraduate students, and 46% (*n=11*) experienced more than one school (School for the Deaf, mainstream, and oral school) growing up. See Table 1.

Table 1
Demographics of Study Population (N=24)

	N (%)
Age range 21–60	24 (100%), M=27
Gender	
Male	5 (21%)
Female	13 (54%)
Other (nonbinary, transgender)	6 (25%)
Race/ethnicity (self-identified)	
White/Caucasian	13 (54%)
Black/African American	3 (13%)
Hispanic/Latinx	4 (16.5%)
Other BIPOC (including Asian/Asian American, Bi/Multiracial)	4 (16.5%)
Hearing status (self-identified)	
Deaf	14 (58%)
Hard of hearing	3 (13%)
Both (Deaf and hard of hearing)	5 (21%)
Deaf + additional disabilities	2 (8%)
Students	
Graduate students	5 (21%)
Undergraduate students	19 (79%)
School experience	
School for the Deaf (SftD)	5 (21%)
Mainstream (MS)	8 (33%)
Experienced more than one type (oral, SftD, and or MS)	11 (46%)

Data Analysis

The researchers identified a priori themes from the literature and also let themes emerge. They used thematic analysis to code the data, using descriptive codes with the goal of being "in vivo" as much as possible, then for a second round, used concept and pattern coding. Researchers also used the research questions, the theoretical framework, and the social-ecological model to help define the categories. After the coding, researchers organized the data and developed a case description that provided an exploratory illustration of alcohol-related consequences with deaf and hard of hearing college students at Gallaudet University. This article is an extract from a larger case study. The aim of that study was to explore the perceptions and experiences of alcohol use

and alcohol-related consequences for deaf and hard of hearing college students at Gallaudet University. The themes shared in this paper emerged from that data.

Results

All the students witnessed alcohol-related harms or experienced consequences themselves (Table 2 and Table 3). Some students (58%, *n*=14) were impacted by experiences prior to coming to Gallaudet University, including the loss of someone they cared about, family alcoholism, family violence, hospitalization, and non-consensual sex. The majority of the rest of the alcohol-related consequences shared were experienced while in college. Numerous students (25%, *n*=6) identified blackouts. Some students recognized the role of alcohol with nonconsensual sex (50%, *n*=12). One of the most noted academic consequences of alcohol use was missing classes, with almost half of the participants (42%, *n=10)* identifying this. Participants (29%, *n*=7) also noted the impact of alcohol use on overall GPA. In contrast, one participant was slow to recognize any negative aspect of drinking.

> *For alcohol harm, I see people doing stupid things while they're drinking...Like they'll be drunk and do a cartwheel, and then they'll twist their ankle. I'll see a lot of that happening. It's obviously caused by alcohol. Sad, hurting themselves or something? No ...I usually hang around with people who it's fun for them.*

All participants, including this one, identified aspects of harm they experienced or witnessed. Researchers categorized these student experiences by physical, socio-emotional, academic, secondary, and environmental harms. See Table 3 for student comments.

Table 2
Harms as Identified by Students

	N=24	%
Physical fights	16	67%
Missed classes	10	42%
Title IX cases or sexual assaults	9	38%
Anger or aggressiveness	9	38%
Drinking and driving	9	38%
Stupid or reckless behavior	7	29%
Grades going down	7	29%
Getting hurt	6	25%
Blackouts	6	25%
Vomiting	5	21%

Table 3
Students' Comments About Harms, by Category

Physical harms	I had a roommate who drank so much alcohol in like 10 minutes and then she was like throwing up all night and I had to clean up after her. And then we were both concerned because she was sick for like two or three days... And she didn't really see a problem with that.

	If you smoke a whole lot of pot, then you'll go to sleep and you'll wake up and that's it…if you're drinking a whole lot and then suddenly stop, you could die, but people don't know that.
Socio-emotional harms	At Gallaudet, I've partied a lot … I see situations get out of control, like fights, people getting mad when the rules become strict. If there's too many people in a room, then obviously people need space and they'll go in the hallway and then they'll mingle in the hallway and the RA will say, no, go back into your room…and then they fight and that's because Gallaudet is strict with alcohol. It's ridiculous. The more rules, the more problems. That's what I think.
	My friend did get aggressive with me to the point where they made me feel like I wasn't safe in this space…So I had to start over again making [friends] and that made me feel - I had a breakdown…I had to start all over again, work to get back to where I was with different group of people...that person is very aggressive, so I didn't want to go out with them anymore, so I wanted to leave. The friendship ended. And so now my one of my closest… that person was one of my closest friends…I really had to question myself after what they did to harm themselves and me, and that made me confused with did I do the right thing.
	I used to think drinking alcohol as a cool way to get new friends. And then it led to a lot of embarrassing incidents that I wish I never did…But at the same time, that reminds me to watch myself more, to be more aware of how to be actually responsible with alcohol.
Academic harms	When I was a freshman sometimes, I would drink with friends instead of going to class.
	You might be too busy drinking and you forget about things that you need to do. And sh*t, I have homework due tonight and then miss a project.
	Now I'm more focused in school. I can see the impact it has on grades on school performance… I never really realized how much alcohol impacted on my performance. I thought it was just part of school life. I do look back and my grades were really impacted by my lack of focus on studying and homework assignments - it distracted my priorities.
Secondary harms	I believe that a lot of harms have to do with secondhand harms. A lot of people do have consequences, not just for themselves, but to other people around them.
	I felt so responsible, and I felt so adultish. Wow. Taking care of my friend…I liked that. But I also felt awful for her because she was throwing up and she felt awful and so that was serious for her... she could still drink or whatever she wants but be careful. I can't always take care of you, but I liked being the sober friend. I'm the only person who doesn't drink because I just don't need it and don't like it but I'm able to take care of my drunk friends if they need it.
Environmental harms	Benson Hall [freshman residence hall] has a lot of immature students. Fire alarms. Partying. Almost every day. A lot of drunk students there.
	The roommates decided to destroy their ceiling tiles from the living room into the other room so that the person would be able to crawl from one room to the next. And then the person got hurt, cut their arms. They broke wires and they damaged Gallaudet's property. Wow. Risky. I see it as destruction and not respecting property.

