Public Restrooms: A Site of Cultural Conflict

Edward Steinfeld[1], Adam Thibodeaux[1], Shira Gabriel Klaiman[1]

[1] University at Buffalo, SUNY

ABSTRACT: Public restrooms have become the major locus of conflict over trans*[1] rights. But this is only the latest manifestation of cultural conflicts related to restrooms. Historically, the restroom has been studied through four aligned, but ultimately separate, lenses: gender studies, public health, ergonomics, and proxemics. These four lenses are both interdependent and intersectional. Using the lenses as a point of departure, a review of existing literature paints a broad picture of how this conflict represents the gulf between embedded cultural values and the lived experience of a diverse population. We hypothesize that there is strong consensus on what people desire in toilet rooms, particularly regarding safety, hygiene, and privacy but these desires conflict with a cultural legacy based on hetero-normative values. This hypothesis was tested through a comparative analysis of existing research threads and preliminary findings from a survey that targets the intersections of gender identity, public health, ergonomics, and boundary regulation. This research leads to a holistic picture of the public restroom and situates the contemporary conflict as the result of polarized public opinion. Demographics and ideology play an important role in forming opinions which suggests that design needs to address local variations in the level of acceptance of inclusive restroom design practices. Design research can inform how inclusive restroom design can be implemented in different contexts. While the public restroom is the primary site of interest, this research improves our understanding about the larger issues of how our built environment might adapt in response to a more nuanced view of gender and how urban spatial practices might serve as catalysts for social change.

KEYWORDS: inclusive design, gender, restrooms, health
PAPER SESSION TRACK: Public Health.

INTRODUCTION

In recent years, public toilets have become the major spatial locus of conflict over trans* rights. But the trans* population is not the only one that has problems with toilet rooms. Human rights advocates recognize the importance of public toilets for dignity, health, and social participation (Klasing and Smaak 2017). In low-income countries, providing safe and secure public toilets to reduce the spread of disease is a major public health initiative (Centers for Disease Control, 2021). For girls and women, “toilet security” is a particularly important factor in access to education and social participation (O’Reilly, 2016). Advocates have identified the “potty parity” problem as evidence that even high-income societies have not physically adapted to full equality for women (Anthony and Durfresne 2007, Rauchesein 2019, Shure 2019). Although many countries may have turned the corner on access for people with disabilities, it remains a major issue in the developing world. Even in high income countries, there are still some people with severe disabilities and needs for assistance whose toileting needs are not covered by existing practices (Serlin 2010).

Why is it so difficult to ensure equality of access to public toilets, find pleasant facilities, and implement design practices that support safety, good health, and function? Public toilets have been around for over 2000 years! Over a decade ago, Molotch (2010) observed that there is an inherent practical and emotional conflict between the intimate acts of personal hygiene that take place in these facilities and their public nature. Barcan (2010) delved into the role that waste plays in our emotional response. Toilets put people into direct contact with waste, or dirt, which is an “offense against order.” This aligns with Kristeva’s interpretation of abjection - an emotional response to situations that trigger unsettling feelings by disturbing order (Kristeva 1982). Essentially, as an architectural element, public toilet rooms *embody* abjection. They are always places of charged emotional content because they upset our notions of psychological and social order. Encounters with trans* individuals, even if only imagined, heighten abjection by adding a confrontation with otherness. Recent empirical research identified “disgust” as a common emotional response to the idea of sharing toilet rooms with trans* individuals (Taylor et al. 2018). A qualitative study collected testimony from 100 trans* individuals that graphically illustrates how this group becomes the object of abjection by many cisgender and heteronormative individuals, including public safety personnel who are ostensibly tasked with protecting everyone who is law abiding (Cavanaugh 2010).

Studying this ubiquitous space type can help to identify new spatial practices might benefit many groups of people. It can also identify how the conflicting emotions of using toilet rooms can be ameliorated for all patrons of public toilets. Elevating the toilet room from a place of unease to a place of comfort, opportunity, growth, and discovery – a true “rest room” - could radically change this ubiquitous architectural element from one we try to avoid to one that we value. The topic is particularly timely, not only due to the emergence of toilet rooms as a battleground for trans* access, but also

because the recent impact of the COVID 19 pandemic uncovered major shortcomings of the contemporary toilet room paradigm for public health.

It is noteworthy that the public discourse about trans* access has neglected the role of design in supporting social change (Sanders et al. ND). In comparison, the disability rights movement recognized the importance of changing design practices, especially in toilet rooms. Yet, the possibility of changing these practices has not been promoted by policy makers, although there are many facilities where innovative designs have been implemented. This demonstrates the persistence of the binary model of gender which underlies the current policy and design approaches to public restrooms. Even those policymakers seeking to protect the trans* population seem to have difficulty rethinking this model.

