Trans- and gender diverse perspectives on gender-inclusive student housing options, design features, and plans

CASEY FRANKLIN
University of Kansas

SAM CHURCH
University of Kansas

Trans- and gender diverse (TGD) people face increasing discrimination in architectural environments; in the past two years multiple states have enacted anti-LGBTQ laws that use sex or gender identity to restrict use of spaces like restrooms and student housing.[1] A national trans- survey found over half of respondents avoided using public restrooms entirely fearing confrontations, and that approximately a quarter of college students experienced verbal, physical, or sexual harassment.[2] Architects have a unique opportunity to alleviate this discrimination through design decisions that support and protect TGD users, especially on college campuses.

This mixed-methods survey investigated TGD student opinions of gender-inclusive student housing (GISH) design elements. Quantitative questions were used to gather demographics information, GISH experience satisfaction, and comfort level for design features. Emotional heatmaps and open-ended questions provided qualitative feedback explaining why floor plans designs and interior photos made TGD users uncomfortable.

TGD students reported dissatisfaction with current GISH options, and consistently reported feeling more comfortable in gender-inclusive spaces. While the majority (50%) of TGD students in this survey had access to GISH, the majority (66.6%) also reported being dissatisfied with GISH options. Researchers tested the hypothesis that TGD users would rate comfort differently than cis-gender (cis-) users in gender inclusive spaces. This was found to be true for multiple scenarios, but not all. Image and floor plan heatmap questions asked participants to select architectural features causing discomfort and provided in-depth explanations for why. Text-based data was analyzed and showed strong themes of security, privacy, and sense of belonging. Triangulated data was used to create a set of design guidelines which support these same principles. Both architects and universities can benefit from this in-depth exploration of how design decisions impact overall TGD student comfort in GISH.

INTRODUCTION

Historically architecture has segregated spaces by sex or gender; however, gender identities are rapidly changing. University student housing is especially impacted since a binary gender or sex-based segregation policy is common in housing assignment. This can divide buildings, floors, or zones into exclusively cis-gender (cis-) options of male or females who identify with their sex assigned at birth. These binary spatial divisions fail to accommodate the approximate 2.2% - 5.8% of students who identify as trans- or gender non-conforming.[3] Furthermore, they expose trans- and gender diverse (TGD) users to risks like verbal and physical harassment.[4] To embrace TGD users, universities must create inclusive spaces which accommodate their needs.

There are well over a hundred genders that people identify as. In Fall 22 over 1.22 million college applicants used the Common App for admissions with the option to select their gender and pronouns. In the Common App, 2.15% identified as trans or nonbinary and in the *2023 American College Health Association National College Health Assessment* (ACHA-NCHA III) 5.8% of students identified as Transgender/Gender Non-conforming.[5] Rates of self-identified TGD students have been steadily increasing since 2016.[6] In the Common App data, Beemyn found students identified over 130 different gender identities for themselves such as Agender, Trans Man, Trans Woman, Genderqueer, Genderfluid, Gender Nonconforming, Transgender, and more.[7] Accommodating TGD students is not just a passing architectural phase, it is essential to ensure that current and future generations of users have equitable environments which support their academic success and mental health.

The outcomes of trans- students being denied bathrooms and gender-appropriate housing are dire. They can experience harassment (physical, verbal, or sexual), mental health challenges, suicide risk, a lack of belonging, and lower academic performance. Approximately a quarter of trans- college students experienced verbal, physical, or sexual harassment.[8] In some cases, TGD students report going so far as to pre-plan safe routes to and from their classes to prevent being a target of harassment.[9] When compared to cis- respondents, TGD students report elevated rates of physical assault, verbal threats,

non-consensual sexual activities, stalking, partner violence, sexual coercion and more.[10] Concerningly self-reported suicide attempts in trans- people are almost nine times higher than that of the general U.S. population (40% versus 4.6%) and TGD students report attempting suicide at almost three times the rate of their peers.[11] Research shows a connection between denial of appropriate housing to higher suicide rates even after controlling for victimization.[12] Creating appropriate housing can alleviate some of the very serious physical and mental health risk TGD students face.

