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Student Experience in Brett Hall: A Case Study of Renovations to Facilitate Inclusion

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Abstract

Accessibility cannot be achieved through a one-size fits all approach. In order to create universally inclusive environments, thoughtful design must be incorporated to provide individuals with spaces that foster thriving and positively contribute to well-being. This study investigates how accessibility renovations using inclusive design impact the experience of students in the university residential life setting. This is achieved through a case study of the student experience living in Brett Hall dormitory at the University of Massachusetts Amherst, which was recently renovated to accommodate students with a range of complex needs. To provide a comprehensive case, this study includes the analysis of floor plans, photos, walkthrough notes, and interviews with two staff members and two students who currently live in the residence hall. Individual semi-structured interviews were conducted with two UMass students that currently live in Brett Hall to investigate how the renovations influence their experiences and the meaning they attribute to their living space. These findings contribute to university planners' understanding of how to renovate existing residential facilities to be more universally accessible for all students. Creating spaces that are accessible to everyone is a critical step in understanding how the college experience can be maximized for all students, especially those living with disabilities.

Introduction

According to the National Center for Education Statistics, 19% of undergraduate college students reported having a disability in 2015-2016 (*Students with Disabilities*, 2018). This number is at an all-time high as the number of college students with disabilities has tripled in the last two decades (Bryan & Myers, 2006). Despite making up a large percentage of student populations, the needs of students with disabilities remain a low priority for many post-secondary education programs. For the purpose of this research, disability is defined as any condition or impairment that negatively impacts one's ability to perform certain activities or partake in interactions with the surrounding environment (CDC, 2020). The discussion of the "disabled population" refers to a diverse group of individuals with varying ranges of needs including impairments, activity limitations, and participation restrictions in normal daily activities, both visible and not (CDC, 2020).

Legislation serves as the most prominent framework which universities use to design campus spaces regarding disability. Over the past 50 years, there have been major improvements in lawmaking that provides rights and protections to individuals with disabilities. Before 1973, public education could legally be unavailable to students with disabilities (Miele et al., 2018). Since then, four major legislative acts have been passed to increase protections for individuals with disabilities, especially in the academic setting. Passed in 1973, Section 504 of the Rehabilitation Act requires public schools to provide disabled students with a free, appropriate public education (FAPE) and prohibits discrimination against individuals with disabilities (Bauman et al., 2013; Miele et al., 2018). Two years later, the Federal Education for All Handicapped Children Act, later known as the Individuals with Disabilities Education Act (IDEA), was passed to expand section 504 provisions, requiring public schools to guarantee FAPE by catering to the needs of disabled students and provide a least restrictive educational environment (LRE) (Miele et al., 2018). In 1988, the Fair Housing Act of 1968 was expanded to

mandate access and protections for homeowners and tenants with disabilities. This expansion also includes students in campus housing (Miele et al., 2018).

Finally, the Americans with Disabilities Act (ADA) of 1990 mandates equal treatment and access for all disabled individuals, emphasizing the right to a non-discriminatory public education (Miele et al., 2018). This act advanced a broad range of rights in all aspects of living, making it illegal to discriminate against disabled individuals in public accommodations, transportation, and hiring (Jaschik, 1993). The ADA sets a guideline of accessibility elements and requirements for which all public and private institutions must comply (Bryan & Myers, 2006).

Improvements in legislation that support disabled individuals have led to an increase in students with disabilities attending college. These laws prohibit discrimination in the recruitment, admission, and treatment of disabled students by postsecondary institutions. Disability law gives students the right to request accommodations that allow them equal access and participation in educational opportunities and programs (Bryan & Myers, 2006).

However, despite providing more rights to individuals with disabilities, it is important to understand that these laws provide a floor rather than a ceiling; ADA guidelines serve as a strict minimum but they are not comprehensive. Despite this, many buildings are designed solely from ADA guidelines without consideration for the needs of a diverse range of disabilities, resulting in spaces that are not inclusive nor accessible to everyone. Especially in the higher education space, it is critical for the inclusion of all types of students that designers consider accessibility elements that go beyond ADA compliance to provide equal educational opportunities for the historically marginalized (Bauman et al., 2013).

Regardless of the legislature, accommodations and resources that support students with disabilities in higher education continue to be scarce, especially within residential life and campus housing. For students to have equal opportunity to become immersed in campus life, they must be provided with the opportunity to live on campus amongst their peers. Yet, for

students with disabilities, this is often not feasible due to inadequate accessibility designs within campus housing. As more individuals living with disabilities decide to attend postsecondary education, designers must determine the most effective way to incorporate accessibility into residential life buildings.

To understand what makes a space truly accessible, it is integral to determine the widest possible scope of needs of each individual to better understand how a space can be inclusive. This requires understanding who is involved in this process and the individuals that are being considered throughout. It is only after determining what makes a space accessible that researchers can begin to investigate how residential life environments influence the experiences of individuals with disabilities within the campus community. This includes looking at how disabled students describe their experiences within residential life. Key factors within the student experience include how the residential experience promotes social integration into the greater campus community and the impact integration has on each student. Furthermore, through learning about the lived experiences of disabled students, proper modifications can be determined in order to better support both the individual and the greater community.

Literature Review

Frameworks

When investigating the experiences of students within higher education residential environments, multiple frameworks interplay to influence the relationship between environment and student experience. A prominent theory within higher education research is the Social Justice Model of Disability, which emphasizes that all people have the right to an enriching and successful education in settings where they are respected as unique individuals (Evans et al., 2017). Within this framework, every student has the right to be respected, listened to, and treated equally (Wilke et al., 2019). To truly understand this framework, it is necessary to recognize disability as a social construction that emerges from societal, economic, environmental, and cultural barriers that prevent individuals with disabilities from achieving full social acceptance and inclusion (Leake & Stodden, n.d.).

Contrary to the medical model which traditionally targets the individual resulting in individual interventions for people with disabilities (Leake & Stodden, n.d.) the social model goes beyond providing generic access designs for individuals with disabilities while directing attention to social issues that perpetuate stigma and non-inclusive environments (Wilke et al., 2019). The use of this model of disability in higher education impacts disability services, supports, and accommodations by promoting respect and full social acceptance for all, therefore helping to facilitate student success (Leake & Stodden, n.d.).

When looking specifically at the residential life setting, it is critical to understand how certain environments play a significant role in shaping how disabled students do or do not experience functional limitations and participation restrictions as a result of their disability status (Evans et al., 2017). This environmental role is commonly examined through Bronfenbrenner's Ecological theory, which describes learning within a series of overlapping interactions between persons, processes, contexts, and time that are composed of intersecting environmental influences (Bronfenbrenner, 1993). Within a university community, campus housing is a

microsystem that serves as one of the most direct influences on one's learning and development. Due to their interconnected nature, student experience in the housing microsystem influences experiences in other systems such as classrooms, athletics, and student clubs (Vaccaro & Kimball, 2019). This emphasizes the importance of creating a residential environment that fosters a positive living experience, as it has the potential to influence all other aspects of campus life and student experience.

The ecological model can be integrated with the Social Model of Disability to better understand how university housing impacts student experience and performance within higher education. Within the current literature, it is widely accepted that students who feel they are accepted socially are more likely to graduate and persist in comparison to those who do not feel included (Tinto & Pusser, 2006). Social integration, described as "the extent to which students feel connected with, and cared for by, other people in the campus community" serves as a significant predictor of intent to persist for students with disabilities (Wilke et al., 2019, p. 48). Student integration into both the social and intellectual systems results in better goal achievement and institutional commitment, resulting in positive effects on learning, development, and the likelihood of degree completion (Tinto & Pusser, 2006).

Living within a campus community provides students with increased opportunities for student involvement in the form of student-student and student-faculty interactions. Having more opportunities for academic, social activities, and engagement is correlated with positive student outcomes (Astin, 1993). It has been found that students who do not participate in campus activities that contribute to social integration are less likely to persist through their second year than students who were engaged, emphasizing the importance of being part of a social on-campus community (Mamiseishvili & Koch, 2011).

A major component of how integration into the campus community contributes to better student outcomes is the development of a sense of belonging. Feelings of belonging to an environment are tied to a hierarchy of environmental conditions, emphasizing that

representations of inclusion whether physical or social have a major influence on whether individuals feel they are accepted and included in a particular environment (Strange et al., 2015). In order to engage students with disabilities on campus and foster the development of their sense of belonging, their surrounding environment must be accessible and inclusive (Belch, 2004). When in a campus environment where students with disabilities feel supported, included, and involved, they experience a greater sense of belonging. This in turn allows them to freely express their needs in order to be successful in the college environment without fear of stigma and restriction (Leake & Stodden, n.d.). Sense of belonging and feelings of acceptance can have profound impacts on individual goal achievement and overall well-being, making them critical in allowing all students to pursue opportunities that lead to improved learning, growth, and development (Belch, 2004; Strange et al., 2015).

Overall, creating environments that are inclusive and accepting of all individuals provides students with better opportunities for social integration within the higher education setting. Residential areas have the potential to offer communal spaces that everyone can access easily, signage that is welcoming and inviting to all, and community events that contribute to social integration for all. Residential life serves an especially critical role in achieving integration as it interplays with many other aspects of campus life to shape the student experience. Through the creation of inclusive residential spaces that allow students with disabilities to become active members of the campus community, disabled students will achieve a greater sense of belonging that fosters positive social and academic outcomes in addition to improved overall health and well-being.

Burden and Responsibility

In order to create inclusive environments that suit the needs of all individuals, designers must first determine who is responsible for ensuring all students are properly accommodated. Traditionally, students are exclusively responsible for managing their disabilities, including

providing evidence of disability and accommodation requests to disability services (Bauman et al., 2013). The advocacy of each student indicates whether the university is aware of their disability and whether an appropriate accommodation can be made. However, not all students may disclose their disability due to inadequate information and guidance, anti-disability stigma, fear of rejection, lack of faith that university services can help them, or limited self-advocacy skills (Evans et al., 2017; Wilke et al., 2019). Additionally, students may voluntarily give up accommodations for social factors such as wanting to be closer to friends, because they consider it more important for their college experience. This emphasizes that students desire social integration but recognize it is not always possible to achieve within the housing environments that are best suited for their disabilities (Wilke et al., 2019). Obtaining needed accommodations within residential life and the university as a whole can prove to be difficult and taxing for students with disabilities.