Intrapersonal Factors Impacting Students and Their Alcohol-Related Behaviors

The intrapersonal level of the social-ecological model explores individual-level factors that impact health-related decisions (Hayden, 2019). Students shared a variety of reasons for their alcohol decisions (Table 4). They noted using alcohol to have fun and to connect with friends. Some students (17%, *n=*4) came to Gallaudet University already knowing a lot of other students. They reported that these social networks encouraged their use. Students also reported using drinking as a social lubricant to raise confidence. One participant commented, "I just feel more at ease because, with alcohol, I'm in a better mood." In addition to wanting to have fun in college, there was also the perception that you are supposed to drink in college, which promotes further use. For others, it was less about the social opportunities and more about the freedom. Students also sought to explore their independence.

Almost all of the students (83%, *n=*20) also talked about taking breaks from using alcohol, and some (33%, *n=*8) chose not to use at all. Some of their reasons for not using were to focus on athletics, self-improvement, health, goals, homework, money saving, and relaxation. Whereas one student chose not to drink because of the time of the year and their workload, a different participant discussed using less for sports. One participant talked about where students lived and how it impacted the amounts of alcohol consumed, noting that students who lived off campus drank less. After experiencing alcohol-related harms, two of the students consciously decided to stop drinking to work on their "sobriety journey." In addition to these general reasons for using alcohol (see Table 4), researchers identified three main themes for using: something to do, isolation, and coping. These themes are presented in this text.

Table 4
Students' Reasons for Using

Fun	So, I drink with a lot of people. So, then it increases a lot of memories. A lot of memories. We'll say, "Oh yeah, last night was funny" and we'll laugh. So, I would say it's a positive thing.
	I had to make sure I drank to feel like I had fun. And at that time, I didn't realize I could have fun without alcohol at some events. But sometimes it was the fear of missing out. I followed the group and I persuaded - we'd all persuade each other to drink.
	She drank a whole lot because her parents were so strict and didn't give her the chance of having fun before she got to Gallaudet.
Connection	I knew a lot of people, so a lot of people loved me. So then when I went to Gallaudet, everybody was in one place, everyone wanted to party with me. They would FT, FT, FT, FT [FaceTime] me, saying, "[Participant], come on, come on do a shot with me." …So, I knew a lot of people so then I'd drink a lot. If I knew a few people, then I would just drink a few.
	I had the same crowd of friends growing up. I would drink to meet new people…I would drink so that I'd get that social flowing…And then now when I went into Gallaudet, I brought that. There's a lot of people from different walks of life, and I'd love to connect with all of them. I like to meet lots of different people and talk with different people from different walks of life. So, I think that alcohol has and helps reduce inhibitors… Gallaudet brings together a lot of new people.

Independence	They're finally independent. They want to go out and if they come from a mainstream environment, the parents might be watching them…so when they go to college, it's where they become independent. They can go out and test the world, that kind of thing.
Norm	They think drinking is a normal part of college - really value the idea – it is really strong. That's college life…Here it's part of Gallaudet. It's natural.
Other goals	In February, the month is a little bit quiet. So lately people aren't - there's not a lot of partying because people are really focused on their homework, and they have commitments. So that makes you put alcohol on hold.
	Sometimes those of us who live on campus - there's a high tolerance for drinking. People who are from off campus, they don't drink that way and they could black out easier because they're not used to having that high level of alcohol. [They see it as that's] very "kid" behavior. So, we're partying, and people off campus might see it as too much.
	I choose not to drink alcohol. If I drink alcohol. It might impact me, might impact my work, my social relationships. If I drink alcohol, it will give me more of a negative everything – school, friends, health.
	I was excited to try alcohol. I really wanted to experience alcohol. I wanted to drink with - I liked the feeling, drinking 3-4 drinks and then feel drunk. And now it only takes one to make me feel drunk already, so I don't enjoy that anymore. Before it was fun, before I liked it and now I don't.

Something to do

Students shared experiences that researchers grouped together as "Something to do." See Table 5. These students recognized that some students always had to keep busy doing something. Some of the students saw a need for stimulation and a connection between the need for activity and ADHD. 17% (*n*=4) of participants talked about ADHD, their need to do something, and the role of alcohol in this. Having too much free time was a concern for a different student as well. Another student felt that when students had this need, they might be more at risk for alcohol-related harm. Alcohol gave students "something to do." It was also a way some students managed to feel alone and isolated.

Table 5
Students' Perspectives of Alcohol as Something to Do

Keep busy	I've noticed some friends who need to go out. They want to hang out every weekend. They have to drink; they just have to. [They] use the alcohol to fill that emptiness. But they feel like they always have to do something.
Need	So, there's a lot of people who have ADHD and they have drinking issues or other issues because they need to have something going on, just something regular and something stable.
	Always say that if I go to a party, I will find many people like that, myself included. I am like that. Some people NEED something to do. Always need a party, always need something exciting. I think - My theory is, I think those kids grow up with too much control from the family, not letting them have their own fun. Or maybe they have ADHD. I know

	for a lot of people with ADHD there's alcohol and abuse or they might grow bored with nothing to do.
Stimulation	In response to whether students' drinking is connected to a need for high stimulation: Oh my God, that's right on point. Wow BANG! [That's right on point] …that's some of my experiences like last year in school - There was too much free time and I just would sit outside with a beer and drink because I had nothing. I needed some kind of stimulation.
	They drink. It gives them energy or energy to do something. So dorm parties might be very chill - just hanging out and…so they'll drink and want to go out and then they're not in their controlled environment and then they could hurt somebody else or they could do something reckless.
Bored	I'd get bored and I would drink alcohol because I would need stimulation.

Isolation

When asked about what they perceived to cause alcohol-related harms on campus, 50% (*n*=12) of participants noted isolation growing up. See Table 6. For many of the students, isolation was a result of communication barriers as a deaf or hard of hearing person. Several students talked about not having social opportunities growing up and not being included in conversations. One student noted that they could access the conversations with small numbers of people, but once it was a group, they would get lost. For these students, isolation, mental health, and alcohol were tied together. One student talked about self-medicating with alcohol, and another talked about using alcohol at a party with hearing individuals as a way to escape.

After experiencing isolation, coming together with other similar students at Gallaudet University provided new opportunities. Participants recognized that making friends came with a sense of belonging and a chance to escape isolation. Alcohol was used to connect students with one another. Alcohol provided an escape from the isolation, as well as a social lubricant with others.