Mental health and safety risks can be exacerbated by a lack of sense of belonging that happens on college campuses in part due to lack of appropriate housing. Understandably, such experiences can negatively impact academic outcomes. TGD students across the United States report feeling unwelcome and less safe on campuses due to personal and institutional discrimination, especially compared to their cis- and gender-conforming counterparts.[13] Students, TGD or not, are much less likely to attend a school if they anticipate feeling unwelcome, and GISH access is one way TGD students judge whether they are welcome or not.[14] In the ACHA-NCHA III, 10.2% of TGD students reported that their academic performance was negatively impacted by roommate/housemate challenges in the past 12 months, while cis- men (5.3%) and cis- women (5.4%) reported lower impact rates.[15] Creating supportive environments for TGD users could help alleviate discrimination and possibly enhance academic achievement.

A lack of appropriate housing options can result in users living in environments where they are more likely to experience harassment. Most TGD students are concerned about finding housing that aligns with and respects their gender identity.[16] Sellman asserts that inadequate student housing types include gender-segregated or sex-segregated housing, no single-occupancy housing options, no trans- student housing, or housing environments where students experience harassment and violence.[17] Analyzing the National Transgender Discrimination Survey, Seelman found that about 21% of respondents were denied gender-appropriate campus housing due to being trans-, meaning either they did not have an option or were not offered one.[18] While appropriate TGD housing does not exist on all campuses, TGD students most definitely do.

When it comes to student housing, labeling spaces can solve and create problems. Labelled GISH provides a space for TGD users but might force them to "out" themselves in order to inhabit it by disclosing their gender identity involuntarily.[19] Beemyn notes that while many people on college campuses are out, many are also not.[20] Equitable access to bedrooms and bathrooms that align with their gender identity is essential so that TGD students aren't required to disclose their gender identity.[21] GISH policies or spaces that require students to publicly disclose their gender identity before they are ready can potentially cause discomfort and anxiety.[22] Such requirements adversely affect the mental

health and well-being of TGD students.[23] More input from TGD users is needed to create GISH that supports gender identity, avoids othering, and creates a sense of belonging. Knowing that TGD populations will increase from a reported 5.8%, universities face a serious design challenge in creating housing options and policies that include TGD users in ways that make them feel comfortable and safe.

TGD college students may be first exposed to a lack of appropriate housing when entering higher education, but this lack of housing is a trend that can continue much later in life. Beemyn points out that since most universities fail to provide gender-inclusive housing they fail to support the basic rights of trans- people.[24] Despite this, a reported 7% of trans- students live campus or university housing.[25] Unfortunately, in course of their lifetime, almost a third of trans- people report having experienced homeless at some point.[26] While providing appropriate GISH is one aspect of inclusion, it is arguably an extremely important one establishing a precedent of access in what may be the first time living on their own for many TGD users.

Universities with available GISH are increasing. In Fall 2023, 450 U.S. universities offered GISH, allowing students to choose shared living arrangements regardless of gender.[27] This represents an increase from 2021 when only 272 colleges provided such housing.[28] However, it's important to realize this is still only 11% of universities in the U.S., and some states like North Carolina restrict housing based on sex.[29] As GISH and policies come into alignment with TGD needs, architects must work to understand what those needs are and ways to navigate bureaucratic hurdles.

GISH options can include suite- or apartment-style setups, single bedroom arrangements with access to a community bathroom, and self-contained single units with private bedrooms and bathrooms. Seelman suggests that colleges should increase access to gender-inclusive housing by allowing students to choose single-occupancy rooms and offering the option to room with peers of any gender.[30] Some GISH options include gender-inclusive single-user restrooms, while very few offer gender-inclusive multiuser bathrooms for all students.[31] Large, multi-user single-sex restrooms often lack privacy and security, making TGD students uncomfortable using these spaces. Restrooms have been a focus of gender-inclusive spaces and are an area of potential conflict. In the *2015 U.S. National Transgender Survey*, half of trans- respondents avoided using public restrooms entirely due to fear of confrontations.[32] Restroom design is no less complicated for GISH and can heavily impact TGD user comfort.