With the majority of the burden falling on students with disabilities, all members of the campus community need to understand that “access, accommodations, and inclusion of students with disabilities are shared responsibilities” (Bryan & Myers, 2006, p. 16). Universities are responsible for understanding legal and moral obligations to provide students with equal opportunities and access, which can only be achieved through cross-departmental communication that allows professionals from various disciplines to collaborate on issues to effectively support students with disabilities (Vaccaro & Kimball, 2019). To best address the diverse experiences of the disabled community, planning and decision-making procedures should consider input from people with a wide range of impairments and functional limitations (Evans et al., 2017). Specifically when looking at residential life, staff and residents must be included in the building design and construction phases to provide input when discussing the desired accessibility features (Malik & Anton, 2013). Through maintaining open lines of communication in all processes, all parties' needs can be fully understood and considered,

allowing modifications of procedures as needed (Malik & Anton, 2013). This collaborative effort contributes to the creation of spaces where all student needs are met.

Goals of Residential Life

As a central component of most college campuses, residential life operates to provide a safe, reliable, and welcoming environment for all students where they can feel included. As previously mentioned, campus housing and residential life services play a significant role in the retention of students through the promotion of social integration (Wilke et al., 2019). Despite being such an important aspect of the college experience, campus housing is not always suitable for students with disabilities. Many universities do not provide the opportunity for disabled individuals to live on campus altogether because they lack appropriate access technologies and access-focused modifications. Not being able to take part in residential life affects the ability of these students to be immersed in the campus community and participate in on-campus social activities (Mamiseishvili & Koch, 2011). The residential experience of individuals with disabilities is heavily dependent on the degree of accessibility, the use of accommodations, and the awareness and responsiveness of residential life staff (Wilke et al., 2019). To achieve residential communities that facilitate social integration and foster well-being for all students, campus housing must proactively address accessibility needs for students with disabilities.

Access-Focused Modifications

Although the presence of basic accessibility elements within campus housing is a step in the right direction, universities must work towards establishing processes that allow for the creation of well-thought-out, individually tailored modifications to create living environments that truly support the social integration of disabled students (Wilke et al., 2019). Given that not all disabilities are created equal, accommodations must be flexible and creative to meet the needs

of various students, especially those with co-occurring disabilities (Wilke et al., 2019). Because of this, potential residential life accommodations range widely. These may include but are not limited to allowing emotional support animals to live with students, providing air conditioners for respiratory difficulties, widened and automatic doors for mobility aid users, private bathrooms and sinks for students with gastrointestinal and other chronic illnesses, sensory modifications for students with cognitive disabilities, quiet floors, and other modifications to assist personal care assistants (Evans et al., 2017; Miele et al., 2018; Wilke et al., 2019).

Traditionally, disability access is often thought of solely in terms of physical limitations, resulting in a higher prevalence of mobility modifications such as ramps, automatic door openers, elevators, etc. (Bryan & Myers, 2006). However, the diverse needs of students require designers of built environments to think outside the box of visible disability and consider the needs of students who may have conditions and limitations that are not always visible. Design must extend beyond the physical structure of environments by considering other factors including but not limited to proximity to resources, cleanliness, room temperature, noise levels, and building materials (Wilke et al., 2019). This may include making modifications such as the usage of alternate media, raised lettering, changes in the texture of pavements, adaptive equipment incorporation, appropriate signage, and sensory indicators such as flashing fire alarms (Bryan & Myers, 2006). Regardless of the environment, when creating accessibility designs for students with disabilities there is no one-size-fits-all approach. The individual needs of each student must be considered to create an environment that will best support their success and well-being in all aspects of their lives.

In addition to physical modifications for students with disabilities, staffing within residence halls also has a considerable impact on the student experience by improving transitions, fostering connections, and mitigating social isolation. Residential staff such as resident assistants and peer mentors serve as important resources for informal assistance and support that help create a sense of belonging within the campus community (Miele et al., 2018).

However, staff that is unresponsive or inadequately trained regarding disability management can serve as a barrier to student social integration and negatively impact the experiences of disabled students within residential life (Wilke et al., 2019). In order to positively contribute to the environment that surrounds students with disabilities, residential staff must be trained to monitor students with disabilities and help those who are experiencing difficulties by providing specific resources, targeted interventions, and additional support (Miele et al., 2018). These staff and faculty have a special responsibility to aid students with their own self-advocacy by helping them believe in their abilities and connecting them with appropriate services (Bauman et al., 2013; Mamiseishvili & Koch, 2011). As important resources within residential life, having staff that is adequately trained to best assist students with disabilities will positively influence the student experience within the university.

Barriers to Accessibility

Achieving residential living spaces that are accessible to students with varying abilities is a task much easier said than done. Factors such as understaffing of residential life and disability services personnel, limited budgeting, and narrow understanding of and focus on accommodations tend to be powerful contributors to the limited accessibility within residential life (Evans et al., 2017). On the student side, uneducated staff, lack of self-advocacy skills, financial problems, and stigma reduce the probability of students receiving appropriate accommodations (Belch, 2004). It is also important to note that in most cases within higher education, disabled students are not treated as a minority group so they often do not receive designated cultural space, programming, or staff support as other identity groups (Evans et al., 2017).

Oftentimes, even when universities give needed attention to their disabled student population and commit to improving the accessibility of campus buildings, they may lack the funding to achieve needed modifications (Jaschik, 1993). Major renovations are typically costly,

however, not all accessibility elements need to be expensive; Simple changes in environments can make significant differences in the student experience. Although there is not a perfect solution to these barriers, paying special attention to the factors that either promote or impede positive student experience will help guide the most important modifications that will help students with disabilities achieve their academic and social goals (Mamiseishvili & Koch, 2011).

Balancing Accessible Design and Community Integration

When designing accessibility elements, practitioners may experience tension when trying to balance the accommodation needs of disabled students with other factors that impact student experiences. Introducing accessible modifications into a residence life hall introduces an individual vs community dilemma; It can be difficult to address community concerns and needs while maintaining individual privacy of individuals needs (Vaccaro & Kimball, 2019). Designers must balance the interests of all individuals while creating a space that is accessible to everyone. This may result in tradeoffs in terms of space and policy change. For example, transforming a public bathroom into a single private one may be necessary to accommodate a student with disabilities, however, that may eliminate a bathroom that would have been used by multiple residents living in the same area. Figuring out how to best accommodate a student without negatively impacting other students is an important consideration when designing disability modifications.

Another tradeoff that often occurs when designing for accessibility is balancing meeting specific needs with social integration. For example, having a single room allows individuals to manage symptoms of psychological disabilities, have privacy for medical treatments, or reduce distractions that may exacerbate learning disabilities. However, the social isolation of being in a single room may pose an increased challenge to the ability to make friends and feel connected with a roommate. Additionally, universities often have rigid room selection policies or on-campus living policies that both discourage social integration and provide stressful situations for disabled

students (Wilke et al., 2019). Frequently, students with disabilities are severely limited in the buildings or room types they can select due to limited spaces meeting their needs. For students with disabilities, finding a suitable residence hall room that can accommodate their specific needs can be stressful and highly discouraging.

When designing modifications within residential life, professionals must consider the drawbacks that may result from certain design choices. Having flexible housing policies has been found to support social integration by providing environments that address functional limitations or specific needs without making students feel isolated (Wilke et al., 2019). Simple modifications to the housing process such as allowing students to self-disclose disabilities on applications allowed for better preparation rather than a reaction to the needs of students with disabilities (Bryan & Myers, 2006). Small considerations like these help to reduce the burden that is disproportionately experienced by students with disabilities when attempting to secure housing.

Case Study: The University of Illinois, Urbana-Champaign

Despite anticipated challenges, ensuring adequate accommodations for students with disabilities within the residential life setting is possible, as seen at the University of Illinois. Through a partnership of University Housing and the Division of Disability Resources and Educational Services, the University of Illinois successfully created Timothy J. Nugent Hall, a residence hall that is physically and socially accessible with modifications and considerations that go beyond those required by law (Malik & Anton, 2013). With a focus on the inclusion of residents who have historically never been served by university housing, this partnership worked to fix up an aging building while creating a space for all students regardless of the severity of their disability. Through the collaboration of professionals from across the campus community with student and faculty perspectives, designers were able to reconsider the traditional ways of designing and doing business in order to be inclusive of disabled residents

(Malik & Anton, 2013).

Specifically, designers created 26 single-room suites on the first floor, each with two sleep rooms with a shared bathroom. These rooms were purposefully concentrated so students can receive safe and consistent support from staff who are trained in disability awareness and exposure to better understand and accommodate student experiences. The creation of a virtually hands-free environment allows residents to be independent while providing support for caretakers. Modifications include proximity readers, automatic operators for doors, lift systems for transfers, adjustable furniture, hospital beds, sinks with motion-sensitive faucets, push-button room darkening blinds, backup generator outlets, and a wireless paging system. The building's accessibility elements also include an accessible kitchen, adaptive computer lab, accessible elevators, and a space that is staffed with support personnel at all times. Through collaboration with disabled students and other campus personnel, designers were able to thoughtfully create a space where every need was considered. The creation of a building that allows true integration of residents with severe disabilities is essential in contributing to social integration and relationship building among a diverse group of students (Malik & Anton, 2013).

After opening in 2013, Timothy J. Nugent Hall has proven to be successful in creating an environment that truly supports the needs of all students. The creation of a living community in which students with a wide range of abilities are included and valued has shown positive effects on the matriculation, retention, graduation, and employment of students with severe disabilities. Within a year of graduation, the number of graduates with disabilities from the University of Illinois that are either employed or attending a graduate program is 87.5%, almost triple the national employment rate for people with severe disabilities of 30.7% (Malik & Anton, 2013). Overall, Timothy J. Nugent Hall is an excellent example of how designing residential living spaces to include all students fosters a better overall experience for students with and without disabilities, resulting in better social and academic outcomes for all.

Universal Inclusion

Despite the major success at the University of Illinois, other higher education institutions are slow to follow suit, lacking many needed accessibility modifications and resources that allow individuals with disabilities to succeed within residential life. The lack of consideration for accessible elements by universities sends a message to students with disabilities that they are not welcome. Universities must embrace students with disabilities as full members of the campus community in order to enrich the learning and college experience of all students and faculty (Malik & Anton, 2013; Bryan & Myers, 2006). “Higher education institutions are at their best when they invite, welcome, and adapt to the broadest possible range of individuals who can contribute to and meet the standards of education institutions, recognizing the discriminatory history of determining for minoritized others their (in)ability to contribute and benefit.” (Evans et al., 2017, 438).