Some of the participants forged a connection between alcohol and socializing, so if they chose not to drink, they felt alone. For students who used alcohol to make friends, they might need to start over if they were seeking to socialize without alcohol. Some students used alcohol to cope with isolation. They also used alcohol to cope with other experiences.

Table 6
Alcohol Use as a Result of Isolation

Loneliness	Lonely and you're isolated and you're the only kid. And if you're a mainstream [student], like I was, I was the only deaf kid in my school…people don't learn my language or don't repeat themselves and they don't really care if I'm included in the conversation. That really impacts how deaf and hard of hearing people make friendships...Part of it's because we grow up isolated, we grow up without the support…and it's very obvious that people don't want to spend the time to take care of us. So we're taught our entire life that we're a burden…So a lot of students have a situation where they feel like no one is looking out for me. So I might as well just go ahead and do that because it's the best time I've had in my life and I have people who understand me and I can socialize with and party with me. I'm not a burden anymore and I can have fun and be cool.

	I've noticed that that person, they grew up isolated, they had no friends, and they were lonely. And then when they got to Gallaudet, they would like party as a way to make new friends through alcohol…so people would like them, so that does impact that.
Escape	Like I mentioned, it's a coping mechanism. It's just a way to kind of, oh, I don't want to say escape the isolation. I guess it just enhances the isolation - makes it feel better.
Lack of access	I grew up in mainstream. My whole family's hearing, and I've often felt isolated and depressed, and alcohol is one of the tools that I had used. About the age of 16 is when I started, and a lot of that stemmed from the isolation that I felt...and just having lack of access to communication, not being able to express even whatever you're going through during the time is just yes, just really isolating.
Abstinence causing isolation	It's common where people feel like they have to drink on every weekend…Drinking made me feel isolated because I'd have to drink if I wanted to be social. So, it made me start questioning [my] own peer preferences and whether they're really [my] friends.

Coping

Similar to students using alcohol to manage their isolation, students reported using alcohol as one of the ways to cope with a variety of experiences. Some students would use alcohol to forget past negative experiences, including adverse childhood experiences. One participant talked about how these negative experiences could fester and turn into anger and alcohol use unless the student got help. Several students shared how using alcohol also served as a way to make hard situations bearable. For others, alcohol served to calm themselves. Calming and unwinding with alcohol are also connected with students' ability to sleep. Students reported using alcohol to manage the pain, to escape their feelings, and to level out the "emotional ups and downs." Some wanted to dull the pain or feel "foggy."

In contrast, a different student talked about drinking alcohol to feel good. Despite this positive sentiment about staying drunk, the same student recognized that students sometimes "used alcohol to abuse themselves." Participants saw that some students use alcohol to help them cope and as an escape. See quotes in Table 7.

Table 7
Alcohol Use as a Coping Mechanism

Drink to forget	I see some people drink to forget. They're not happy, they're depressed or sad.
	I remember things that happened to me as a child...And that opportunity can cause some people to want to forget. Alcohol can make problems with that too, with forgetting. But it just works. It does work for a short time.
	I experienced with my friend, asked if I didn't mind if I could buy whiskey to help him sleep to help him forget. And then he could sleep because he had bad dreams at nighttime and so that whiskey would help him out.
Destress	Most students prefer to drink for stress reasons. It makes a person feel calm, but it's not healthy.
Feel good	If you really, really like to feel good all the time, then you might want to stay drunk as much as possible.

Students shared many reasons for using alcohol, as shown in Table 4. These included wanting to have fun, seeking connection with others, being independent, and seeing it as the norm. Students also recognized the role of other goals and not drinking. Some of the more dominant themes included drinking as something to do, as a result of isolation, and as a way to cope with negative experiences.

Interpersonal Factors Impacting Students and Their Alcohol-Related Behaviors

The second level of the social-ecological model is the interpersonal level. This part of the model explores how relationships with others impact health choices (Hayden, 2019). In this study, several themes related to interpersonal relationships emerged. Researchers identified them as communication, "playing catch up with life," belonging, and peer pressure.

Communication

In interviews with students, researchers explored communication, access to it, and whether it impacted alcohol use. More than half of the participants (54%, *n*=13) shared stories of growing up struggling to access communication and feeling left out of conversations. They also highlighted how the lack of access to communication impacted their ability to learn about life "rules," relationships, and alcohol. These barriers in communication impacted the education students got about alcohol. Reinforcing this point, one student recognized the need to learn about consequences and how a lack of communication made it harder to do this. Without this education about alcohol, students are left to learn about it on their own.

Students also connected gaps in communication with struggles to develop social skills. Students' experiences with communication isolation growing up also impacted their social relationships at Gallaudet University. One student talked about not having "practice" with social relationships in high school and thus having to learn how to work through issues. For some, the struggles to communicate within their home environments led to alcohol use.

In contrast to home experiences and environments where some students were the only deaf and hard of hearing person, at Gallaudet University, there is the ability to talk with others. Having this access to communication encouraged socializing and connecting with others. For some students, this led them to want to catch up on missed experiences they felt they did not have due to missed communication and isolation.

Table 8
The Impact of Communication with Alcohol Use

Get lost	I could access communication one on one or one on two fine. I could read lips. About 90% of the time, I could understand. Sometimes I would have to ask to repeat. I got used to it...There would be a lot of groups and the whole family would show up and that was champ. But I'd get lost. I didn't know what everyone was talking about, and it was very frustrating…Like when I was seventeen, it was the first time I got a drink from the family at the Christmas party and so I was trying to connect with the family. So, I would drink.
Lack of access	I think it's a negative impact because communication is so important to access... And all of that helps you to understand the world, understand the rules, understand yourself. Help yourself grow and learn. Because if you don't have communication and access, then you don't have access to that. Then it's language deprivation. And it can be hard and lead to depression and depression can lead to alcohol.

I definitely see that people who don't have access to communication. They don't really have access to the same learning experiences. They don't learn about alcohol, and they don't learn about how to have a healthy relationship with alcohol, so obviously that would have an impact, especially if they're in environment with a lot of alcohol.