Advocates of trans* access, together with allies from the profession of architecture, have proposed many well-reasoned design strategies to overcome opposition (Sanders et al. ND, Neumiller 2020, Bryan 2018). Adoption of these strategies could benefit the broader population as well as many underrepresented groups. Eliminating the gender-based territorial distinctions would even benefit cisgender women by truly creating “potty parity,” improving privacy and increasing security through better surveillance of shared areas. Thus, adoption of an inclusive model can be a catalyst for reconceptualizing the toilet room from the ground up. The need for this is apparent since there are many things to dislike about contemporary restroom design from a public health perspective apart the trans* inclusion issue (Neumiller 2020, Sanders et al. ND, Cavanaugh 2010).

No research has yet been completed to verify whether proposals for design solutions would resolve the conflicts about trans* inclusion. Such information would be very helpful to support policy development, increase adoption of the inclusive model by code officials and building owners, and influence public opinion. In particular, it is important to uncover what design solutions might be most appropriate in different social contexts since attitudes are likely to vary with different groups of building inhabitants.

1.0 LITERATURE REVIEW

Several theoretical perspectives offer insights into how the design of toilet rooms might influence acceptance of trans* inclusion. Lofland (1973) conceptualized the city as a “world of strangers.” She argued that the large scale of contemporary life requires the use of “categorical knowing” to set expectations and predict outcomes of encounters with others. Categorical knowing relies on easily perceivable cues to evaluate the stranger, like cues used to identify gender. Incongruence between expectations of gender performance and the presentation of trans* individuals seem to be at the root of abjection (Cavanaugh 2010). Goffman (1967) described the dynamics of how social encounters play out in public and the importance of cultural context. Rituals for relationships between people based on gender are deeply engrained in cultures. Interaction rituals include boundary regulation behavior to maintain appropriate social distances (Hall 1969, Altman 1975). In crowded environments such as toilet rooms, humans use compensatory behaviors to avoid serious conflict. These behaviors typically reduce the amount of information communicated, repress the automatic flight response, or warn others that they are too close. The physical environment of toilet rooms can support or inhibit boundary regulation through the amount of space provided, security features and the number of fixtures provided. Spatial syntax (Hillier and Hanson 1984) also structures interactions by shaping information flows and paths of travel through space. For example, two entries provide options for escaping a toilet room if an occupant threatens violence or starts to be abusive. And visual and acoustic access to the common spaces of a toilet room from a public area can deter violence and abuse by making individuals in the space more socially accountable.

Existing research on trans* access to public toilets demonstrates the need for intervention from a mental health perspective (Hardacker et al. 2019, Caba 2020). Qualitative research has documented the lived experiences of trans* individuals and how they cope with binary-model public toilet rooms (Mathers 2017, Hardacker et al. 2019, Cavanaugh 2010). Lack of access to safe public toilets is associated with behaviors (e.g. postponing voiding, limiting hydration) that cause physical health conditions (e.g. UTIs) and increased prevalence of mental health issues like chronic anxiety and fear about voiding and negative self-perceptions. There has been very little research on boundary regulation related to the issue of trans* inclusion. A study by Uzell and Horne (2006) found that gender plays a more important role in determining interpersonal distance than sex or sexual orientation. People who score high on a scale of masculinity maintain larger interpersonal distances from each other than those who score high on femininity and in between. Genetic sex and sexual orientation did not have nearly as strong a relationship with social distance.

There is some existing research on design features of inclusive bathrooms. Chaney and Sanchez (2018) found that gender inclusive signs on bathrooms signaled safety for women and minorities because they represented fairness and a more positive gender and racial climate. A recent survey of trans* and cisgender university students demonstrated that cisgender respondents preferred single user restrooms by a huge majority while trans* respondents split their preferences almost equally between single user restrooms and all gender multi-user restrooms (Caba, 2020). Cavanaugh’s qualitative research with a trans* population (2010) uncovered a vast number of design issues that make the experience of using binary model toilet rooms fraught with anxiety and discomfort. These issues are multisensory in nature (visual, acoustic, olfactory and tactile) and are moderated by multiple design features that influence the perception of privacy, security, avoidance behavior, and interpersonal interaction. An unpublished post-occupancy study found that “all-gender” multi-user restrooms in public schools that provided partial visibility from public corridors

for easy supervision and full height partitions in toilet compartments were perceived to increase security (Neumiller 2020). This suggests that good design can not only address the argument that all-gender restrooms in schools reduce security for girls but also increase security for all users, especially those who are vulnerable to abuse and bullying.