Universal inclusion begins with collaboration across campus; Individuals from all disciplines must be willing to work together to craft a big-picture vision of how to build foundations of relationships, trust, and open communication that will support inclusive and accessible residential environments (Bryan & Myers, 2006). As more students with disabilities attend post-secondary education, there is a greater need than ever to create holistic but differentiated environments that meet all student needs (Vaccaro & Kimball, 2019). This includes exceeding the bare minimum with compliance, especially in residential life spaces (Bauman et al., 2013). A truly inclusive environment welcomes a diverse student population by preparing accommodation requirements rather than reacting to the individual needs of students (Evans et al., 2017).

Achieving universal design will help to normalize higher education experiences for students with disabilities by aiding in eliminating the need for them to advocate for appropriate accessibility elements which can be both time and energy-consuming (Leake & Stodden, n.d.). Proactively designing spaces so they are universally accessible to all students helps to offset inconveniences experienced by disabled students while ensuring equity of resources and

services for all (Evans et al., 2017). Creating inclusive environments where disabled students have equal access to engage in the overall educational experience is critical in creating a rich and diverse college community that reflects the diversity of society (Belch, 2004). When provided with the right resources and support, all students can achieve their highest potential.

Lack of Literature: Understanding Student Experience

Within current research, there is a significant lack of literature that focuses on the experiences of students with disabilities in post-secondary education; Research is even more scarce within the residential life setting (Bauman et al., 2013). When looking at campus housing, the majority of literature focuses solely on residence halls through an operational lens rather than looking at the role of residence halls as learning environments and paying attention to the experiences of students within the halls. Current knowledge is limited in how students with various disabilities, whether physical or intellectual, experience residential life; Relevant studies focus narrowly on a small range of outcomes by presuming participants with similar disabilities have the same experiences (Evans et al., 2017). Not paying attention to the lived experiences of people with disabilities may contribute to the adoption of ineffective and potentially harmful practices that negatively impact the overall college experience and well-being of students with disabilities (Kimball et al., 2016). More in-depth research on the specific experiences of students navigating post-secondary education with disabilities, specifically in the residential life setting, will contribute to informing policy and design practice that allows students to achieve their greatest potential and thrive within the campus community.

Methods

A case study methodology was conducted to investigate the student experience living with disabilities in Brett Hall at the University of Massachusetts, Amherst. This study investigates the following question: How do renovations that foreground accessibility to increase inclusivity impact the on-campus experience of students with disabilities, specifically within the university residential life setting?

This study is a singular case of renovating an existing building which was originally built in 1962-1963 to be as widely inclusive as possible (*Special Collections & University Archives*, 2021). This specific renovation project was limited by time and budget, making this a case of realistic renovations that can be achieved in existing spaces, specifically in the residential life setting. Given that it is typically more difficult to renovate than to build new, this case provides transferable knowledge of what can be done on university campuses to create inclusive spaces without requiring the development of new buildings.

This case is bound by Brett Hall and the individuals that live and work closely within the hall. The research was conducted with the intention to generate deep insights into how the renovations have impacted the student experience while living on campus. The overarching goal of this analysis is to provide knowledge and fuel for the future work of renovations of campus spaces, both on the UMass campus and at other institutions.

As a research method, a case study aims to use different forms of data collection to encapsulate the complexity of connections, beliefs, and attitudes within a bounded unit (Hamilton & Corbett-Whittier, 2012). Given that case studies are typically an in-depth study of a phenomenon in its real-world context, they require in-depth and contextual research that is achieved by collecting a variety of relevant data from different sources to develop converging lines of inquiry (Yin, 2018). To provide a comprehensive case, this study includes the analysis of floor plans, photos, walkthrough notes, and interviews with two staff members and two students

who currently live in the residence hall. Given the diversity of interviewees and other data-gathering techniques, this study strives to explore multiple perspectives on Brett Hall to aid in methodological triangulation (Stake, 2013). Triangulation of data through the development of convergent evidence that corroborates similar findings helps to strengthen the construct validity of a case study (Yin, 2018). Overall, investigating several different sources of information that follow a similar convergence allows for study conclusions to be more accurate and convincing by contributing to the greater credibility of the research (Stake, 2013; Yin, 2018).

Interviewing Methodology

Interviewing was chosen as one of the primary methods of data collection because of its ability to examine social groups that have previously received minimal attention from researchers. Additionally, interviews are an extremely effective method for acquiring a deep understanding of the experiences and perspectives of individuals (Knott et al., 2022). The use of a small sample size allows for new insights into the experiences of newly emerging or demographically outnumbered groups (Gerson & Damaske, 2020). More specifically, in-depth interviews in this manner are especially useful for revealing mechanisms that confer privilege and may shed light on the unequal experiences of students as a result of their disadvantaged backgrounds (Knott et al., 2022). As a group that is underrepresented in the current literature, there is a need for greater research into the experiences of individuals living with disabilities in order to properly understand and support their specific needs. Specifically, in the field of architecture and planning, interviews are traditionally underutilized, resulting in a lack of consideration of marginalized voices and perspectives.

Through the use of interviews, participants can express in their own words how they experience the spaces of Brett Hall and the UMass campus as a whole. More specifically, these insights may help us better understand how disabled individuals interpret messages transmitted by the built environment within residential living spaces. Interviewing UMass students with

disabilities is a flexible method that was conducted to uncover new theoretical insights and pave the way for additional research and improved design developments (Gerson & Damaske, 2020).

Data Collection: Semi-Structured Interviews

The interviews employed a topic guide that was broken into five broader topics organized around key concepts of accessibility and inclusion. Each subsection contained a set of questions to facilitate discussion between the researcher and the participant while maintaining a consistent structure (Knott et al., 2022). The list of interview questions for students was curated to allow discussion of how living in an environment with specific design modifications may or may not alter the student experience on campus; how it impacts students socially, and academically, and influences their overall health and well-being. The questions were designed to be open-ended in order to elicit a more elaborate response and extended reflection from the participants. As for residential life personnel, the interview protocols were less structured with questions focused primarily on the background of Brett Hall and the specifics regarding the renovation project. After receiving an exempt determination from the Institutional Review Board, interviews were conducted in 45-60 minute sessions. Each interview was recorded via an audio recording device and the resulting transcripts were coded.

Interview Participants

Semi-structured individual interviews were conducted with four participants. The first two interviews were conducted with UMass students with disabilities who are currently living in Brett Hall. These students were identified using theoretical sampling with the assistance of residential life staff. The use of theoretical sampling entails finding students that are well-positioned to highlight important experiences while living within residential halls (Gerson & Damaske, 2020). Students living in Brett with access needs were contacted through an email from their residence director that contained an overview of the study and an invitation to voluntarily participate in a single semi-structured interview. Out of the nine students contacted, two reached out to

participate.

The first interview was conducted in person at Brett Hall. After walking through the Hall to point out key accessibility features and potential areas for improvement, a 60-minute interview was conducted according to the interview protocol. The second student interview was conducted via Zoom and lasted approximately 40 minutes.

In addition to the two student interviews, two interviews were conducted with residential life personnel. The first 45-minute interview was conducted in person with Jean MacKimmie, the Director of Residential Education at the University of Massachusetts. The second interview was conducted via Zoom with Sam Tabari, the Residential Director for Brett and Brooks Halls. As the Residence Director for over 20 years, Sam Tabari has a long-term relationship with each hall and has a rich knowledge of Brett. Although he was not involved in the specific renovation design process, Tabari was able to offer insight into the day-to-day operations and observed student experience within the Hall.

Table 1: Interview Participants

Participant	Role	Year of Study	Years in Brett
Jean MacKimmie	Director of Residence Education	N/A	N/A
Sam Tabari	Residential Director of Brett and Brooks Hall	N/A	20
Student 1	Resident	Junior	1.5
Student 2	Resident	Junior	1.5

*Both student residents transferred to UMass in Spring 2022 and lived on the second floor of Brett their first semester. Both participants use mobility aids.

Case Description

History of The Brett Hall Renovation Project

The background of this case was obtained through an informal discussion with Jean MacKimmie, the Director of Residential Life Education at the University of Massachusetts. This interview provided a greater understanding of the details and motivations of the Brett renovation project. With a campus of 51 residence halls grouped into seven distinct residential areas, the first question to ask was: Why Brett? Being located in a central location to the rest of campus with easy access to Franklin Dining Commons and University Health Services, Brett is situated in a prime area of campus. Geographically, Brett Hall is located at the bottom of a large hill, making it much more accessible than other campus housing located at higher elevations. Additionally, prior to renovations, Brett was already more accessible than some of the other older residence halls as some modifications had previously been completed such as automatic door openers and individual room modifications. These factors made Brett the most ideal residential life building for the project.



Figure 1: Front of Brett Hall

Goals of the Renovation

The overall goals that drove the Brett renovation project can be broken down into two parts. The first aspect was addressing standard deferred maintenance and life safety projects such as updating fire alarm systems, conducting generator maintenance, and completing mechanical, electrical, and plumbing repairs. However, the arguably more important goal of these renovations was how to improve the student experience. MacKimmie described Brett as an opportunity to be able to “accomplish more,” stating that when thinking about what can be made out of a space, it was important to think about universal design, which signifies the consideration of the needs of a range of students.

MacKimmie recounted having one student in particular who desired to live on campus and become a part of the community, but their accessibility needs could not be served by the current spaces within UMass Amherst residential life. While discussing this student as a motivating factor MacKimmie stated, “We are not able to accommodate the student, which means there are probably other students we can’t accommodate.” While this was a single story of one student who asserted their needs, they are representative of many other students who likely experience the same barriers to receiving an equitable on-campus experience. With insufficient buildings to accommodate a wide range of student needs, the UMass Amherst campus, like many other institutions of higher education, was not accomplishing its aspirations to create a truly inclusive environment where all students are welcome.