Don't know	If they have access to communication, they understand the impact of consequences of alcohol, they have more information or they know about it because they can get it through communication. So, some people who don't have access to communication don't know they don't know. They don't always have communication between people who can teach them about alcohol use and tell them not to use it. There's often not that. They just drink and think it's fine, so that's has an impact.
Impacts social skills	Maybe you will socialize with friends, but you might have bad results later. Not really understanding social skills because they don't really have communication. They didn't have communication growing up, so it might impact this, the social skills. If they grow up isolated, they'll have a lot more relationship problems. [They] don't have enough experience with fixing problems within the relationship and they might argue about a dumb thing...So social problems can come up for people when you don't have experience with socializing…I have a few friends like that. They grew up with no friends and they were in mainstream programs, and they didn't have anything.
Access at Gallaudet University	[At Gallaudet University] you can communicate. You can enjoy being together. So I think that's it's an easy social connection because alcohol really promotes general socializing.

"Playing Catch Up with Life"

Researchers also identified the theme of needing to fully experience social opportunities with others with whom they could communicate. See Table 9. As seen in earlier themes, some students shared how they were socially isolated or experienced communication barriers growing up. Once they were in an environment like Gallaudet University where they could access communication, they wanted to fully experience communication in relationships and make up for missed opportunities. In addition, others framed it more as seeking to maximize the social experiences with their friends with whom they could communicate. One student recognized how this desire to have experiences was magnified by COVID. This same person noted how they saw the benefits of being able to access communication at Gallaudet University and then losing this when they had to return home increased their desire to be in connection with others. The comparison of access to communication in one environment to a lack of access in another caused students to realize that they missed out on some experiences. As a result, they expressed wanting to "catch up," and as noted in earlier themes, these social experiences included the use of alcohol. Part of this need to maximize life relates to being in a space where students could belong.

Table 9

The Role of Alcohol with "Catching Up with Life"

Maximize social opportunities	When I'm with deaf friends, we don't see each other that often. So we try to maximize every moment. Really fill up every moment and drink and get more energy up and keep going. We socialize all night.
	Consistently being left out - there's an accumulation of that…For example, the school for the deaf is very small, so you're not able to party like the way hearing people do [in high school]. So later when you get to college, you start to, you want to double up. Hearing people are already used to it and they know what drinking looks like and they become more chill about it in the university…You're trying to get in all those experiences.
Seize the moment	Left, out, left out…Maybe because we have access to the deaf community. It means like we want to seize the moment, we want to seize the memories, seize the "finally having the opportunity to understand each other," finally able to share experiences together. I don't know why it's so intense. I don't know why it's more intense with the deaf community. It's just there's just more alcohol. Maybe it's playing catch up with life.
Missed time	I feel like COVID made it worse because students already were here, and then they had to leave and go back home. And then maybe the isolation got worse because of COVID. So they had to stay home with the family who doesn't sign. But then by that time you already experienced Gallaudet and you already experienced the sweetness of signing access in an accessible environment and then that was taken away with COVID. And then you go back on campus and you want to make up for the missed time for that missed year.

Belonging

When deaf and hard of hearing students come to Gallaudet University, they are surrounded by others like them, and for some students, this can be a relief. They are finally with others with whom they can communicate. Yet, students come from many environments with a variety of sign language skills and want to find a group where they feel they belong. For some of these students, they used alcohol to build relationships. For others, they may use alcohol to become a part of a social group. A student recognized that alcohol served as a "social lubricant…helping people to open up and feel more confident," and another talked about the connection between isolation and wanting to belong. Some students also did not want to be left out. Though some students used alcohol as a way to meet and make friends, others did not and were able to bond with others who abstained from alcohol use. One student shared how their social circle included alcohol, and now that they are trying not to drink, it is hard to find other groups to belong to and ways to interact with the same people. Through these student stories, it was evident how alcohol is connected to social relationships. For many–maybe most–students wanted to find a social circle where they felt they fit and where they had a sense of belonging with or without alcohol. See student quotes in Table 10. For some of these students, this was associated with the experience of peer pressure.

Table 10

The Role of Alcohol with a Sense of Belonging

Like me	Finally with deaf people, finally. I can breathe.
	I'm hanging out more with - I've met people who don't drink or control their drinking. We do talk sometimes about the past. And we support each other and find other ways to hang out and have fun with other ways to learn about each other, other ways to learn what else we can do, and learn about our emotions and all of that.
Fit in	A lot have a different background, some groups are oral, some didn't have sign language. There are different methods of communication, so they try to fit in because Gallaudet is the deaf community. All the deaf people are together and they're just trying to fit in because some still feel like they're outsiders even though they're deaf, but they want to fit in…I think it's more a sense of belonging. For example, if you grow up in an oral program with a bunch of hearing [people], you're just trying to fit in. You're not invited to parties. So, then you go to campus and it's like we're both, we're all deaf, the same.
	It's about trying to belong in a situation. They can find themselves in a situation with alcohol and have a lot of friends and then behind the mask, they're thinking to themselves, "What am I supposed to do now? I don't know what to do." And then their friends asked if [they] want alcohol. And that's the kind of hard situation to say no to.
	They want to be the same with people around them. They want to be on their level. They want to feel like the same vibe. They want to impress them.
	The energy was high and was having a good time. Then I just kept on drinking...Friendships are built on a foundation of alcohol and bars and events. Where's the bond without that? To me that's some kind of a relationship harm because it's too bad to see and feel like we don't have anything without the culture of alcohol. That can make me feel more withdrawn and feel more isolated in my sobriety journey.
Join the group	For those who didn't go to a deaf school, they might be separated so they might want to drink to try and work to join the deaf group and then then they might use too much alcohol. They're not able to control their decisions. Or they might work to try and do something to impress the clique…They worked too hard to be included, and then they might feel bad about that and that changes who they are, their real personality, just so that they can join the group, especially with people are hard of hearing or not from a school for the deaf growing up. They want to be included in the elite group.
Social lubricant	I think that deaf people in the hearing world tend to not connect. They tend to be separate and then they come to Gallaudet and they communicate the same and they're in the same community and they all want to come to get together and party.

Peer Pressure

Students spoke often of peer pressure. See Table 11. They described it as an internal – not wanting to miss out – and linked it to the theme of "playing catch up with life." They also described it as more subtle behavior. A different student reflected on how using with a group of friends previously could make it harder to not use in the future. In contrast, students also felt peer pressure could be strong. Considering the pressure could be strong, researchers inquired about whether there

was respect for someone choosing not to drink. One student noted that it depends on the circle of friends, but that some would worry about missing out. Other students felt differently and shared that their friends would respect them taking a night off. When asked about students not drinking at all, students felt there was respect. The perspectives on peer pressure to use alcohol ranged a spectrum from internal, subtle and intense pressure.