In summary, GISH should be guided directly by input from TGD students. This is a user group who are at risk for harassment, violence, poor mental health impacts, and potentially lower academic outcomes. By creating GISH that meets TGD needs universities will help students feel more welcome, experience

Table 1. Demographic Data by Gender Identity

Likert-Type Item Prompt	cis- N(%)	TGD N(%)
Age		
<20 years old	27 (39.1%)	13 (59.1%)
21-25 years old	41 (59.4%)	5 (22.7%)
26-30 years old	1 (1.4%)	4 (18.2%)
Sex Assigned at Birth		
Male	11 (15.9%)	6 (27.3%)
Female	58 (84.1%)	15 (68.2%)
Prefer Not to Say	0 (0%)	0 (0%)
Gender-Identity		
Male	11 (15.2%)	3 (13.6%)
Female	58 (84.1%)	3 (13.6%)
Non-Binary	0 (0%)	15 (68.2%)
Other	0 (0%)	1 (4.5%)
Student Housing Type Lived In*		
Dormitory/Residence Hall	38 (55.1%)	12 (54.5%)
University-Sponsored Scholarship Hall	20 (29%)	5 (22.7%)
Greek Life	6 (8.7%)	0 (0%)
Other	9 (13%)	2 (9.1%)
Access to Housing Policies*		
Designated Gender-Inclusive Housing	3 (4.3%)	4 (18.2%)
All-Female by Legal Sex	33 (47.8%)	9 (40.9%)
All Male by Legal Sex	6 (8.7%)	1 (4.5%)
All Women by Self-Identification	19 (27.5%)	1 (4.5%)
All Men by Self-Identification	5 (7.2%)	0 (0%)
Co-Ed	10 (14.5%)	6 (27.3%)
Other	6 (8.7%)	2 (9.1%)

Notes: *Where participants could select all that apply

Figure 1. Demographic Data by Gender Identity. Image by Authors.

less housing and roommate issues, and possibly achieve more academically.

POSITIONALITY
Both researchers are supportive of trans- and queer rights, and hope that by expanding LBGTQIA+ research they can advocate for improved equality in architectural environments. We believe that the trans- and gender-diverse community are the experts of their own experience and hope to learn from them. Many participants in this research had personal connections with a researcher.

METHODOLOGY
This study used a concurrent mixed-methods survey to collect numerical, text, and heatmap data of TGD and cis- student opinions on GISH options and potential design features. A purposive sample was used, which is an effective method of studying specific cultural opinions from knowledgeable experts, in this case TGD students. For most analysis data was filtered to focus on TGD students. [33] Participants were recruited for three months during 2021 via posters in campus gender-inclusive restroom, email, and social media links with hashtags intended to target TGD students. All survey links were completely anonymous, no identifiable information was collected. The survey had three parts:

1. Demographic data collected through multiple choice questions. Variables included college-student status, sex assigned at birth, gender, gender-identity, age, housing options available, religion, and more.

2. Feedback on existing GISH satisfaction and comfort level with design options collected through Likert-type items, open ended text, and a rank-order question.

3. Feedback on GISH design photographs and plans collected through multiple-choice questions, emotional heatmap questions, and open-ended feedback.

These questions were intended to identify what TGD students preferred in GISH and why, as well as comfort levels for programmatic and design features. Participants could skip any question except the consent and college-student status questions.

PARTICIPANTS
Participation was open to current college students and those who had graduated college within the past year. After filtering for college status and completion, there were 91 responses with 69 participants identified as cis- and 22 as TGD (see figure 1). In the TGD population a majority (68.2%) identified as non-binary,
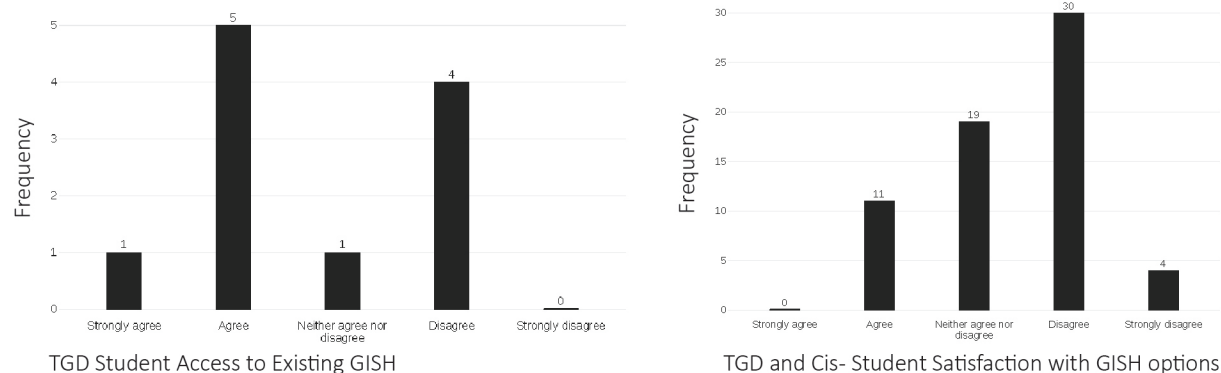
Figure 2. Participant reported availability and satisfaction with existing GISH. Image by authors.