The existing research has been limited to a few design features, used small samples of participants, and did not include a comparison of design alternatives. For example, Cavanaugh (2010) studied 100 individuals, but they were all drawn from the trans* population. Cheney and Sanchez (2018) recruited a large and diverse sample but focused on a very limited topic. Uzell and Horne (2006) conducted a laboratory study with a contrived experience unrelated to toilet rooms. There is significant evidence that the trans* population is not the only group impacted by the contemporary public toilet model (Sanders et al. ND). Women suffer from disparity in waiting times (Shure, 2019) and there are many people with disabilities whose needs are not met by minimum accessibility regulations (Serlin 2010). Many cisgender individuals have anxiety about urination, menstruation, constipation, self-catherization or emptying colostomy bags (Caba 2020). Sanitation remains a major hygiene problem, especially for women. A systematic review of urination behavior by women discovered that, in almost every study, the majority of respondents reported that they avoid urination in public toilet rooms by postponing voiding until they can return home; poor sanitation was the primary reason (Wu et al. 2019). Water is used for anal hygiene by half the world's population but only paper is available in the standard North American toilet compartments. Water and paper each have advantages and disadvantages for hygiene and from a sustainability perspective (Garg et al. 2016). In North America, individuals who prefer the use of water may feel considerable social pressure to hide the ad hoc methods they use to accommodate their needs (Akbar 2014). It is likely that there are a lot more people using water for anal hygiene than is readily apparent. And sanitary wipes are becoming more popular as a third alternative (Garg et al. 2016).

Even contemporary fixture design has limitations from a health perspective. It has long been known that squat toilets are healthier than the upright seating posture that is a universal practice in European and American cultures (Kira 1976). Urination in public settings is particularly difficult for many individuals. Squatting/sitting to urinate is a healthier alternative for cisgender women and trans* women than standing (Stevens 2020). Sitting/squatting also helps to improve "urodynamics" for cisgender men with lower urinary tract symptoms from enlarged prostates (de Jong 2014) but current fixture design optimizes standing for men. On the other hand, heightened concern for sanitation during the COVID 19 pandemic significantly increased interest in standing to urinate among cisgender women (Stevens 2020). Standing to urinate can also benefit trans* men but currently, the design of urinals lacks the privacy needed to prevent anxiety over the fear of victimization.

The existing research highlights the general importance of improving sanitation and increasing options for toileting, urination, and self-care in public toilet rooms. It also demonstrates the importance of increasing privacy to reduce the stigma of practices that are not acceptable to the dominant culture. Our recent experience with the pandemic provides an opportunity to compare opinions about spatial practices related to trans* access with those related to public health. New spatial practices implemented during the pandemic in public toilet rooms have included installing floor markings as cues for social distancing, adding and increasing the size of partitions at urinals, reducing occupancy loads to avoid crowding, increasing space between compartments by closing off half the compartments, improving hand washing facilities, providing dispensers with sanitizer, and providing public health information to reinforce compliance with public health guidelines. Thus, the population has become much more aware of how the public toilet environment supports health through regulation of social interactions.

All the health issues noted above are also related to trans* access. For example, eliminating gender segregation would alleviate potty disparity while affirming trans* equality; provision of private compartments for urination would reduce anxiety for both cisgender men with urination anxiety as well as trans* men; it would also enable women to stand to pee without embarrassment. Improving privacy through full height compartment partitions and doors would reduce disease transmission while also reducing social anxiety related to gender and practices that deviate from cultural norms. Providing options for fixture design could address preferences for hygiene as well as providing options for different gender identities and anatomies. Thus, exploring preferences for these features could uncover consensus on how to improve toilet room design for both inclusion and health. By understanding the reasons behind preferences could also clarify reasons for opposition (e.g. transphobia, misunderstandings, misinformation, religious beliefs) which, in turn, could help to identify important strategies for public policy, education and even litigation.

2.0 RESEARCH METHODS

This study is part of a broader research initiative on inclusive restroom design. The overall research initiative includes surveys, qualitative interviews, and documentation of best practices. We plan to continue collecting data from many different populations and locations. Primary goals of the research are to identify strategies for inclusive restroom design that can gain wide acceptance by diverse segments of the U.S. population and learn how the introduction of innovative restroom design might respond to different social contexts. The results will inform policy makers, advocates, designers, design educators, product manufacturers, and facility managers on best practice approaches to trans* inclusion and health for all users. The initial phase reported here is a survey of opinions toward inclusive restroom designs in a university student population. In this paper, we focus on one research question: *Do features that improve gender inclusion and health have widespread appeal?* Our hypothesis is that they do.