In contrast to pressure to drink, some students also experienced positive peer pressure. One participant shared how they encourage students not to use. For some students, they were not affected by peer pressure as much. "For me, I never really cared about peer pressure. I never really cared, but for other people it's kind of hard to watch. It's a little disturbing. It's sad." Though peer pressure impacted students differently, all students reflected in some way on the impact of relationships on decisions to use alcohol and alcohol-related consequences. They also reflected on university-wide dynamics that impacted this phenomenon.

Table 11
Students' Comments on Peer Pressure

Don't pressure	They know I don't drink, but now I'm seeing them, all of them but me drinking. So maybe I should drink. So that's more me pressuring myself. Because I'm lucky, I have a really great set of friends who don't pressure me.
	I'm so glad that I'm surrounded by friends that are very respectful. If it's a night where I say "No, I'm done drinking, I need to focus on homework, I need a break," people will respect that…It's not like peer pressure, like, "Come on, come on, come on," banging on my door. They'll say, "OK next week." In two weeks, we'll drink together and so they respect that.
	I feel like a little bit that [in] the general society the discussion about alcohol has changed. Before it was just drinking or sobriety, but now if I don't, a person doesn't like drinking, doesn't like the way it makes them feel, people don't care as much.
Light pressure	I never really experienced serious peer pressure; it was lighter. Like for example, my friend wanted to drink wine, but didn't want to drink wine without me…[Or] when sometimes people are ready to do a shot, there'll be a full shot and they just hand it to you. So, then I'm like, I didn't ask for it, but OK, I'll go ahead and do the shot.
Association with certain friends	I have several friends who are naturally - I'm attracted to their energy. And every time we're together, if I decide not to drink and they're tempted to drink and if they go ahead, then it becomes a temptation for me too. I don't want to drink. I've already explained that experience that I don't want that. So, it becomes a tug of war in some kind of ways.
	Depends on who their friends are. Sometimes they're close friends. They'll say, "What you're not in the mood?" And then they might say, "oh, come on." And they'll respect it as the night goes on. But some people peer pressure and say "No, no, come on, come on, drink." And people give them a drink and say, "Oh, just come on, just one drink" or like "You'll miss out." So, they'll feel like they're not involved or the person will feel guilty he doesn't want to drink. Feels like they're missing out on the fun, so then they'll go ahead and join and drink at the last minute. [It's] FOMO - fear of missing out.
	I remember that when I got into here, people said be careful who you pick as your friends because if your friends party really hard, you're going to party really a lot. If you find more chill friends, then you're not going to drink as much, and that's been true...My first year, I didn't drink much because my friends, like very few of them did.

	And then after I joined a fraternity and became friends with different fraternity organizations, then that's when I changed and started drinking a whole lot. I partied hard Thursday, Friday, Saturday and then I would spend all day on Sunday doing homework.
Strong pressure	Friends pressure me: "Come on, drink more. Come on, drink more." "Since it's your last year at school, come on." Or "it's our roommates last year," or "let's seize the opportunity before summer." "Summer's coming soon," that kind of thing.
Encouraged not to use	I explained to them my experiences and my situation, and I don't want them to go through what I went through, like my mistakes, so wanted them to stay focused and keep their grades up and focus. You can party once in a while but not every day. I try and give that advice but the young people - they don't always take it, but I understand that's their choice and I just try and give my advice and provide support.

University Factors Impacting Students and Their Alcohol-Related Behaviors

Through the interviews, students described some of their perspectives on Gallaudet University in general and related to alcohol use. Possibly also similar to hearing institutions, there is a bigger transition for freshmen. Students recognized the impact of the opportunity to use on freshmen. In addition to freshmen themselves, students noted the freshmen space as an issue. Participants noted that the residence halls are where a lot of the partying occurs - "if it's like at a dorm party, that's where they drink." They identified Benson Hall, the freshman dormitory, and Clerc Hall, the upperclassman residence hall, as the spaces where a lot of the partying occurred. In addition to the physical presence of partying, students could see it online on social media, which reinforced perceptions of a party culture.

Some students recognized there are other events, too, with higher alcohol use, especially if freshmen are involved. One student talked more broadly about classes, class spirit, and how that was associated with alcohol use. They described how students would drink alcohol, also known as pregame or preparty, before the event. In addition to recognizing the role of drinking before events, students overwhelmingly identified Homecoming as the riskiest time period.

Students discussed the role of security and residence life on campus. When asked about the impact of other staff, one student noted that this is not part of the dialogue with staff. Another student reinforced this comment by saying that staff are not involved in the issue. A different student felt that professors see it as a community norm.

Some students felt that staff should do more to address alcohol on campus. Students recommended providing more support services for students. In addition to counseling, students mentioned more support groups, addiction support, and recovery housing. One student also suggested more sanctions. Another student thought targeting certain populations, including freshmen, might help.

Students recognized that alcohol was not provided at most activities and shared how they drank alcohol before and after these games and events. Students also recognized the impact of the location of events on drinking. One student shared how they would drink more since they could not go back and forth to their rooms. Yet, in contrast to this, students also recognized that off-campus events are also a deterrent to drinking. A couple of students felt that the events did not hold appeal, and thus, students would not go. Students suggested more lively off-campus events and longer hours for campus amenities like the gym. If Gallaudet University could provide additional options, it could help reduce alcohol usage and related consequences. See quotes in Table 12.