Determination of Renovations

Another major influence in the design process was information and feedback from past years regarding the particular accessibility elements and technologies that had been requested. MacKimmie emphasized the important difference between meeting student needs by doing the minimum versus designing for the student experience stating: “Can you accommodate is one thing, can someone live is another.” MacKimmie elaborated that, although accommodating to

meet standards is important, it does not necessarily provide true accessibility or the experience that people want. If someone can get into a building but are unable to use the kitchen or lounge, go to the bathrooms, or do their laundry, the space does not provide an environment where one can “truly live.” The inability of certain students to be accommodated was a major driving factor in determining what modifications could be done to create an on-campus space that allows students with more extensive needs to live on campus independently.

Planning Process

Considering the fact that it is more expensive to renovate than to build new, this project was restricted by limited funding in addition to having the time constraint of only being able to perform work during the university summer break. With these limiting factors, an important component of this project was being mindful to perform as much work as possible without having to revisit the project at a later date. With this in mind, the major question driving the design process was - what could be done within the confines of the university's existing buildings?

A master planning process was conducted with the assistance of an outside higher education planning firm and an architect to figure out how to perform the needed renovations in addition to the deferred maintenance while staying within the constraints of the project. This included looking at how to maximize the renovations without losing a large number of beds or other spaces from the hall. Brett was an example of a hall where the conversion of community bathrooms to single-user would not result in a dramatic loss of dorm rooms, providing another reason behind the location choice. A major aspect of the planning process involved bringing in different ideas to play around with what could be done with the space. This included looking at examples of what other campuses have previously done. However, there were limits to the utility of these examples as many of these design and accessibility strategies were implemented in new buildings rather than by renovating existing spaces.

Renovation Process

The renovation construction was completed through a series of two phases. In the summer of 2019, Phase 1 was conducted to renovate the bathrooms, kitchens, and lounges of the basement and first floor at a cost of 2.4 million dollars. These renovations also included the only alterations to the dormitory rooms themselves; two dorm rooms were converted to have the option of connecting to a single private bathroom should an individual need it as an accessible feature. This bathroom access was constructed with the option to be used privately or to be converted to serve as a single bathroom for use by other residents on the floor. The renovations completed during the first phase included the majority of the construction and installations to meet specific accessibility needs.

The second phase occurred in the Summer of 2021 to renovate the 2nd, 3rd, and 4th-floor bathrooms totaling 2.8 million dollars. This phase encountered additional challenges as it was originally supposed to occur in 2020 but was postponed due to the COVID-19 pandemic. This project completed the renovations by renovating the rest of the bathrooms in Brett Hall, completely converting all communal bathrooms to single-use private bathrooms.

Floor Plan Analysis

In addition to interviews, the floor plans of Brett Hall were analyzed. As a stable and unobtrusive form of data, documents play a prominent role in data collection and are especially helpful in verifying and augmenting evidence from other sources (Yin, 2018). Within this case, floor plan documentation is specifically helpful in quantifying and illustrating the physical renovations performed. Through residential life personnel, the floor plans from pre-renovations and post-renovations were obtained and compared to highlight the most important alterations that were made over the two phases. Specific attention is provided to the major modifications implemented within the first floor of the hall including communal spaces, such as the kitchen, bathrooms, lounge, laundry room, as well as individual rooms. For comparison purposes, a full

bathroom is considered one that has a sink, toilet, and shower.

Table 2: Summary of Basement Renovations to Provide Greater Accessibility

	Basement	
	Pre-Renovation (figure 2)	Post-Renovation (figure 3)
North Side Bathrooms	Communal Bathroom (006) <ul style="list-style-type: none"> ● 4 sinks ● 3 toilets ● 2 urinals ● 3 showers 	<ul style="list-style-type: none"> ● 3 single full bathrooms with showers ● 1 single bathroom with toilet and sink ● 1 sink in the hall between bathrooms
South Side Bathrooms	Communal Bathroom (031) <ul style="list-style-type: none"> ● 5 sinks ● 4 toilets ● 4 showers ● 1 bath 	<ul style="list-style-type: none"> ● 3 single full bathrooms with showers
Common Room		<ul style="list-style-type: none"> ● Fully accessible kitchen ● Stove and sinks that allow wheelchairs to roll under ● Variety of accessible table and lounge seating ● Armless chairs (to allow for wheelchair transfer) ● Large television ● Pool table ● Foosball table
Laundry Room		<ul style="list-style-type: none"> ● Lower dryer ● Low folding table and sink that allows wheelchairs to be rolled under




	BRETT HOUSE BASEMENT FLOOR PLAN Facilities Planning University of Massachusetts Amherst	Issue Date: 12/14/10 Revision Date: 5/26/15 Building No: 295	295-BT NOT TO SCALE
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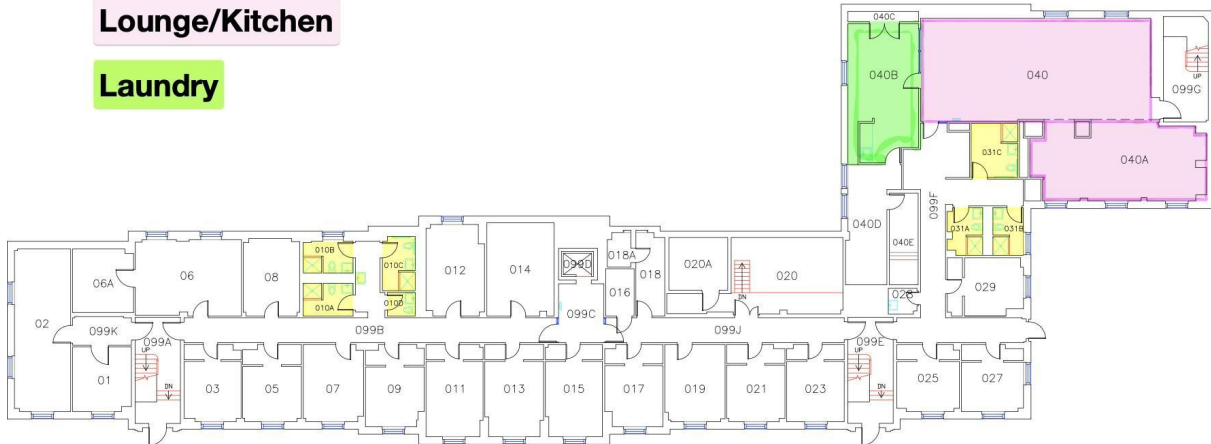
Figure 2: Basement Floor Plan Pre-Renovations

Basement Post Renovation

Bathrooms

Lounge/Kitchen

Laundry





	BRETT HOUSE BASEMENT FLOOR PLAN Campus Planning - Space Management		Issue Date: 12/14/10 Revision Date: 8/16/22 Building No: 295	295-BT NOT TO SCALE
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Figure 3: Basement Floor Plan Post-Renovations

Table 3: Summary of First Floor Renovations to Provide Greater Accessibility

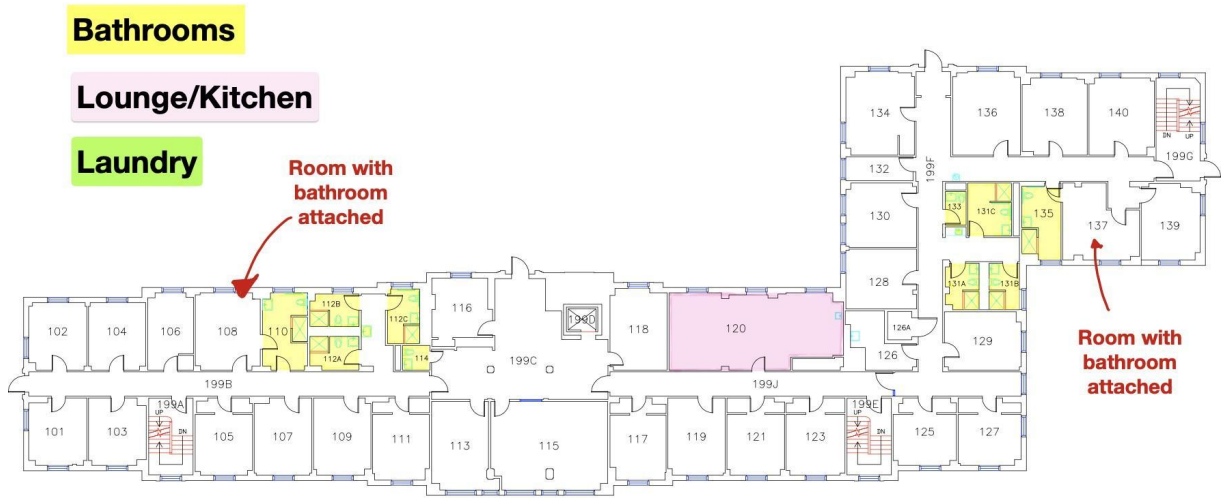
First Floor		
	Pre-Renovation (figure 4)	Post-Renovation (figure 5)
North Side Bathrooms	Communal Bathroom (110) <ul style="list-style-type: none"> ● 4 sinks ● 3 toilets ● 4 showers ● 1 bath ● Single bathroom with toilet and sink attached to the main corridor ● Single bathroom (114D) with sink, toilet, and bath 	<ul style="list-style-type: none"> ● 4 single full bathrooms with showers ● Note that bathroom 110 can be converted to a private bathroom for a student living in 108 or can be opened to the hallway side for communal use ● 1 sink in the hall between bathrooms ● 1 single bathroom (114) with sink and toilet remain the same location but switched location of the fixtures
South Side Bathrooms	Communal Bathroom (131) <ul style="list-style-type: none"> ● 5 sinks ● 2 toilets ● 3 showers ● Single bathroom (133) with 2 sinks and 1 toilet 	<ul style="list-style-type: none"> ● 4 single full bathrooms with showers ● Note that bathroom 135 can be converted to a private bathroom for a student living in 137 or can be opened to the hallway side for communal use ● 1 sink in the hall between bathrooms ● 1 single bathroom with sink and toilet
Common Room		<ul style="list-style-type: none"> ● Large open room ● Fully accessible kitchen ● Stove and sinks that allow wheelchairs to roll under ● Variety of accessible table and lounge seating ● Large television



	<p>BRETT HOUSE FIRST FLOOR PLAN Facilities Planning University of Massachusetts Amherst</p>	<p>Issue Date: 12/14/10 Revision Date: 08/12/16 Building No: 295</p>	<p>295-01 NOT TO SCALE</p>
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Figure 4: First Floor Floor Plan Pre-Renovations