The survey research was conducted through an online survey using Survey Monkey. The protocol was approved by the University at Buffalo (UB) Institutional Review Board. The questionnaire utilizes a Likert style response format with 7 points for all opinion questions although the ratings differed, depending on the design feature studied. Ratings addressed acceptability of restroom designs including the conventional binary model of men's and women's rooms. A section on self-reported demographics and ideology concluded the questionnaire. The rating questions included illustrations of designs in plan form and brief text descriptions. Drawing conventions, like door swings, partition walls, fixtures, etc. were explained to aid interpretation by non-designers. The questionnaire was pretested and revised as needed to ensure that the wording and illustrations were understandable. Pretesting demonstrated that the entire survey took about 20 minutes to complete.

The first wave of the survey was launched with undergraduate students taking introductory psychology courses with a requirement to participate in research. Students could select which research they wanted to participate in from a list of available studies. A maximum of 300 students were allowed to take this survey, to ensure that the other surveys would have enough respondents. Figure 1 shows the restroom designs that were presented to the students. The differences for trans* inclusion and health, as informed by the literature review, are summarized in Table 1. Respondents were informed that all the rooms would have full height partitions and doors. Restrooms A, B and C were rated twice by the respondents. The first time, the instructions were: *Rate the **acceptability** of each layout below **if they were to be used by men and women**. The second time, the instructions were Rate the **acceptability** of each layout below **if they were to be used by men, women, transgender and gender non-conforming individuals**.* These two questions allowed us to assess whether specific mention of trans* inclusion would affect the ratings.