Table 12

University Factors at Gallaudet University

The same	I don't think it's worse [at Gallaudet University]. I think it's about the same. College life at Gallaudet or same with other institutions. It's like innocent behavior - they're just curious. They want to explore and have it the same [as at hearing universities].
Party culture	I think a lot of people don't have experience with alcohol in the past. When they get into Gallaudet, they see the party culture they see in Benson Hall – the freshmen. They might drink a lot more than they should, and they haven't learned how to have healthy relationship with alcohol, so maybe they drink more than they should. I can see all the partying in Clerc Hall and a lot are - some are underage, some are 21.
Role of social media	I watch Instagram. Many people partying in Clerc Hall - drinking and getting drunk.
Preparty	With each big event students will go all out with pre partying, drinking before they go to the event. Like for example, the Rat Funeral. For freshman, it's the [event recognizing the] end of their freshman year. They'll often see students who are drunk during the long procession line. It's on campus and…some students don't control their drinking. Most of the events here, there's not alcohol...I've seen so many love to pregame. Because there's not alcohol at the event, so then they will pregame, they'll drink, drink, drink and then they'll go to the party...Like for example, Friday night or Saturday night if we plan to go out to a bar. We tend to pregame too because it saves money.
Tradition	They want to follow the tradition, want to be better, the best class than last year. They keep on going, trying to do better than last year, keep on one upping each other from before. So that tradition, I think, has an impact. Homecoming week, that's the most crazy week. There will be a lot of increase security. The building will not allow other students who live in other dorms to come in because they're trying to prevent too many people from partying, and sometimes the room parties will lead to the hallways...And you're not allowed to have hallway parties because people have open alcohol in the hallway…They tend to be more and more strict.
Role of staff	Professors, staff - no, I don't think they have as much of an impact. We don't really discuss alcohol. We don't really discuss parties, clubs, bars, nothing. We don't talk about that stuff. Some faculty and staff do like have a pretty nonchalant attitude about alcohol, so it's not really - they consider it a normal part of Gallaudet culture. Considering that people drink to party. Looking at it as a normal kind of thing. For professors they are hands off. Students are adults now.
More intervention	[Gallaudet University] could provide more support, provide more CAPS [counseling], provide more DPS [Department of Public Safety] security presence who would watch and keep everything safe and calm to prevent harm to others. We should teach them a lesson and not let that happen again. Sometimes students are stubborn and the consequences could teach them a lesson. I do think Gallaudet can really improve their watching [of the] freshman. I think that freshmen really need more eyes on them. Because freshmen do all kinds of dumb things that no one sees…They're too young. That's really the only thing that I can see that Gallaudet could do to improve that - is to watch the freshman closer.

Students shared many experiences and perspectives about alcohol and alcohol-related consequences. There was a range of experiences with alcohol use, backgrounds, and thoughts. Students sought something to do and experienced isolation, communication barriers, and struggles to cope. For some of these participants, these experiences led to desires to experience life more fully, seek connections, and find belonging. These experiences intersected with alcohol use and alcohol-related harms. Students also reflected on how Gallaudet University dynamics and activities impacted alcohol use and related harms. These themes are reflected in Figure 1.

Figure 1
The Social Ecological Model Based on This Study
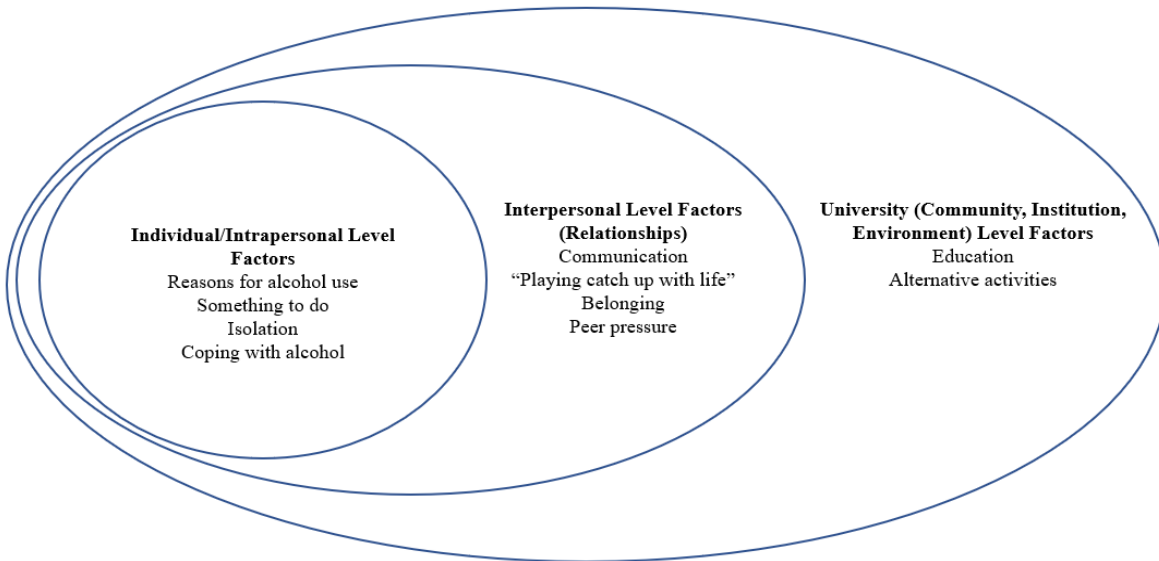
Note. Adapted from the work of Bronfenbrenner (1981, 1999); Sogari et al., 2018.

Discussion

The results of this study connect with the research on alcohol use in the college environment in several ways, including alcohol-related consequences, reasons for drinking, and using alcohol to cope. First, all of the participants were able to identify alcohol-related harms that they experienced or observed on campus. This is consistent with the work of researchers (e.g., Hart & Burns, 2016; Herrero-Montes et al., 2022), who also found that students had experienced a high rate of harm associated with alcohol use. Similar to the work of Nourse et al. (2017), students identified blackouts as a common alcohol-related consequence. In support of the work of Chugani et al. (2022) and Hirsch and Khan (2020), students recognized the role of alcohol with nonconsensual sex. One of the most noted academic consequences of alcohol use was missing classes, which was consistent with the research of Wrye and Pruitt (2017) and the Core Survey data (SIU, 2022). Participants also noted the impact of alcohol use on overall GPA, reinforcing the work of An et al. (2017). Participants shared a range of ways in which students experienced harm as a result of others' use, including injury, fire alarms, disrupted sleep, and property damage, supporting the work of other researchers who found that 47–84% of students experienced secondary harms (e.g., Beckhoff et al., 2022; Trangenstein et al., 2019).

Second, participants reported several different reasons for drinking. Students talked about using alcohol in social situations, which was also seen in prior research showing the value of alcohol as a social connector (Brown & Murphy, 2020; Wamboldt et al., 2019). For some students,

the alcohol helped with the "vibe," and for others, it served as a social lubricant, a way to manage social anxieties, which was confirmed in other studies (Brown & Murphy, 2020; Crawford et al., 2022). Participants also talked about ADHD and its role in alcohol use, supporting research that suggests some students who have ADHD (Haardörfer et al., 2021; Mochrie et al., 2020) and are more impulsive and sensation-seeking as engaging in more risky drinking (Krieger et al., 2018; Kuntsche et al., 2017; Lee & Park, 2020).