most had lived in student housing with 18.2% having lived in designated GISH and 27.3% having access to Co-Ed housing.

ANALYSIS: SATISFACTION LEVELS WITH GISH

Ordinal scale data was used to assess satisfaction with existing GISH experiences. Participants were asked to respond to the following Likert-type items ranked from 1 (strongly agree) to 5 (strongly disagree):

- My school has gender-inclusive housing.

- My school has trans-inclusive housing.

- I am satisfied with the gender-inclusive housing options at my school.

- I am satisfied with the gender-inclusive policies at my school.

- My school has a support network in place for trans- and gender-nonconforming students.

- I feel safe on campus.

-I feel safe in my housing.

Both cis- and TGD participants mostly agreed (37.7%) that they had gender-inclusive housing at their school although TGD students had a bi-modal distribution between agreeing and disagreeing (see figure 2). Both cis- (31.8%) and TGD (54.5%) students disagreed or strongly disagreed that they were satisfied with their GISH. Of the 22 TGD respondents, 8 indicated that their student housing roommate assignment policy directly contradicted their gender identity, and in general high variation in responses showed a lack of consensus about what housing options were available.

ANALYSIS: COMFORT LEVELS WITH

GENDER-INCLUSIVE SPACES

Comfort level for GISH options was assessed with Likert-type items rated from 1 (very comfortable) to 5 (very uncomfortable). Researchers used item responses to test the hypothesis that TGD students would report different comfort levels for gender-inclusive spaces compared to cis- students. Specifically, TGD students will report higher comfort levels for gender-inclusive areas while cis- students will report higher comfort levels for gender-designated areas. Non-parametric analysis was used due to the small sample size (n<30) of TGD respondents. A Kruskal-Wallis test confirmed differences between group means with gender identity (cis- or TGD) being statistically significant (p = <.05) for all-gender multiuser restrooms, single-gender multiuser restrooms, all-gender multiuser shower rooms, single-gender multiuser shower rooms, single-gender shared bedrooms, all-gender shared bedrooms, single-gender floors, and all-gender floors (see figure 3). In each of these cases, TGD users were more comfortable than cis- users with all-gender spaces and were less comfortable than cis- users in single-gender spaces. Interestingly, areas where there was not a statistical difference between groups could be inclusive – but were not labeled as inclusive or single-gender (E.g., shared bedroom) except for GISH-designated single-user bathrooms on each floor.

Rank-order data for importance of privacy, community, peer engagement, and security were collected with TGD respondents mean ranks indicating the order from most to least important as: Security (M=3), Privacy (M=2.82), peer engagement (M=2.12), and community (M=2.06).

ANALYSIS: EXPLANATIONS OF GISH DESIGN FEATURE COMFORT

Respondents first rated their overall comfort level with architectural plans on a scale from 1-10 with 1 being the least and 10 being the most comfortable. Architectural plans consisted of the following scenarios:

-A double room (two occupants) with a multi-user single-gender restroom and a community level living space.