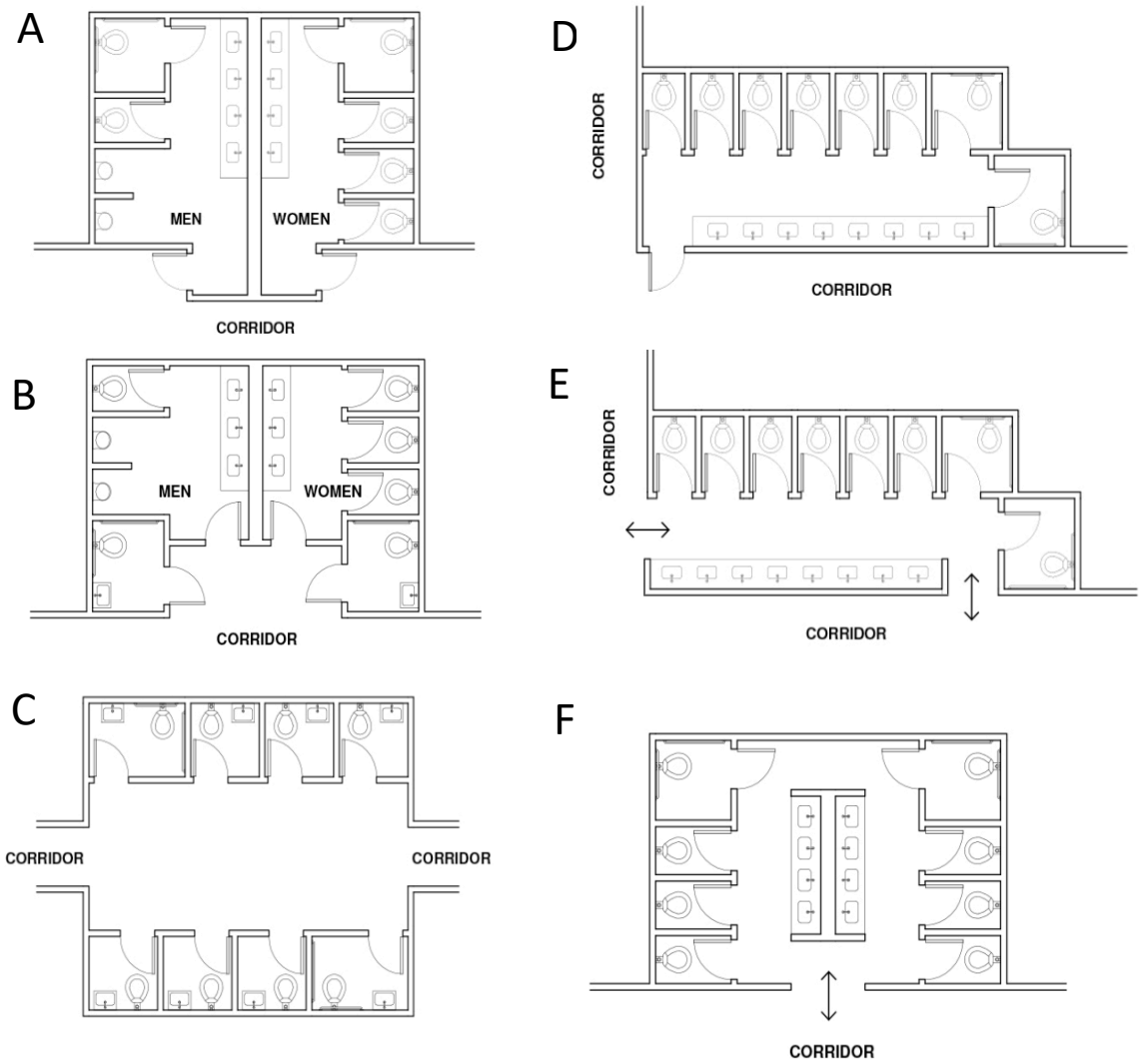

Figure 1: Restroom plans used in the survey

3.0 RESULTS

Three hundred (300) students completed the survey. About 97% if the sample were between 18 and 24 years old. 56% of the sample identified as women, 43% as men, and 2.7% as trans* of one form or another. Less than 1% either did not answer or answered "other". About 81% of the sample identified as heterosexual; 2% as gay men; less than 1% as lesbian; and more than 10% as bi-sexual. About 5% either did not answer or answered "Other." About 73% of the respondents had no health conditions. Health conditions reported included urinary related problems (5%), problems with defecation including bowel diseases (less than 1%), and menstrual issues (8 %). About 18% reported anxiety using public restrooms for any reason. The most prominent functional limitation reported (24%) was "mental health conditions" such as anxiety and depression.

Table 1. Differences in Restroom Designs

Plans	Gender Inclusion	Health
A	+ Affirmation of identified gender for binary model + Perceived security for cis women[1] - Potential for misgendering, violence and abuse against trans* users - Limited social distancing between cisgender and trans* users[2]	- Long waiting times for women when crowded - Mixed gender couples cannot aid each other - No sink in accessible stalls for hygiene and medical procedures - Exposed urinals create performance anxiety - Limited space for social distancing
B	+ Options to use gender identified room or single user room + Reduces potential for misgendering, violence and abuse of trans* users + Retains perceived security for cis women[1] + Reduces encounters through syntax[2]	+ Reduces waiting times for women + Sink in accessible stalls for hygiene and medical procedures - Exposed urinals create performance anxiety - Limited social distancing for disease transmission
C	+ Reduces potential for violence and abuse of trans* users[3] + Retains perceived security for cis women[1] + Greatly increases social distancing between users of all genders[2]	+ Eliminates bathroom access inequalities for women but men will encounter longer waiting times when crowded + Allows mixed gender couples to help each other + Sinks in all compartments for hygiene and medical procedures + Lack of exposure of sinks reduces peer pressure to wash + Lack of urinals reduce performance anxiety - Lack of urinals creates sanitation issues
D	+ Affirmation of multiple gender identities - Reduces perceived security for women[1] - Increases potential for violence and abuse of trans* users[3] - Limited social distancing between cisgender and trans* users[2] - Single entrance and door could be exploited by violent people to entrap victims	+ Eliminates bathroom access inequalities for women + Allows mixed gender couples to help each other + Lack of open urinals reduces performance anxiety for men - Men will encounter longer waiting times when crowded - No sinks in compartments for hygiene and medical procedures - Lack of urinals creates sanitation issues
E	+ Two entries and lack of doors increases security[3] - Limited social distancing between cisgender and trans* users[2] - Lack of gendered territories reduces perceived security for women[1] - Two entrances and lack of doors reduces privacy	+ Eliminates bathroom access inequalities for women + Allows mixed gender couples to help each other + Lack of open urinals reduces performance anxiety for men - Men will encounter longer waiting times when crowded - No sinks in compartments for hygiene and medical procedures - Lack of urinals creates sanitation issues
F	+ Reduces perceived crowding + Reduces victimization of trans* users[3] + Retains perceived security for cis women[1] + Expanded social distancing between users of all genders[2] - Reduces privacy in shared space	+ Eliminates bathroom access inequalities for women + Allows mixed gender couples to help each other + Lack of open urinals reduces performance anxiety for men + Sinks in compartments support better hygiene and medical procedures - Men will encounter longer waiting times when crowded - Lack of urinals creates sanitation issues

[1] Territorial control based on gender is perceived to be a deterrent to assault to some cisgender women but there is no reliable evidence to support that belief.

[2] Some research indicates that mixed gender pairs feel more comfortable with greater social distance and that people prefer larger social distances in encounters with masculine appearing individuals.

[3] Increased exposure of shared space to public areas can increase social accountability.

About 33% of the respondents identified as Democrats, 11% as Republicans and 34% as Independent or Unaffiliated. 21% either preferred not to answer or listed "Other." 43% reported that they identified as Christian, 19% as atheist or agnostic. About 13% reported that they were Muslim, Buddhist, Hindu, Jewish or Pagan. About 25% did not answer the question on religion or selected "Other". About 25% agreed that there is a biological reason why people are transgender and about 31% were ambivalent about it; 24% disagreed.