First Floor Post Renovation



<p>University of Massachusetts Amherst</p>	<p>BRETT HOUSE FIRST FLOOR PLAN Campus Planning - Space Management</p>		<p>Issue Date: 12/14/10 Revision Date: 09/22/20 Building No: 295</p>	<p>295-01 NOT TO SCALE</p>
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Figure 5: First Floor Floor Plan Post Renovations

Table 4: Summary of Upper Floor Renovations to Provide Greater Accessibility

Upper Floors (2-4)		
	Pre-Renovation (figure 6)	Post-Renovation (figure 7)
North Side Bathrooms	Communal Bathroom (214) <ul style="list-style-type: none"> • 4 sinks • 4 toilets • 3 showers 	<ul style="list-style-type: none"> • 4 single full bathrooms with showers • 1 sink in the hall between bathrooms
South Side Bathrooms	Communal Bathroom (233) <ul style="list-style-type: none"> • 5 sinks • 4 toilets • 3 showers 	<ul style="list-style-type: none"> • 5 single full bathrooms with showers • 1 single bathroom with toilet and sink • 1 sink in the hall between bathrooms





	BRETT HOUSE SECOND FLOOR PLAN Facilities Planning University of Massachusetts Amherst	Issue Date: 12/14/10 Revision Date: 05/26/15 Building No: 295	295-02 NOT TO SCALE
			

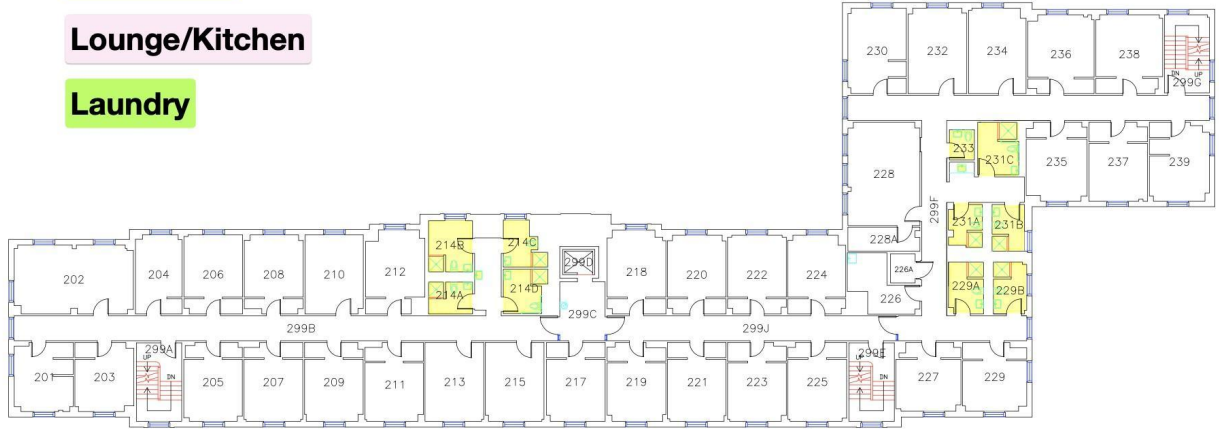
Figure 6: Second Floor Floor Plan Pre-Renovations

Second Floor Post Renovation

Bathrooms

Lounge/Kitchen

Laundry



University of Massachusetts Amherst	BRETT HOUSE SECOND FLOOR PLAN Campus Planning - Space Management		Issue Date: 12/14/10 Revision Date: 8/16/22 Building No: 295	295-02 NOT TO SCALE
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Figure 7: Second Floor Floor Plan Post Renovations

Photographic Documentation




The following table showcases key strategies employed over a series of two renovations designed to increase accessibility including spatial redesigns, access technologies, and accessibility safety equipment. Photographs were taken while walking through the Hall on two separate occasions: one walkthrough was conducted with Residential Life personnel and the other walkthrough was conducted with one of the interviewees.








Figure 8: Brett Hall from Campus Side

Table 5: Photographs of Specific Access Technologies and Designs Within Brett Hall

Accessible Element	Description	Photograph
<p>Automatic Door Openers</p>	<p>Brett has multiple locations with automatic door openers. These sensors detect a card located on an individual and automatically open doors without the need for pushing buttons.</p>	
<p>Large Automatic Door Buttons</p>	<p>Brett contains longer-style push buttons to open automatic doors that are easier to reach for individuals using mobility aids.</p>	
<p>Accessible Door</p>	<p>Brett has an alternative door that is located closer to campus and is accessed via ramps. This door provides easier access to the building for students using mobility aids.</p>	
<p>Lower Dryer</p>	<p>Brett has a dryer that is located on the lower level, making it accessible for individuals using mobility aids.</p> <p>This is accessible relative to traditional laundry rooms which have all the dryers located on the upper level.</p>	

Accessible Folding Table	The laundry room also has a built-in folding table that is located at a lower height and allows wheelchairs to roll under.	
Single Bathrooms	Every bathroom in Brett is a single-use accessible bathroom. Each full bathroom contains a toilet, sink, and accessible shower. Each bathroom also has a fully automatic door opener.	
Toilets with Multiple Grab Bars	Toilets are low and free of obstruction with easily accessible grab bars.	

Accessible Shower	<p>Showers in Brett contain a foldable shower chair that can be lifted and stored or put down to provide seating. The shower head is adjustable and can be locked in place at the desired height. There are additional grab bars around the edges of the shower. There is also no lip at the entrance of the shower.</p>	 A photograph of an accessible shower stall. The walls are covered in white square tiles. A shower head is mounted on a vertical pipe, and a grab bar is visible on the wall. A white shower curtain is partially visible on the left side.
Accessible Sinks	<p>The sinks in Brett do not have cabinets typically found below the basins, allowing wheelchair and mobility aid users to roll their wheels under the sink while using.</p>	 A photograph of a white, wall-mounted sink. The sink is mounted on a white tiled wall. A mirror is mounted above the sink. The floor is covered in small, square, light-colored tiles. A toilet is partially visible on the right side.
Accessible Stove-tops	<p>As with the sinks, the stove-tops in Brett allow for wheels to be rolled under.</p>	 A photograph of a black electric stove-top on a white countertop. The stove-top is mounted on a wall with blue vertical paneling. A stainless steel range hood is mounted above the stove-top. The floor is covered in light-colored, patterned tiles.

<p>Handicap Parking</p>	<p>Brett has nine handicap-accessible spaces located directly in front of the building.</p>	
<p>Variety of Seating</p>	<p>The lounges of Brett contain a variety of seating choices. This includes taller and shorter tables, couch seating with and without armrests, and booth-style seating.</p>	

Data Analysis

The data obtained from the interviews was analyzed via thematic analysis which entailed coding the data to identify themes by developing, analyzing, and interpreting patterns among the four interviews and supporting documents (Knott et al., 2022). An abductive approach was also used by combining deductive and inductive components to work recursively by going back and forth between data and the existing theoretical frameworks discussed in the review of the literature. This method was utilized due to it becoming increasingly recognized as a more realistic and desirable alternative to the traditional binary choice of inductive vs deductive (Knott et al., 2022). With these methods, the interview responses, floor plans, photographs, and Brett walkthrough notes were analyzed to assess student perspectives relative to the accessibility modifications.

Emerging Themes from Student Interviews

The interview with Jean MacKimmie, in addition to the floor plans and photographic walkthrough of Brett, provides a comprehensive case of the how, what, and why behind the Brett Hall renovation project. However, the interviews with the residents and residence director provide meaningful insight into the student experience living within the hall and the impact of these renovations on the everyday life of students.

The Impact of Bathroom Renovations

Throughout these two phases, multiple different renovations were implemented to accommodate a wide range of needs. The largest aspect of this project was the complete remodeling of the bathrooms from communal to private style. In the interview with Tabari, the Residence Director, he related that students, in general, like the private bathroom situation much better because they have the ability to use whichever bathroom they want. Having multiple private and accessible spaces, anyone can use the bathroom in any location in the building. Tabari's description of these private spaces as a positive contributor to the student experience was consistent with the experience of the two students interviewed.

Given that both students lived on the second floor of Brett in Spring 2022, they experienced the communal bathrooms pre-renovation. They described many challenges navigating the bathrooms including but not limited to having to leave mobility aids outside the bathroom, issues with people using the limited accessible stalls, and general inaccessibility for mobility and other accessibility impairments. One of the students expressed that, with the presence of many structural barriers, "it was very hard to get clean in addition to executive function and other disability stuff." In comparison with the communal-style bathrooms, both students report having positive experiences with the new design. They relayed that they now have minimal issues with people using the accessible stalls, accessibility signs are more prominent and easily seen, and the bathroom spaces are much easier to navigate while using

mobility devices. Additionally, one student emphasized how the single bathrooms are welcome beyond accessibility needs as they also all serve as gender-inclusive spaces, which is extremely important to them as a transgender individual. As bathrooms are one of the biggest day-to-day experiences for all students, these renovations appear to be among the most impactful changes for students of all abilities.

Lounge, Kitchen, and Door System Renovations

In addition to bathrooms, lounge spaces are another prominent space frequently used by students. Newly enlarged, and now an overall nicer space, Tabari finds the lounge spaces to be used more often post-renovation. One of the students interviewed cited the lounges as a nice place to hang out with friends, study, or have fun community events. These newly renovated spaces contain a variety of seating types (figure 9), large televisions, and accessible kitchens to provide students with lively living spaces. In both student interviews, the lounges repeatedly came up as a space that is central to the overall experience in Brett Hall.