Table 2. Kruskal-Wallis Test by Likert-Type Items

| Likert-Type Item Prompt	Gender Label	Significance
GISH-designated, single-user bathrooms on each floor	Inclusive	.805
All-gender multiuser restrooms	Inclusive	<.001*
Single-gender multiuser restrooms	Single	<.001*
All-gender multiuser shower rooms (locking stalls)	Inclusive	.006*
Single-gender multiuser shower rooms (locking stalls)	Single	<.001*
Private bedroom (within an apartment/suite, NON-locking)	Unspecified	.884
Shared bedroom (within an apartment/suite, NON-locking)	Unspecified	.669
Private bedroom (within an apartment/suite, LOCKING)	Unspecified	.949
Shared bedroom (within an apartment/suite, LOCKING)	Unspecified	.392
Private shared bathroom (within an apartment/suite)	Unspecified	.797
Single-gender shared bedrooms	Single	.011*
All-gender shared bedrooms	Inclusive	<.001*
Single-gender floors	Single	<.001*
All-gender floors	Inclusive	.002*
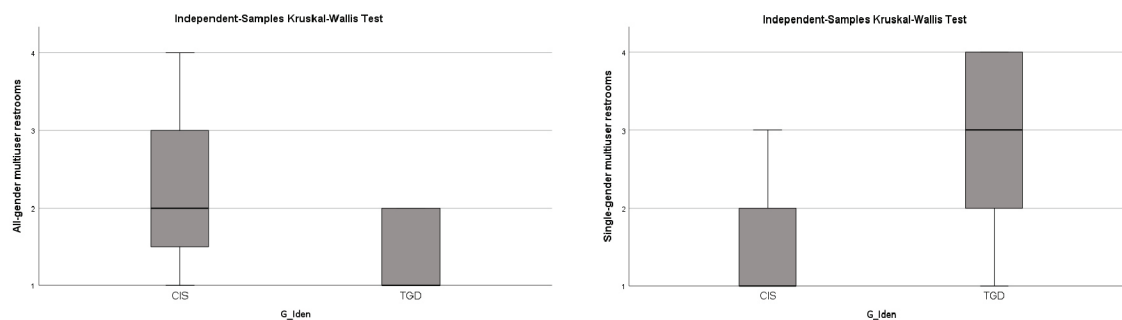
Figure 3. Hypothesis testing data table and graphs. Image by Authors.

-A hybrid style space with two double rooms, a multi-user single-gender restroom and an in-room living space.

-A suite with two double rooms, an in-suite individual restroom, and an in-suite living space (see figure 4).

For TGD respondents, the majority rated style C as the most comfortable (M=7.60), Style B as the next most (M=4.87), and Style A as the least comfortable (M=3.67). Emotional heatmaps were used to identify areas in plans and photograph which caused discomfort to TGD users, and users were asked to elaborate on why. Heatmaps (see figure 4) highlighted curtains in showers and bedrooms sinks, bathroom stall door gaps, mirrors, closets, beds, desks, doors, and storage areas. Explanations of why highlighted areas caused discomfort were analyzed via text-based analysis in NVIVO. After filtering for TGD users, 3,563 words were collected spread over responses to 17 different questions. Data was manually coded for a total of 151 codes and 3,408 references. This was done by searching for the most common words and phrases used by respondents and establishing meaningful coding based on response content. By cross-referenced to the number of instances that each code had three major themes were identified. Sense of belonging was the most discussed theme, followed by security and privacy (see figure 5). The following analysis explores each of those themes in the context of common areas, bedrooms, and bathrooms.

Common areas occurred both at suite level and floor level, defined here as those shared by two or more students such communal bathroom areas, sinks and vanities, living rooms, shared bedrooms, and shared closets and storage. The majority of TGD respondents (59%) indicated they do not feel safe on campus, and some (23%) do not feel safe in their housing. In common areas responses about security included, "Shared showers are a safety concern for me, especially only with a curtain and no locking door", and "this [shared] room would be uncomfortable to me as there is no protection or privacy when I am asleep." Privacy was also highly important in shared spaces as it required moments of visibility that TGD users were uncomfortable with. One participant explained, "… exiting the shower or using the sink means I'm visible to any other users." TGD participants showed a strong preference for gender-inclusive spaces. Most TGD respondents preferred no segregation by legal sex at all. An example that sums up this sentiment from one participant; "Please focus on making rooms and bathrooms all-inclusive and not segregated by apparent gender or by birth sex. That's the only way the majority of trans/non-binary/genderqueer students will feel safe and welcome here."
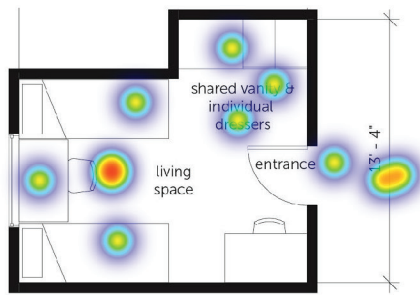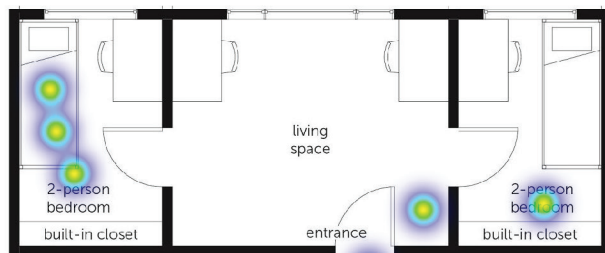
Option A.