We ran two Within Participants Analysis of Variance (ANOVA) to examine ratings of the bathroom layouts. The first had two factors: the bathroom layouts (A, B, and C) and whether trans* users were mentioned in the directions. The effect for layout was significant $F(2, 293) = 27.81; p<.001$. The completely mixed gender solution (layout C) was rated least acceptable. In addition, the interaction was significant $F(2, 293) = 12.98; p<.001$. When trans* users were explicitly mentioned, respondents were less positive about layout A but both more positive and more ambivalent about layout C. In other words, thinking about trans* users led participants to increase their preference for mixed gender bathrooms and decrease their preference for single gender bathrooms. The second ANOVA looked at preferences for layouts D, E, and F and also found significant differences in their evaluation $F(2, 296) = 15.60; p<.001$. Of these three, participants rated F the most acceptable. Ratings of options D and E did not significantly differ from one another. Table 2 displays the ratings for the six restroom designs in a condensed form as percentages and frequencies.

Table 2. Ratings of Restroom Designs

	Unacceptable		Neither		Acceptable		
Design	%	n	%	n	%	n	N
A[1]	**6%**	17	**13.76%**	41	**80.54%**	240	298
B[1]	**11%**	34	**17.06%**	51	**71.57%**	214	299
C[1]	**29%**	87	**17.33%**	52	**53.67%**	161	300
A[2]	**11%**	34	**16.05%**	48	**72.58%**	217	299
B[2]	**9%**	26	**19.73%**	59	**71.57%**	214	299
C[2]	**23%**	69	**21.00%**	63	**56.00%**	168	300
D	**21%**	64	**25.17%**	75	**53.36%**	159	298
E	**24%**	73	**20.33%**	61	**55.33%**	166	300
F	**17%**	50	**19.00%**	57	**64.33%**	193	300

Note: Subscript refer to wording differences in the two sets of items: 1 – did not mention trans* users, 2- mentioned trans* users

4.0 DISCUSSION

Although the sample was composed almost entirely of young adults, a significant minority reported health related problems with urination and defecation, issues usually associated with older groups. The sample was heavily heterosexual and cisgender. Although there were significant differences in ratings with the conventional binary model receiving the highest ratings, it is noteworthy that a majority of the respondents rated *all* the designs as "acceptable". The explicit mention of trans* users slightly increased acceptance of the most "inclusive" solution, C, while also slightly increasing ambivalence. These results only partially confirm our hypothesis. There is some ambiguity in the results. The preference for the conventional model could reflect a general tolerance of trans* inclusion as much as it does opposition to inclusion. We collected open ended comments to all parts of the questionnaire and only one female respondent stated an opposition to sharing space with men. This younger sample might also not appreciate the health and security advantages of some of the designs, notably B and C, as identified in Table 1. It is noteworthy that design E is close to the model proposed by Sanders et al. and used by the St. Paul school district, but for this population was not viewed as positively as other designs. This may reflect a desire for more privacy among young adult population.

The relatively low ratings for layout C are surprising given that Caba (2020) found cisgender students overwhelmingly preferred single user restrooms. However, Caba did not show respondents plans or describe the features of the rooms as we did in this study. Caba also forced a choice between gender segregated multi-user restrooms, all gender multi-user restrooms, and single user restrooms, whereas we asked respondents to rate each separately. About 20% of Caba's population identified as gender minorities. Thus, Caba was able to compare the choices of the two groups. Due to the small numbers of respondents identifying as trans*, we were not able to make that comparison. Caba did not disclose the three universities from which her sample was recruited but she noted that the campuses may have a more politically and socially progressive population that most universities. It is also possible that students at UB have less experience with all-gender restrooms than the population from which Caba and Cavanaugh recruited.

The absence of urinals in C, D, E and F may have contributed to their relatively lower acceptance ratings. Cisgender men may view this as an inconvenience and women (including transgender women) may perceive sanitation as an issue when sharing with people who urinate standing up. The relatively high ratings of plans B and F, in comparison with C, D and E, suggests that privacy and spatial syntax play an important role in acceptability. Both B and F reduce exposure to the public corridor, and both reduce the number of people one is likely to contact during a visit. Verification is needed but Plan B could be a good solution where restrictive laws are in place limiting trans* access and requiring separate men's and women's rooms. But where building codes require all single gender toilet rooms to be accessible, additional accessible compartments would be needed in the designated men's and women's rooms. Plan F could be a good solution where laws provide more flexibility.