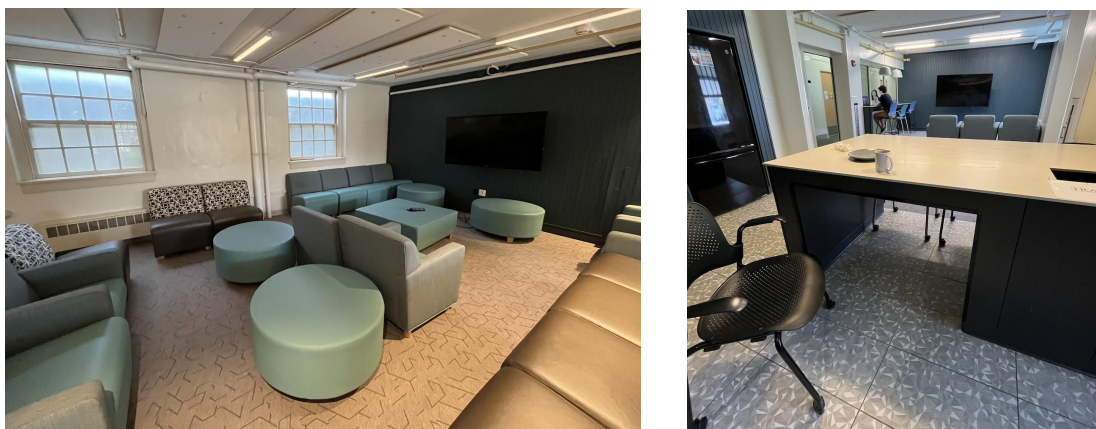


Figure 9: Potential Seating Options in Brett Hall Lounge Areas

Smaller-Scale Renovations

Although these larger-scale renovations provide a positive experience for the students in Brett Hall, it is also essential to recognize the importance of the smaller-scale renovations, especially when considering which elements may impact the student experience the most. Automatic door openers emerged as one of the biggest enhancements for both students interviewed. One student explained that the door openers “are immensely helpful and very important in my everyday life.” Without an accessible way to enter, many students would not be able to get into spaces like lounges and bathrooms, excluding students from using them. The automatic door systems within Brett Hall ensure that all students can utilize all spaces within the residence hall. Further, smaller changes such as having a laundry dryer located lower to the ground and kitchen sinks that wheels can roll under so they can be used by mobility aid users are essential in ensuring individuals can use basic life appliances and services. These smaller modifications may not be noticed by many but, to some, they can make all the difference in being able to comfortably and independently live on campus.

The Built Environment Outside Brett Hall

In addition to the renovations within the building, it is also necessary to consider the built environment outside the building and how it may or may not contribute to a fully accessible environment. Brett Hall is one of the few residential buildings that can offer a significant number of handicap-accessible spaces directly in front of the building, providing students who drive with accessible areas to safely get in and out of their vehicles. Additionally, for those coming from the inner campus, there is a door located on the lower level at the rear of the building that can be used by those with mobility aids to prevent having to go upstairs to the main entrance of the building.

Overall, post-renovation, there are many different types of modifications in Brett Hall, many of which address a range of mobility needs. One student explains that Brett is the dorm

where “you can do pretty much any daily living task in a wheelchair successfully .” These renovations exceed the minimum requirements provided by the ADA to provide students of all abilities the opportunity to live independent, successful lives on campus. According to the students, Brett is the only place where they can safely live on campus, emphasizing the importance of the wide range of accessible features Brett offers.

Creation of a Positive Environment

Beyond the physical utilization of access technologies and access-focused modifications, many repeat themes that emerged from the interviews surrounded the friendly, positive, and inclusive environment of Brett Hall. Tabari mentioned that one of his goals as a residence director is to create “a friendly and safe environment, where people would feel they can interact with each other.” According to the students, it appears the Brett Hall community has not only achieved that goal but arguably surpassed it. A discernible similarity among the student interviews was that they both mentioned the side of the hall they live on located on the first floor is dubbed the “friendship hallway.” Whether it’s in the hallways, lounges, or through a “Tetris of wheelchairs” in a dorm room, the students emphasized that the majority of residents are good friends that hang out together frequently.

Facilitation of a Supportive Culture

One student interviewed described this friendly environment as a “very supporting peer culture” where residents are happy to help each other out with a wide range of needs and tasks. Through assisting with personal care, giving advice, and helping with access needs, the residents of Brett are always willing to lend a helping hand. Additionally, the students emphasized their love for pairing up to do tasks together, whether it's helping to keep each other on task with schoolwork or assisting with executive functioning tasks. They also mentioned the creation of various group chats within the community to warn about potential hazards or important information about the building and greater campus accessibility. In his interview, one

student describes this relationship with his peers as one of the most important contributions to his experience in Brett, stating “My favorite emotional cultural thing about the space is definitely definitely the people. Yeah, we take care of each other.” Overall, the interviews conducted portray the general environment in Brett to be one that is supportive, collaborative, and sociable.

Impact on Academic Performance

When asked about academic performance, students cite Brett as a helpful academic space that helps them succeed. One student describes Brett as “a huge academic support space” that, in combination with other resources around campus, makes academic proficiency a greater possibility. Both students reported that Brett provides a space to engage socially and have a more balanced life while having access to a wider range of services to support student’s academic needs. Given its close geographical location to the center of campus, Brett is physically closer to classes and other academic spaces, supporting individuals so that they have an easier time getting to class daily. However, the benefits to academics extend far beyond location, as students discussed the presence of a whole apparatus of services and constructs around living in Brett and how the spaces in the hall are major contributors to it. Students indicated the presence of a disability cultural space within Brett provides them with a robust community of support. This support system provides ample resources within the Brett community to aid in student academic success.

In addition to academic benefits, the powerful support system within Brett also seems to contribute to the facilitation of independence and advocacy skills. When asked about students’ use of support structures, Tabari highlighted the high level of independence in terms of students managing their needs without the help of residential life personnel. With residents being responsible for managing their own accommodations, oftentimes there is a high level of coordination that goes on in the background to ensure all needs are met. Tabari describes that

through the development of multiple advocacy skills in combination with high levels of engagement in campus activities and academics, first-floor residents are individuals that tend to be “more adaptable to shaping the environment than your everyday student.” This staff-level perspective of the residents in Brett aligns with the student experiences discussed in the interviews, highlighting that members of the Brett community are active members that positively contribute to the overall campus community.

Community

The positive environment experienced within Brett appears to be largely due to the strong community formed by the residents. Given Brett Hall is labeled as the most accessible dorm space on the UMass Campus, the building has become a hub that is sought out by students with disabilities. According to the students, Brett is a significant contributor to the initial connection formation processes between students. Although they are grateful to be part of such a strong community, one of the students did voice their frustration with the process, stating that the community is partially a result of campus segregation of accessible spaces. Without labeling it a positive or negative thing, one of the students emphasized their frustration that the way they had met their friends was through being confined to specific accessible spaces rather than forming bonds naturally through “being a person of interest”.

Yet regardless of whether initial connections are made within the Hall or on the greater campus, individuals within the Brett community mention how they are quick to connect people to other groups and communities on campus including but not limited to the Disability Cultural Club, Access UMass, and Alliance Against Ableism. One student explains that whenever the community encounters new people using mobility aids or other accommodations, they “scoop them in”. Interviewees emphasized how the community has blossomed in recent years, illustrating that “we’re a little growing growth on the building of disability culture, stemming from the entirety of the building”.

Although students seem to be the driving force behind the generation of such a strong community in Brett, Tabari emphasizes the great work that RA's do to continuously engage residents with each other and other residential staff. Interestingly, Tabari mentions that he has observed that Brett typically has fewer student conduct issues and disturbances than other halls, likely due to the student population that resides in the building. With fewer student conduct concerns, he believes RAs are able to focus more energy on community building and other activities that may bring students together.

Diversity of the Student Population

When discussing the Brett community, students describe the hall as a very accepting space, as the group is composed of a variety of diverse racial, ethnic, religious, gender, and sexual identities. Given that it is the only building designated as fully accessible beyond minimal ADA compliance, Brett is known to attract a significant number of students with disabilities. According to Tabari, over the past few years, the number of students with disabilities residing in Brett has doubled. Although it's possible that renovations may have a role in this growth, it is also important to consider the increasing overall number of students with disabilities attending college as a potential contributing factor.

However, there are other factors that draw in a diverse assemblage of students. As multi-year housing, the dorm contains a range of sophomores, juniors, and seniors all living together in one space. Additionally, Brett is an alcohol-free environment and has a quiet floor in the hall that attracts individuals that are interested in that type of environment for a variety of reasons such as health concerns, social experience, or religious preferences. Furthermore, by serving as break housing, Brett attracts a significant number of international students, providing opportunities for a wide range of backgrounds. With these reasons in mind, Tabari describes the student population as far from homogenous in terms of people's backgrounds and experiences, stating that Brett is "probably the most mixed environment you can see on campus." Throughout

the interviews, it appears the diverse student population living within Brett provides residents with opportunities to have insightful interactions with people from various backgrounds and experiences, more so than in other campus spaces.

Given the robust and diverse community that can be found in Brett Hall, a critical question for this study is whether this community and the overall experience living in Brett contribute to their sense of belonging. Both students report feeling a sense of belonging within the residential community. When asked if Brett has contributed to feeling considered, one student enthusiastically responded Brett is where they belong and called Brett “home”.

Belonging in Other Campus Spaces

Although Brett appears to provide a relatively inclusive environment where individuals feel they belong, a common theme amongst both student interviews is the failure of this inclusivity to extend to the greater UMass campus. One student reported that “being in such a radically accessible space makes [them] hyper-aware of how [Brett] is like a bastion of safety.” Although both students expressed their gratitude to have a space like Brett where they feel supported and included, it seems to highlight the downfall of other campus spaces to meet the wide range of student needs.

When asked about their experiences within greater campus spaces, the students reported multiple instances of their needs not being met including, but not limited to, a lack of automatic door openers preventing them from accessing certain spaces, getting stuck in certain bathrooms, and numerous small spaces that are inaccessible by wheelchair. One student emphasized their disappointment stating, “It’s extremely frustrating for places on campus that are marked “accessible” to be truly inaccessible in every way”. In addition to physical limitations of the built environment, both students describe experiences of ableism in campus spaces, including receiving rude gestures or remarks by other students and a disregard for accessible spaces by other students in the form of using accessible bathrooms for invalid purposes and

stealing condiments from the accessible table at Frank.

Citing various situations in which other campus spaces have failed to meet their needs, both students highlight how the vast differences in accessibility and inclusion between Brett and other campus spaces appear to have a significant influence on their sense of belonging within each space. When asked about their sense of belonging, one student explained:

“So my belonging as a residential student, great, my belonging as a student overall, it just, it almost feels worse than if I was like, in an inaccessible living space, because then I could just dampen myself emotionally and cut myself off and say, like, this is just how the world is. But now that I see that this is something that they can and have done. It's so frustrating that they're giving us these, like, token sliver spaces, where we are so limited in our movement and our ability to take up space... It's hurtful.”