"Assuming roommate is trans-friendly or is a fellow trans/non-binary/genderqueer person, the only time I would be uncomfortable here would be for changing, if I was unable to/did not want to go to the shared hall bathroom to change."

"The showers do not appear to have locks, which would make me uncomfortable."
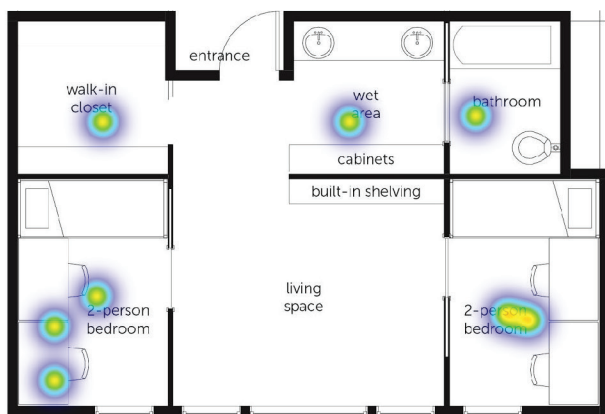

Option B.

"The lack of an in-suite bathroom is my biggest issue with Option B...Having a private restroom allows for greater ease of use and privacy. I wouldn't dare try to shave my legs in a common restroom. Everything else is more than fine."

"Curtain divider instead of a locked door for when I change"

Option C.

"Sharing a bedroom with another person would make it so they could see me without gender affirming clothes on"

"Hate using women's bathroom bc I'm not a woman but I'm afraid to be interrogated for using the mens which is why I chose the sink, where ppl would see me."

Figure 4. Floorplan and Image Heatmaps. Image by Authors.