Third, students also shared personal experiences of using alcohol to cope with life and past experiences. In comparison, researchers also found that students who drank to cope were more likely to experience a higher negative impact (Baschnagel & Bell, 2023; Krieger et al., 2018), especially when struggling with depression (Kehayes et al., 2021; Park et al., 2021) or trauma (Boyraz et al., 2018). Specific to deaf and hard of hearing college students they were more likely to use avoidance or emotional coping, and this was associated with riskier alcohol use (Baschnagel & Bell, 2023).

In contrast to mainstream research on alcohol in the college environment, researchers also identified themes that were divergent and specific to the experience of being deaf and hard of hearing. Students talked about communication, access to it, barriers to it growing up, and the connection with alcohol. Though researchers identify communication barriers as potentially causing language deprivation impacting cognitive development and a syndrome of issues (Glickman & Hall, 2019; Gulati, 2019) and linguistic neglect to have serious psycho-social impacts (Humphries et al., 2016), there is less information on the spectrum of communication deprivation and related issues that students shared. Trychin (n.d.) recognized that even a minor hearing loss could have serious implications on communication access, impacting academics and social interactions. Ryding et al. (2022) found that when deaf and hard of hearing college students felt disconnected from their parents and not "listened to," they were more likely to engage in alcohol use. These studies and participants' comments suggest a range of impacts from growing up with communication barriers.

Researchers also showed these communication barriers impact other health conditions (Kushalnagar et al., 2020). Additional researchers connected a lack of communication access to language deprivation and an associated syndrome (Glickman & Hall, 2019; Gulati, 2019; Hall et al., 2017). These researchers did not explore alcohol use specifically as a result of language barriers. In contrast, in Felitti's (2002) landmark study on childhood experiences and adult health, they found a connection between adverse experiences and alcoholism but did not explore lack of communication access as a negative childhood experience. There is an overall gap in the literature on communication experiences growing up and the impact of these on alcohol use. These findings suggest there is a link between these for deaf and hard of hearing students.

One impact of not having communication access is isolation, as noted by participants when asked about what they perceived to cause alcohol-related harm on campus. Though there is a paucity in the literature on the impact of isolation with deaf college students and alcohol use, Prince et al. (2018) reported 77.5-84.56% of consequences were linked to other factors besides alcohol consumption, though they did not identify the cause. Trychin (n.d.) recognized that hearing loss can be very isolating as it is difficult to understand what others say because hearing individuals may not know how to interact with the person, and strategies for improving communication may not be fully effective. Research shows that for some individuals, these communication barriers can lead to social isolation, which can lead to health issues (Humphries et al., 2016; Trychin, n.d.). Though researchers were not able to find an association between minority stress, stigma, being deaf, and alcohol use (Mousley & Chaudoir, 2018), it may be valuable to compare deaf and hard of hearing students' experiences of oppression with isolation from the majority world, and how this might impact alcohol and related harms.

Once escaping isolation, participants reported feeling that they wanted to "play catch up with life" by connecting with peers and wanting to make up for perceived "lost time" while wanting to seize every opportunity before graduation. This was reinforced by researchers who found that their deaf and hard of hearing adolescents reported missing out on social opportunities (Terlektsi et al., 2020; Zaidman-Zait & Dotan, 2017). The range of social isolation and exposure impacted students differently. One interpretation is that for some students, the cumulative experience of being isolated caused them to want to make up for the missed opportunities they perceived others to have, reinforcing the research of Zaidman and Dotan (2017).

Even for participants who grew up with access to communication, there was a desire to seize every social opportunity, recognizing that Gallaudet University is an environment where they are with people like themselves. In a study on identity and group membership, Olsson and Gustafsson (2022) also found that deaf and hard of hearing young adults seek to belong despite feeling different than others. Consistent with the research of Frank (2017), deaf and hard of hearing students from families who were deaf did not seem to struggle with belonging or isolation as much as the mainstream students from hearing families. Finding other like individuals can be similar to joining an "ethnic group" with shared communication (Olsson & Gustafsson, 2022). Within the general research on alcohol use, researchers found students used alcohol to connect with other individuals (Wamboldt et al., 2019) and with the community (Brown & Murphy, 2020). Further, researchers found heavier alcohol use to occur in higher-density deaf environments (Kushalnagar et al., 2019; Pinquart & Pfeiffer, 2015; Tsimpida et al., 2018). The participants in this study reinforced the literature on the role of connection with alcohol.

Despite the themes of students connecting with alcohol use, the students choosing to abstain were not alone in the choice to not drink. The Gallaudet University Core Study data also showed that the rate of nondrinkers was increasing (SIU 2016b; SIU 2019; SIU, 2022). As some of the participants noted, their friends did not use alcohol, and as a result, they decided to use less or stop using. Research shows that peers can deter each other from use when they view it negatively (Cook et al., 2022; Krieger et al., 2018). Peer use also influenced increased alcohol use (Kehayes et al., 2021; Lee & Park, 2020; Miller et al., 2018). Based on the participant comments, it seemed that when students would waiver – sometimes using heavily and then other times trying to maintain moderation or using less – this is when the peer pressure would be more intense. Perhaps also because of the collectivist nature of communities of deaf and hard of hearing people (Frank, 2017), in combination with the desire to belong, there may be more perceived pressure to maintain the drinking status of the group.

On a university-wide level, students recognize the benefits of alcohol education and how this knowledge can keep them safe. Supporting this, researchers noted that a lack of awareness about alcohol can lead to more drinking and related harms (Miller et al., 2018). Students were also in favor of growing the options of events for students, supporting research showing that alcohol-free programming promotes the overall college experience and strengthens the community (Kollath-Cattano et al., 2018). Several participants felt that the quality of the alcohol-free programming needs to be improved. Researchers also emphasized the importance of these activities to be appealing to students in order to be effective (Davies et al., 2017; U.S. Department of Justice, Drug Enforcement Administration [DOJ], 2020).

Overall, the researchers identified several themes that connected with the social-ecological model. Whereas some of the students' experiences were in line with hearing college students' alcohol use, navigation with peer pressure, and search for belonging, this research was unique in demonstrating the connection between the deaf and hard of hearing college student experience. On an intrapersonal level, the impact of isolation, the connection to the interpersonal level experiences with communication, and the desire to "play catch up with life" were specific to some of the deaf

and hard of hearing students' experiences. In addition to addressing alcohol education on a university-wide level, this research also shows the need to address the experiences of these deaf and hard of hearing students.