As an active participant in many different aspects of campus life and academics, one student reports having no doubts as to whether or not they belong here as a student. However, throughout their interview, they emphasized how these inaccessible environments and the people making decisions about these spaces subconsciously send the message that individuals with disabilities do not belong on campus. They follow by stating: “We belong at UMass. But if enough people don't believe it, and cover their ears, they can make us feel like we don't.” This highlights an important aspect of student belonging, arguing that although a radically accessible space like Brett serves as a positive contributor to one's sense of belonging, the presence of other spaces around campus that fail to meet the needs of all students may serve as a negative contributor.

Areas for Improvement and Future Renovations

As with any project, there is always room for improvement, and Brett is no exception. Amongst all the positive experiences described by students that concern the new renovations, there were a few areas that arose as potential areas for improvement. When utilizing the bathroom spaces, there are a few details that may negatively affect the student experience. Students report the hand driers in the bathrooms are very loud and can be heard from the dorm

rooms. Additionally, some of the bathrooms have troublesome locks that require a significant amount of upper body strength to open and lock the door, providing barriers to safely using certain rooms. Another concern for some students is the loud beeping that occurs when using automatic openers to open doors. One student reported some students may feel it decreases the anonymity in the space as the beeping can be heard by other residents.

When looking at the outside environment surrounding Brett, students report the presence of uneven surfaces that may create potential risks for those using mobility aids. Uneven dips on sidewalks allow the creation of puddles, which pose a threat to students by significantly reducing their ability to slow down and stop when using a wheelchair. Additionally, water has the potential to get into the electronics of power chair users or the backpacks of students that are carried on the back of chairs.

A common issue within the hall is the disruption of accessibility features by students who lack cultural competency or awareness. One student described instances in which the switch on automatic door openers was flipped off or held open. Additionally, they described that there have been times when adjustable shower heads were locked in inaccessible positions, preventing those with mobility aids from being able to properly access needed features. A potential solution to this specific issue may come in the form of educational resources for all students on how to be mindful when utilizing common spaces.

In general, the modifications in Brett are fairly advanced in terms of meeting the needs of students with mobility impairments. However, there may be room for improvement when it comes to considering the needs of neurodivergent individuals. This could include switching fluorescent lighting for softer and less harsh lighting or even using a variety of textiles for the furniture in the lounges and dorm rooms. The consideration of neurodivergent students emerged as an area of concern in the interview with Jean MacKimmie, as she mentioned the desire to pay more attention to the needs of neurodiverse students. In future renovation projects, MacKimmie hopes to expand the conversation of inclusive design to determine which

aspects of design from a lighting, sound, and stimulation standpoint can be altered to better support neurodiverse students. While there are no current plans to conduct more large-scale renovations like Brett on the UMass campus in the near future, MacKimmie would like to push the conversion of communal bathrooms into full-single-use accessible spaces in all of the existing residence halls.

Limitations

Despite measures put in place to maximize the trustworthiness of this case study, several limitations should be noted when interpreting findings and applying recommendations for practice. The first limitation derives from a limited study population. Due to the time constraints and limited participants that met the inclusion criteria of this project, fewer student interviews were conducted than originally planned. This is not atypical when working with vulnerable populations, as it is common to have difficulty recruiting participants. However, it should be noted that although two student interviews will not provide generalizable insights, the interviews instead offer a much more focused and nuanced understanding of the experience of these students living on campus with disabilities. And, because the two students had similar experiences that align with current literature, it can be suggested that these experiences may be shared with other students within Brett.

Another limitation is the limited information available on Brett Hall. A weakness of the documentation portion of the data is in the retrievability of supporting records (Yin, 2018). With limited published information on both the renovation project and the Hall itself, I was only able to obtain the floor plans before and after renovations. Being able to include additional documents such as architectural plans and meeting notes may be beneficial in shaping the design process portion of this case study and illustrating critical decision-making points for inclusive design.

Additionally, as with any interview methodology, there is the possibility of bias due to poorly articulated questions, response bias, and other inaccuracies due to poor recall (Yin,

2018). Students were asked to reflect on their past and current experiences living within Brett Hall, so it is possible that retrospective assessment of the student experience may be subject to bias.

Lastly, with any research, it is critical to consider the social and political context that influences the researcher's role and assumptions in knowledge production (Knott et al., 2022). Conducting this case study as an able-bodied individual, it is important to acknowledge the positionality of a white, cis-gendered, non-disabled individual as the researcher, particularly when conducting and analyzing the student interviews. My own experience navigating campus with a disability is limited, providing me with an outsider perspective that is not considered part of the disability community or the Brett residential community.

Discussion

The Brett Hall Renovation project serves as evidence that it is possible to renovate existing buildings to accommodate a wide range of students' needs, even with limited time, space, and financial resources. Through the incorporation of accessible features with student needs in mind, designers were able to create a space that is welcoming and inclusive for all students, providing a living space for students that were unable to live on campus prior to the renovations. Traditionally, the residential experience of individuals with disabilities is heavily dependent on the degree of accessibility, and not being able to take part in residential life affects the ability of these students to be immersed in the campus community and participate in on-campus social activities (Mamiseishvili & Koch, 2011; Wilke et al., 2019). Having Brett as a generally accessible and inclusive Hall provides students with opportunities to better engage within the campus community and foster the development of their sense of belonging (Belch, 2004). As an environment that promotes a greater sense of belonging and feelings of acceptance, Brett allows students with disabilities on the UMass Amherst Campus to pursue opportunities that lead to improved learning, growth, and development (Belch, 2004; Strange et

al., 2015).

Through the findings of this case, it is evident that Brett has become a hub for a diverse range of students that facilitates a friendly supportive environment and strong sense of community that seem to positively influence student's social and academic well-being. These findings build on the work of Strange et al., as students report that being a resident of such a radically inclusive space in addition to being members of such a rich community of students, greatly contributes to their sense of belonging within the hall and as a student (Strange et al., 2015).

Additionally, these findings align with the Social Justice Model of Disability which emphasizes how going beyond providing baseline accessible elements for individuals with disabilities to promote respect and full social acceptance for all helps to facilitate student success (Leake & Stodden, n.d.). Having Brett as a space that is welcoming, students report having high levels of academic and personal achievement, emphasizing the hall as an important space that is central to their experience on the UMass Amherst campus. As a microsystem that serves as one of the most direct influences on one's learning and development, the experiences one has living in Brett Hall have the potential to greatly influence experiences in other systems such as classrooms, athletics, and student clubs (Bronfenbrenner, 1993; Vaccaro & Kimball, 2019).

Student interviews repeatedly mentioned how living within Brett Hall is a major contributor to their social and academic circles as the hall connects them with a range of different individuals and communities. Given that students reported living in Brett positively contributes to their experience in college, these findings expand on current literature which argues student integration into both social and intellectual systems allows for better goal achievement and institutional commitment, resulting in positive effects on learning, development, and the likelihood of degree completion (Astin, 1993; Tinto & Pusser, 2006).

Overall, the Brett case study is an example of how creating an inclusive residential

experience can promote social and academic integration within a higher education institution. This integration helps to facilitate a sense of community and belonging, promoting overall better student outcomes.

Implications for Research and Practice

Although the investigation of this single case offers insights into the student experience with specific renovations, further research is needed to make broader claims about the overall student experience when implementing significant renovations to improve accessibility. This research would have been strengthened by the collection of additional student interviews to obtain a better understanding of the overall student population that currently resides in Brett Hall.

Additionally, this research would benefit from the inclusion of students who may have previously lived in a different residential hall on campus prior to living in Brett. Future research may look at the comparison of the student experience between Brett Hall and other residential buildings on campus or other residential buildings on different university campuses to better understand how specific modifications may influence the overall student experience. Lastly, it would be interesting to compare the findings of this research with the experiences of students from other universities. This may include comparing the experience of students living in the renovated Brett Hall to those living in other renovated or new buildings that have been designed for broad accessibility to determine if there is a difference in the overall student experience.

As for implementation into practice, this research may serve as a motivation for how to renovate existing spaces to be more accessible to a broader range of student abilities beyond ADA compliance. Although this project consisted of a wide range of renovations, implementing just some of these modifications could potentially make a major difference in the lives of students living with disabilities.

Conclusion

Brett Hall is a prime example of the types of renovations that can be done within the existing built environment in order to create spaces that are inclusive of a diverse population with varying needs. To be inclusive of all students, university planners must consider the wide range of potential needs when designing campus spaces, especially those in residential life. By designing residence halls and other spaces in a mindful way that facilitates the inclusion of a wide range of students, universities will be able to better support both the individual and the greater community while ensuring every student has equitable access to higher education.

Appendix

Interview Guide

General – Intro, Warm-up, Getting to Know You and Dorm History- past and now

So, to start off, tell me a little bit about your situation in school:

- What year are you? (or – it looks like you're a first-year/second-year.... Have you been at this school since your first year?)
- What are you studying?

Residence Hall History

- Where have you lived on campus? → Which year of studies did you live there?
 - If they lived somewhere else first > Can you tell me about that experience?
 - If they lived in Brett first > ask Brett questions

Brett Informational Questions

- Can you tell me a little bit about your accommodations and how you came to live in Brett as a way of making living on campus more accessible?
 - In what areas do you have difficulties?
- I am interested in understanding the usability of accessibility features in Brett. Have you used any accessibility features in Brett?
 - If yes, can you describe the ones that you have used?
 - If not, do the modifications in Brett Hall not meet your needs? Or do you not need them?
- Could you describe the interactions you have with people in your hall while living in Brett?

Experiential Questions: Sense of Belonging/Inclusion Questions

- Do you think that living in Brett has made you feel considered or like you belong here at UMass?
 - If yes, what aspects of Brett contribute most to this experience?
 - If not, what would make you feel more at home/comfortable/included/like you belong here in Brett/at UMass?
- Can you talk a little bit about how [the renovations/ the ways that the bathroom/ kitchen/ bedrooms/ hallways/devices] at Brett have contributed to your experience of community / academic life?
 - You said _____, can you tell me which aspects of living at Brett have been most important to you in terms of your **social life or sense of community**?
 - You said _____, can you tell me which aspects of living at Brett have been most important to you in terms of your **academic performance or academic life**?