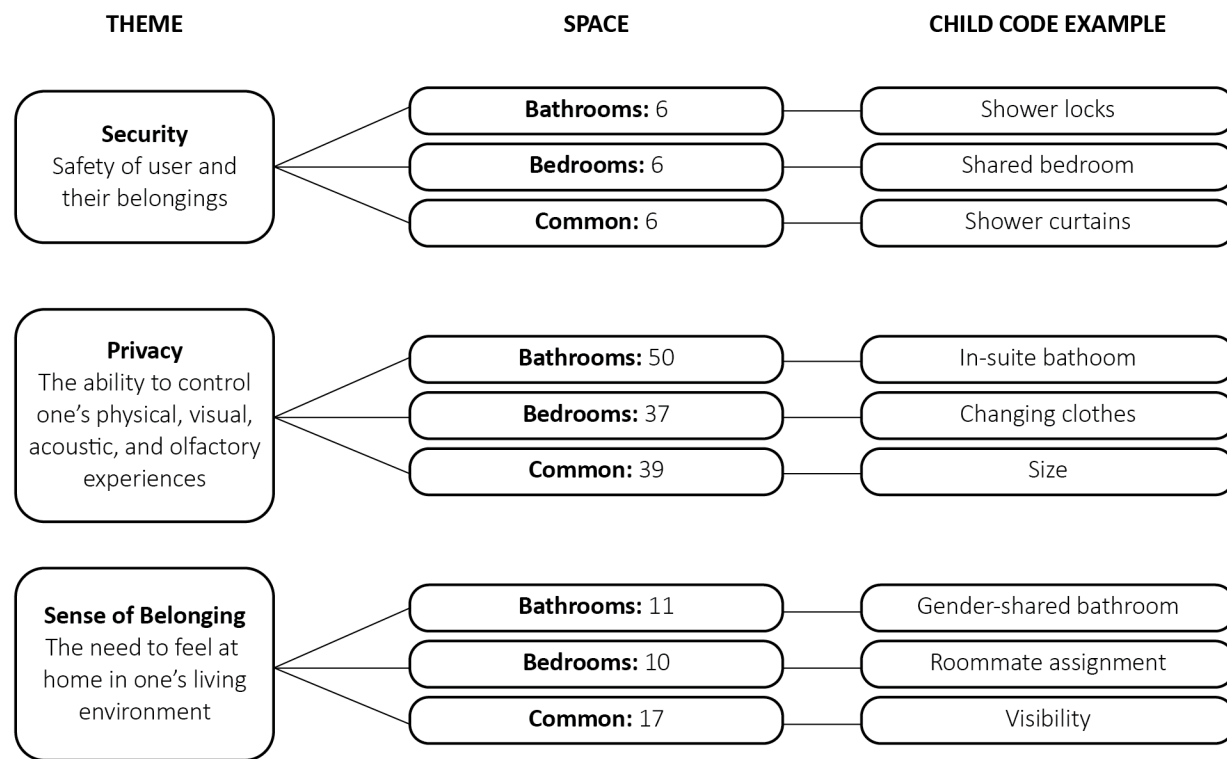| THEME	SPACE	CHILD CODE EXAMPLE
Security Safety of user and their belongings	**Bathrooms:** 6	Shower locks
	Bedrooms: 6	Shared bedroom
	Common: 6	Shower curtains
Privacy The ability to control one's physical, visual, acoustic, and olfactory experiences	**Bathrooms:** 50	In-suite bathroom
	Bedrooms: 37	Changing clothes
	Common: 39	Size
Sense of Belonging The need to feel at home in one's living environment	**Bathrooms:** 11	Gender-shared bathroom
	Bedrooms: 10	Roommate assignment
	Common: 17	Visibility

Figure 5. Qualitative Data Analysis. Image by Authors.

In bedrooms TGD users offered in-depth insight on how security, privacy, and sense of belonging impacted their comfort in each plan and photo. When it came to security there was a range of needs from being able to store personal items safely along with one's own safety. "I need to be able…to secure the privacy of my computer and other possessions," a participant noted. Another said, "an open walk-in closet means I have no privacy for storage." Such quotes about privacy yielded 37 references related to the topic of bedrooms. Participants had a strong preference for single-user bedrooms, noting visual privacy as the main reason. Being able to change privately in a bedroom was referenced 5 times, with participants noting discomfort about being seen while sleeping or changing especially if it meant being seen without gender-affirming clothes on. This type of clothing (i.e., binders used to flatten breasts, masculine, or feminine clothing) cannot always be worn while sleeping, users may want to store privately, and users were uncomfortable being seen without. A sense of belonging for TGD students in bedrooms related directly to them being inclusive rather than segregated by binary. A TGD participant requested, "Please focus on making rooms and bathrooms all-inclusive and not segregated by apparent gender or by birth sex. That's the only way the majority of trans/non-binary/genderqueer students will feel safe and welcome here." Another pleaded, ""Please

just don't segregate us by sex, that's all I ask!!" In summary, TGD participants do not want to have to expose themselves or their possessions to another person and viewed having to reside in a binary space as unwelcoming and potentially unsafe.

Bathrooms were also especially important for TGD security, privacy, and belonging with an emphasis being placed on the fact that gender-segregated bathrooms scare TGD users and do not fit their needs. TGD respondents want bathroom security; locks were cited 11 times with TGD respondents specifically requesting that all shower stalls and bathrooms stalls be equipped with locking doors whether multi-user or suite level. Binary bathrooms present security issues for TGD users, as a transwoman participant pointed out, "…a woman's restroom opens me up to verbal abuse while a men's restroom opens me up to physical danger." Points of discomfort included gaps in stall doors, a lack of visual privacy, and a general dislike of communal bathrooms. These were strongly enforced by areas selected on heatmaps. A strong preference for single-user or in-suite bathrooms was indicated with 28 references coded to private bathrooms. When it comes to belonging, TGD respondents indicated concern about binary bathrooms which forced them to use separate bathrooms due to their gender identity. Some quotes which elaborated on this included:

- "Unless there were at least three different gendered bathrooms, me and many other trans and/or non-binary students would likely feel as if they didn't belong in one or the other."
- "[The single gender restroom] implies a single gender floor or building and since I'm nonbinary I don't really belong there."
- "To have bathrooms separated by sex or which binary gender you most closely resemble would render this type of housing nearly useless..."
- "...the [gender-inclusive] bathrooms are open to people of all genders so I would be able to use them without feeling bad."