CONCLUSION

The literature review identified the emotional conflict inherent in using public restrooms, the negative health impact of conventional design, the many groups that could benefit from an inclusive approach, and the myriad of design issues that need to be addressed to achieve it. Inclusive design should address physical and mental health issues, sanitation, security, convenience, and cultural differences in addition to gender inclusion. Gender inclusion is not an issue solely of concern to the trans* population. Equity for women is still an important design goal (Shure 2019). The conventional gender-segregated and policed restroom can be understood as a reflection of a culture that supports a rigid idea of gender identity, neglects the realities of diverse needs, and adheres to a euro-centric approach to elimination practices (Kogan 2016, Cavanaugh, 2010, Sanders et al. ND, Shure 2019). Cultural change is increasing demand for more inclusive approaches.

The study suggests that innovative inclusive restrooms are acceptable to most undergraduate students. It also suggests that some solutions are more acceptable than others. But none of the "inclusive" designs reached the level of acceptance as the binary model did. Clearly the study has limitations due to the population studied and the limited features depicted in the designs. In future analysis, we will delve deeper into the relationships between gender, health, ideology, and ratings using the expanded data set. We are also preparing to launch more research cycles to reach the LGBTQ+ population and more age-diverse populations, both within and outside the university setting. Further, an interview study will help us understand how different groups interpret the designs. It will allow us to explore how the presence or absence of urinals, different degrees of privacy, and alterations of spatial syntax influence preferences.

Unfortunately, in many parts of North America today, attempts to depart from the conventional binary model of restroom design are very likely to be politicized and provoke acrimony from those who view the effort to provide trans* access is an indicator of cultural degeneration, an attack on deeply held religious beliefs, or at worst, part of a conspiracy to convert cisgender people to a trans* "lifestyle." Trans* access, however, is a public health issue that intersects with problems faced by other populations and should be presented as such. Building owners and designers who seek to provide better access should engage their constituencies in a conversation about the broad limitations of conventional restroom design and, when presenting design strategies, focus on the benefits of new models for other groups as well as the trans* population, especially those important for the female half of the population and minority religious and ethnic groups. This may be a better approach to address resistance than a purely human rights argument.

Supporters of trans* access to restrooms have focused on changing laws to require all-gender access. Although important, laws in themselves do not address the whole problem. A transgender woman or gender non-conforming person could still experience violence and abuse in a conventional men's or women's room even if the law allows them to choose which one to use. In fact, it could inculcate a false sense of security and incite even more violence in some locales. Further, launching such initiatives, without attention to design, can cause backlash leading to support for laws designed to force trans* people to use restrooms that align with their birth sex. Such laws, of course, will not eliminate gender dysphoria and likely leads to misgendering trans* and cisgender people alike. Inclusive design can reduce conflict by making use of restrooms more comfortable and stress free for all users. Over time, it might also reduce transphobia by increasing awareness about gender diversity and reducing reliance on categorical knowing based on visible gender markers.

A simple strategy for improving trans* access, is re-signing single user restrooms to be "all-gender." This is a good initial first step because it provides options for both the trans* population and cisgender people who desire more privacy in using restrooms, but it can be perceived as a form of segregation and imparts a stigma if it is the only option for trans* users, especially if such restrooms are located inconveniently. Further, such initiatives do not address the quality of the restroom itself, neglecting all the other issues identified above. Several design firms and building owners have started initiatives to go further. We have identified some examples of inclusive multi-user restrooms that we intend to study intensively using qualitative methods to see how they are working over the next year. We welcome information on any other examples by readers. Clearly another arena for changing practices is in architectural education. Two of the co-authors teach design studios and seminar classes in which we are incorporating both research and design activities focused on inclusive restroom design. Our students find this topic interesting and relevant. They address it with creativity and enthusiasm. The focus on restrooms provides a manageable opportunity for students to learn principles of inclusive design that can also be applied to other aspects of architectural design.

We believe that designs that provide benefits for a broad population and address the unconscious conflict inherent in doing private things in public, will help to overcome resistance. The design professions play important role in cultural change. Designers can imagine alternatives and have the professional authority to persuade clients and the public to

adopt new ideas. But, other than styling, few have paid much attention to the restroom. The opportunity is here to start designing restrooms that can demonstrate how design helps a diverse population live better together. Public restrooms are key spaces that make our communities more equitable. No one can live without them and our cities would literally and figuratively be a mess if we don't do it right.

REFERENCES

Akbar, J. . A Muslim's Guide to Anal Hygiene." *Vice*, 12-11-2014.

Altman, Irwin. 1975. *The Environment and Social Behavior.* Monterey CA: Brooks Cole.

Anthony, K. H. & , and M. Dufresne. 2007. "Potty Parity in Perspective: Gender and Family Issues in Planning and Designing Public Restrooms." *Journal of planning literature* 21, no. 3: 267-94.

Barcan, Ruth. 2010. "Dirty Spaces." In *Toilet*, edited by Molotch H and Norén L, 25-42. New York: New York University Press.