Accessibility

- Could you describe some of the challenges you experience accessing campus spaces?
- Do you experience these challenges when accessing Brett Hall?
 - If yes, could you describe the similarities/challenges you experience?
 - If not, what's different about Brett Hall that allows you to have greater accessibility?
- If you lived in a different residence hall: How would you describe your living experience in _____Hall in comparison to living in Brett?

Conclusion question(s): Areas of Improvement

- Are the modifications in Brett meeting your needs?
 - If not, what specifically about the modifications not meeting your needs?
 - If yes, could you describe how well these modifications are meeting your needs?
- If you could change one thing about Brett Hall to best positively contribute to your experience at UMass, what would it be?

Is there anything else you'd like to discuss that we haven't spoken

about? Do you have any last questions for me?

2. Informed Consent Form

Consent Form for Participation in a Research Study University of Massachusetts Amherst

Researcher: Brooke LeBlanc, Department of Public Health and Health Sciences

Study Title: Student Experience in Brett Hall: A Case Study of Renovations to Facilitate Inclusion

1. WHAT IS THIS FORM?

This form is called a Consent Form. It will give you information about the study so you can make an informed decision about participation in this research.

2. WHO IS ELIGIBLE TO PARTICIPATE?

Students who have lived in Brett Hall for at least 1 semester and have self-identified accommodation needs are eligible to participate.

3. WHAT IS THE PURPOSE OF THIS STUDY?

The purpose of this study is to investigate how accessibility renovations using inclusive design impact the experience of students in the university residential life setting. This will be achieved through a case study of the student experience living in Brett Hall dormitory at the University of Massachusetts Amherst, which was recently renovated to accommodate students with a range of complex needs. Individual in-depth interviews will be conducted with UMass Students that previously or currently live in Brett Hall to investigate how accommodations influence the daily lives of disabled students and the meaning they attribute to these spaces. Comparisons will be made between interviewees' experiences of Brett Hall and other campus spaces. These findings will contribute to university planners' understanding of how to renovate existing residential facilities in order to be more universally accessible for all students. Creating spaces that are accessible to everyone is a critical step in understanding how the college experience can be maximized for all students, especially those living with disabilities.

4. WHERE WILL THE STUDY TAKE PLACE AND HOW LONG WILL IT LAST?

If you agree to participate in this study, you will meet once for an interview with the researcher. The meeting will take place either in person or via zoom depending on participant preference and will last approximately 45-60 minutes.

5. WHAT WILL I BE ASKED TO DO?

As part of the interview, you will be asked questions in an interview about your experiences living in Brett Hall with the new renovations. During the interview, we will make an audio recording, which we will use to make a word-for-word written version of the interview for research purposes. You may skip any question you feel uncomfortable answering. You may also stop an interview at any point. If the interviewee is willing, there may be follow-up emails to clarify information.

6. WHAT ARE MY BENEFITS OF BEING IN THIS STUDY?

While there may not be a direct and immediate benefit, we hope that the study will improve decision-making about the campus environment and disability accommodations.

7. WHAT ARE MY RISKS OF BEING IN THIS STUDY?

The risks for participating in this study are roughly comparable to those encountered in day-to-day life. While we strive for anonymity, a data breach connecting you to your answers is possible. To minimize this risk, we will take the steps described in the next section to protect your identity. If you are concerned about a question, you may also choose not to answer it or may choose to stop participating in the study altogether.

8. HOW WILL MY PERSONAL INFORMATION BE PROTECTED?

The following procedures will be used to protect the confidentiality of your study records: (1) we will assign all study participants a unique code and keep that code stored separately from all other records; (2) all study records will be stored in a secure location on a password-protected computer; (3) all audio recordings will be destroyed at the conclusion of the project; and (4) researchers will refer to participants only by pseudonyms and with care to anonymize identifiable information. Any computer hosting such files will also have password protection to prevent access by unauthorized users. Only the members of the research staff will have access to the passwords. At the end of this study, the researchers may publish their findings.

Information will be presented in summary format and you will not be identified in any publications or presentations.

9. WILL I RECEIVE ANY PAYMENT FOR TAKING PART IN THE STUDY?

Participants in this study will receive a \$10 gift card for participating in an interview.

10. WHAT IF I HAVE QUESTIONS?

We will be happy to answer any questions you have about this study. If you have further questions about this project or if you have a research-related problem, you may contact Brooke LeBlanc via email at bcleblanc@umass.edu. If you have any questions concerning your rights as a research subject, you may contact the University of Massachusetts Amherst Human Research Protection Office (HRPO) at (413) 545-3428 or humansubjects@ora.umass.edu.

11. CAN I STOP BEING IN THE STUDY?

You do not have to be in this study if you do not want to. If you agree to be in the study, but later change your mind, you may drop out at any time. There are no penalties or consequences of any kind if you decide that you do not want to participate. Should you inform us of your intention to withdraw from the study, we will no longer use any of the information that you shared with us.

12. SUBJECT STATEMENT OF VOLUNTARY CONSENT

At the start of the interview, the researcher will ask you if you have had a chance to read this consent form and will discuss this form, provide an opportunity to ask questions and ask if you agree to enter this study voluntarily.

If you consent, you agree to be audio-recorded during interviews for only those purposes described in this form. You are also agreeing that you had a chance to have the consent form explained to you in a language that you use and understand and that you had the opportunity to ask questions, to which you received satisfactory answers. You have the right to withdraw

from this study at any point without penalties or consequences of any kind. You will receive a copy of this form as a reminder of your rights as a participant.

References

- Astin, A. W. (1993). What matters in college? *Liberal Education*, 79(4), 4.
- Bauman, M., Davidson, D. L., Sachs, M. C., & Kotarski, T. (2013). Service, Comfort, or Emotional Support? The Evolution of Disability Law and Campus Housing. *Journal of College and University Student Housing*, 40(1), 142–157.
- Belch, H. A. (2004). Retention and Students with Disabilities. *Journal of College Student Retention: Research, Theory & Practice*, 6(1), 3–22.
<https://doi.org/10.2190/MC5A-DHRV-1GHM-N0CD>
- Bronfenbrenner, U. (1993). The ecology of cognitive development: Research models and fugitive findings. In *Development in context: Acting and thinking in specific environments* (pp. 3–44). Lawrence Erlbaum Associates, Inc.
- Bryan, A., & Myers, K. A. (2006). Students with disabilities: Doing what's right. *About Campus*, 11(4), 18–22. <https://doi.org/10.1002/abc.175>
- CDC. (2020, September 15). *Disability and Health Overview* | CDC. Centers for Disease Control and Prevention. <https://www.cdc.gov/ncbddd/disabilityandhealth/disability.html>
- Evans, N. J., Broido, E. M., Brown, K. R., Wilke, A. K., & Herriott, T. K. (2017). *Disability in Higher Education: A Social Justice Approach*. John Wiley & Sons, Incorporated.
<http://ebookcentral.proquest.com/lib/uma/detail.action?docID=4816152>
- Gerson, K., & Damaske, S. (2020). *The Science and Art of Interviewing*. Oxford University Press. <https://doi.org/10.1093/oso/9780199324286.001.0001>
- Hamilton, L., & Corbett-Whittier, C. (2012). *Using Case Study in Education Research Ed. 1* (Open access content. Open access content; copyrighted).
- Jaschik, S. (1993). Backed by 1990 law, people with disabilities press demands on colleges. *The Chronicle of Higher Education*, 39(22), A26.

- Kimball, E. W., Wells, R. S., Ostiguy, B. J., Manly, C. A., & Lauterbach, A. A. (2016). Students with Disabilities in Higher Education: A Review of the Literature and an Agenda for Future Research. In M. B. Paulsen (Ed.), *Higher Education: Handbook of Theory and Research* (pp. 91–156). Springer International Publishing.
https://doi.org/10.1007/978-3-319-26829-3_3
- Knott, E., Rao, A. H., Summers, K., & Teeger, C. (2022). Interviews in the social sciences. *Nature Reviews Methods Primers*, 2(1), Article 1.
<https://doi.org/10.1038/s43586-022-00150-6>
- Leake, D. W., & Stodden, R. A. (n.d.). *Higher Education and Disability: Past and Future of Underrepresented Populations*. 10.
- Malik, P. B., & Anton, P. W. (2013). Supporting Students with Severe Physical Disabilities: The Illinois Model. *Journal of College and University Student Housing*, 40(1), 172–185.
- Mamiseishvili, K., & Koch, L. C. (2011). First-to-Second-Year Persistence of Students With Disabilities in Postsecondary Institutions in the United States. *Rehabilitation Counseling Bulletin*, 54(2), 93–105. <https://doi.org/10.1177/0034355210382580>
- Miele, A. N., Hamrick, F. A., & Kelley, J. W. (2018). Different Is Not Deficient: Addressing Student Conduct Concerns among Residential College Students with Autism Spectrum Disorder. *Journal of College and University Student Housing*, 44(3), 30–45.
- Special Collections & University Archives*. (2021, September 3). UMass Amherst Libraries.
http://scua.library.umass.edu/youmass/doku.php?id=b:building_index
- Stake, R. E. (2013). Chapter 1: Single Cases. In *Multiple Case Study Analysis* (pp. 1–16). essay, The Guilford Press.
- Strange, C. C., Banning, J. H., & Strange, C. C. (2015). *Designing for Learning: Creating Campus Environments for Student Success*. Wiley.
<http://ebookcentral.proquest.com/lib/uma/detail.action?docID=2063946>

- Students with Disabilities*. (2018, May). National Center for Education Statistics; Institute of Education Sciences. <https://nces.ed.gov/fastfacts/display.asp?id=60>
- Tinto, V., & Pusser, B. (2006). *Moving From Theory to Action: Building a Model of Institutional Action for Student Success*. 57.
- Vaccaro, A., & Kimball, E. (2019). Navigating Disability in Campus Housing: An Ecological Analysis of Student Affairs Work. *Journal of Student Affairs Research and Practice*, 56(2), 168–180. <https://doi.org/10.1080/19496591.2018.1490307>
- Wilke, A. K., Evans, N. J., Varland, C. E., Brown, K. R., & Broido, E. M. (2019). Access and Integration: Perspectives of Disabled Students Living on Campus. *Journal of College and University Student Housing*, 46(1), 46–61.
- Yin, R. K. (2018). Chapter 4. Collecting Case Study Evidence: The Principles You Should Follow in Working With Six Sources of Evidence. In *Case study research and applications: Design and methods* (pp. 111–164). essay, SAGE.