Limitations of the Study

This study provides insights into alcohol use for a case study of deaf and hard of hearing students at one institution. It does not include deaf and hard of hearing students from other colleges or general community members, so as a result, these results are not generalizable to larger populations of students or individuals. Researchers made efforts to ensure trustworthiness by employing audit trails, field notes, and member checks, but for generalizability, additional research would need to be conducted.

Students (46%, n=11) self-reported their alcohol use with the label of "social" or "weekend [use]." It became evident to researchers that the subjective observation or label of one's alcohol use was a limitation. Further understanding of students' exact use would provide more insight into the level of use and whether the heavier users are binge drinking or engaging in high-intensity binge drinking, as defined by researchers as double or triple the binge level of five drinks or more (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2021b; Schulenberg et al., 2017). For future studies, it would be useful to have a more objective tool that measured and classified use, as this would provide greater clarity on how students' use may have impacted their perspective of the alcohol phenomenon at Gallaudet University.

Recommendations

As an understudied population and topic, there are many areas where further study would advance the understanding of experiences of deaf and hard of hearing college students, alcohol use, and related harms. First, this study highlighted the interpersonal level impact and the role of communication with alcohol and related harms. Though for many students, their experience could not be labeled language deprivation and linguistic neglect, there is a spectrum of communication barriers that need to be recognized, especially as they impact alcohol use and other health issues. Though individuals who grow up with communication access do not experience the trauma of being communicatively isolated, they may not have easy access to alcohol information in ASL. As a result, researchers recommend further research on the spectrum of communication isolation on alcohol use, related harms, and the social-ecological impact of these experiences. Further research specifically connecting lifelong experiences accessing communication and alcohol use would advance the understanding of the findings from this study.

Second, this study showed that there were many parallels between alcohol use for hearing, deaf, and hard of hearing students. One of the resources available for educators addressing alcohol on campuses is the College Alcohol Intervention Matrix (NIAAA, 2021a). This guide provides an extensive review of interventions, categorized by effectiveness and level of approach (individual and environmental) (NIAAA, 2021a). Given some of the similarities between alcohol use in general and for deaf and hard of hearing students, the researchers recommend for Gallaudet University and other institutions use the strategies shown to be effective in this matrix to address alcohol use as individual and university-wide social-ecological approaches on campus.

All of the participants in this study were aged 21 and older, and there were some who described higher volumes of alcohol use. Researchers encourage Gallaudet University to utilize interventions (such as bans on alcohol with ≥16% alcohol content) that can serve as points of entry for services for students of legal age to get screening services. Using policy and enforcement can

serve as a wider social-ecological approach to addressing alcohol on campus but also give older individuals the individual-level support they may need.

Lastly, in addition to further research on the impact of communication deprivations, researchers recommend programming and services to specifically address the issues that occur as a result of isolation, coping challenges, desire to belong, susceptibility to peer pressure, and wanting to catch up on life. Brown and Murphy (2020) recognized the need for alcohol intervention to include a focus on social connectedness. Though their research did not focus on deaf and hard of hearing students, this need for building community is especially important for Gallaudet University's students who grew up disconnected and might drink alcohol as a result.

Conclusion

Through interviews with 24 Gallaudet University students, researchers explored perceptions and experiences of alcohol use and alcohol-related consequences for deaf and hard of hearing students. By using a case study methodological approach with the social-ecological model as the framework, they were able to explore students' experiences within the context of being deaf and hard of hearing, as well as being college students in general. They found that there are parallels between hearing and deaf and hard of hearing college students' experiences with alcohol and related harms. In addition, they also found that there are unique dynamics specific to being deaf and hard of hearing, such as communication barriers that result in impacting isolation, coping, and belonging. These intersect with students' choices about alcohol use and the resulting consequences. As a result, they recommended evidence-based interventions as identified by NIAAA (2021a) as potential strategies for addressing this phenomenon. They recommend further research on the association between communication barriers and alcohol use. By providing insights on alcohol use by deaf and hard of hearing students and advancing the literature on this phenomenon, researchers hope that health educators will be able to incorporate these findings into their interventions to provide more effective, tailored programming. Further, on a university-wide level, they recommend that campus officials strategically address the impacts of isolation and communication barriers on students. By doing so, researchers hope that these efforts will reduce the rates of alcohol-related harms within the deaf community and thus impact positive social change.

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Appendix A: Interview Guide

General Demographic Information	To students: What year are you here? How old are you? How do you identify your gender? How do you identify your race? How do you identify as: deaf, hard of hearing, other? Did you attend a mainstream or school for the deaf in high school? How would you describe your alcohol use?
Warm Up	This research project is on deaf and hard of hearing college student alcohol use and related consequences and harms. In this case, I am defining harms as negative things that happen as a result of alcohol use. I am curious about your perspectives and experiences. When I say this topic: "deaf and hard of hearing college student alcohol use and related harms" what are your perspectives?
Question 1	What are some examples of alcohol related harms? [Prompts] What about physical harms? Social harms? Academic harms?
Question 2	In this case, I am defining risky behaviors to include choices students make that increase the chance of more alcohol related harms. Tell me about some of the risky behaviors you have seen related to alcohol use on our campus.
Question 3	Tell me about decisions that have you made, or have you seen with your peers that you perceived made the experience more or less risky.
Question 4	What are some aspects of a person's background or personal experiences that you perceive impact alcohol related harms?
Question 5	Some examples of background or personal experiences that can have positive or negative impacts include: education about alcohol, access to communication, adverse childhood experiences, religious beliefs, experiences as a deaf and hard of hearing person, and desire for high-levels of activity. What are your thoughts on how these experiences impact alcohol related harms at Gallaudet University?
Question 6	How do peers impact the alcohol related harms (for better or worse) on our campus?
Question 7	What is your perspective on the role of other people (staff, faculty, parents, outside friends/family members) with alcohol related harms on our campus?
Question 8	As a university community, do you perceive that there are events, activities, cultural behaviors that impact alcohol related harms? If so, please share.
Question 9	As an institution, what is your perception of how Gallaudet University can prevent alcohol related harms?
Question 10	One of the themes with the data is that the alcohol harms are higher here at Gallaudet University (Southern Illinois University, 2019). What do you perceive may impact these alcohol related harms?
Conclusion	This concludes my questions. Is there any other information you would like to share?