Bryan, N. 2018. "A Restroom for Everyone," *Research&Insight. Gensler*.

Caba, A. 2020. "Associations between Campus Restroom Use and Mental Health among Gender Minority and Cisgender Students " M.P.H., Yale University.

Cavanagh, Sheila L. 2010. *Queering Bathrooms : Gender, Sexuality, and the Hygienic Imagination / Sheila L. Cavanagh.* Toronto ;: University of Toronto Press.

Chaney, K. E. & Sanchez, D. T. 2018. "Gender-Inclusive Bathrooms Signal Fairness across Identity Dimensions.". *Social Psychological & Personality Science* 9, no. 2: 245-53.

de Jong, Y., Pinckaers, J. H. F. M., ten Brinck, R. M., Lycklama à Nijeholt, A. A. B., & Dekkers, O. M. 2014. "Urinating Standing Versus Sitting: Position Is of Influence in Men with Prostate Enlargement. A Systematic Review and Meta-Analysis. ." *PLoS ONE* 9, no. 7: 1-9.

Garg, P. & Singh, P. 2016. "Postdefecation Cleansing Methods: Tissue Paper or Water? An Analytical Review. ." *Diseases of the Rectrum* 59, no. 7: 696-99.

Goffman, E. 1969. *Interaction Ritual.* Garden City NY: Anchor Books.

Hall, E. T. 1969. *The Hidden Dimension.* Garden City, NY: Anchor Books.

Hardacker CT, Baccellieri A, Mueller ER, Brubaker L, Hutchins G, Zhang JLY, Hebert-Beirne J. 2019. "Bladder Health Experiences, Perceptions and Knowledge of Sexual and Gender Minorities." *International Journal of Environmental Research and Public Health* 16, no. 17.

Hillier, B., and J. Hanson. 1984. *The Social Logic of Space.* New York, NY: Cambridge University Press, 1984.

Kira, A. *The Bathroom.* New York: Viking Press.

Klasing, A. & Smaak, and A. 2017. "Sanitation as a Global Right." Human Rights Watch. Accessed 6-29-21. https://www.cdc.gov/healthywater/global/index.html

Kogan, T. 2016. "How Did Public Bathrooms Get to Be Separated by Sex in the First Place? ." The Conversation. Accessed 6-29-21. https://theconversation.com/how-did-public-bathrooms-get-to-be-separated-by-sex-in-the-first-place-59575.

Kristeva, J. 1982. *Powers of Horror.* New York: Columbia University Press.

Lofland, L. H. 1973. *A World of Strangers: Order and Action in Urban Public Space.* New York: Basic Books.

Mathers, L.A. B. 2017. "Bathrooms, Boundaries, and Emotional Burdens: Cisgendering Interactions through the Interpretation of Transgender Experience." *Symbolic Interaction* 40, no. 3: 295-316.

Molotch, H. 2010. "Introduction: Learning from the Loo." In *Toilet*, edited by H. & Norén Molotch, L. New York: New York University Press.

Neumueller, H. 2020. *Inclusive Restroom Design Guide.* Minneapolis: Cunningham Group.

O'Reilly, K. 2016. "From Toilet Insecurity to Toilet Security: Creating Safe Sanitation for Women and Girls." *Water* 3: 19-24.

Rauchesein, N. 2019. "The Real Reason Women's Bathroom Lines Are So Long." YouTube. Accessed 6-29-21 https://www.youtube.com/watch?v=GBJeZzA6f6s.

Sanders, J., Stryker, S. and Kogan, T. ND. "Stalled!", Accessed 6-29-21. https://www.stalled.online/

Serlin, D. 2010. "Pissing without Pity: Disability, Gender and the Public Toilet." In *Toilet*, edited by Molotch H and Norén L. New York: New York University Presss.

Shure, N. 2019. "The Politics of Going to the Bathroom." *The Nation*, 5-23-19.

Stevens, J. 2020. "The She-We Generation: How 2020 Has Changed Urination." *The Guardian*, 9-3-20.

Taylor, J., Lewis, D., & Haider-Markel, D. 2018. *The Remarkable Rise of Transgender Rights.* Ann Arbor: University of Michigan Press. doi:10.3998/mpub.9448956.

Uzell, D. & Horne, N. 2006. "The Influence of Biological Sex, Sexuality and Gender Role on Interpersonal Distance." *Journal of Social Psychology* 16, no. 20: 579-97.

Wu, Chen, Kaikai Xue, and Mary H. Palmer. 2019. "Toileting Behaviors Related to Urination in Women: A Scoping Review." *International journal of environmental research and public health* 16, no. 20: 4000..

ENDNOTES

[1] Trans* is a relatively new term used to encompass a wide range of gender identities including transgender, intersex, gender non-conforming, gender fluid, and others.