Beyond not having a gender appropriate restroom, TGD students may also be struggling with coming to terms with their gender or a lack of gender-affirming care, which means even visuals of themselves can be upsetting if they don't match their gender identity. As one participant noted they were uncomfortable with, "mirrors that are directly in front of the showers that create dysphoria."

Lastly, while this study investigated primarily housing design features, any GISH must be supported by appropriate University Policies and roommate assignment. One participant pointed out, "While physical arrangements do play a large part in comfort, so too do the people one lives with. I could live in a place with private bedrooms and an in-suite bathroom and still be extremely uncomfortable because I was paired with a roommate who is homophobic or transphobic." Another requested that any housing options include, "anti-discrimination and anti-harassment policies regarding sexuality and gender." These comments show students understand that policy needs to work hand in hand with architectural decisions.

FINDINGS

The findings in this study highlight the need to adapt architectural interiors to changing user needs. Through triangulation of data and an iterative research process, it became apparent that GISH needs are complex and cannot be solved by simply changing signage to indicate all-gender areas. TGD students elaborated clearly and consistently on what did and did not work for them in common areas, bedrooms, and bathrooms. They repeatedly expressed a desire to see these spaces as gender inclusive with design features that made them feel secure, protected, and comfortable. Using these findings, we have developed the following design guidelines that will help architects and interior designers improve GISH.

Prioritize Security:

- Install locks on all toilet and shower stalls to ensure the security and safety of all students.
- Enable TGD students to lock away sensitive belongings, even within shared storage spaces.
- Increase security in sleeping areas, consider barriers that grant access only to the user of that bed.

- Consider wording on signage. "Gender Inclusive" can be othering in the wrong context and could present a security risk.

Enhance Privacy in Shared Spaces:

- Increase privacy in shared bedrooms with design features such as visual barriers, increased acoustic divisions, and physical divisions when possible. These separations should be for sleeping areas, changing areas, bathrooms, and even storage spaces.
- Use zero-sight line doors for toilet and shower stalls.
- Multi-user showers should have stalls that include dry space for changing so that users don't have to expose themselves visually.

Foster a Sense of Belonging:

- Design with inclusivity from the outset including TGD input so that spaces can suit their needs.
- Support TGD mental health, especially for those who may be coming to terms with their gender or experience gender dysphoria. Use mirrors thoughtfully, avoid creating unavoidable exposure.
- Create spaces that are not strictly gender designated. This will support TGD students who do not fit within a single gender category or who are not ready to "out" themselves.
- Offer a variety of bedroom styles to accommodate the diverse needs and comfort levels of TGD students. Some may be comfortable with others who share their identity, some may need more privacy.
- Consider that trans-women, trans-men, nonbinary individuals, and binary gendered individuals may have different needs.
- Work with University Policies to ensure an alignment between architectural environments and roommate assignment policies.

DISCUSSION

This information should help provide insight into how to accommodate TGD users in student housing and restroom areas. A design challenge though, is accommodating differences in architectural preferences between cis- and TGD users. An opportunity exists in areas that both TGD and cis- users agree on, and often these were spaces which had the highest levels of privacy or had the most ambiguity when it came to spatial labeling. Some limitations of this study include non-random sampling and external validity; this study relied on a very specific user type mostly accessed through location-based means. Therefore, a larger study of GISH should be conducted to understand TGD sentiments at a national or international level. Future studies should continue to explore areas where TGD and cis- users agree on design features, look to gain TGD user insight on newer GISH designs using these design recommendations, and seek users from a wider range of geographic locations. Lastly, future studies should seek to explore differences between

multiple individual levels of gender identities. Continuing to gain insight about what makes TGD users comfortable will be valuable information for both architects and universities as this user group continues to grow.

ENDNOTES

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