A Feel For The Space: Engagement With The Built Environment Of Treatment Spaces Among Individuals In Recovery

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A Feel for the Space:
Engagement with the built environment of treatment spaces among individuals in recovery

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May 2020
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ABSTRACT

Background
Treatment spaces for substance use disorders (SUD) are diverse with respect to treatment modality and population served. However, there is a lack of literature describing the design of treatment spaces and treatment engagement. This project aims to identify how the built environment of SUD treatment spaces play a role in treatment acceptability, retention, and outcomes.

Methods
We conducted 15 semi-structured interviews with individuals in outpatient SUD treatment in southern Connecticut. These interviews explored individuals’ experience with the built environment of treatment spaces and facilities, including architectural and design-related features (e.g., functionality, spatial arrangement), and how space influences adherence to treatment.

Results
Two themes emerged from analyses identifying two types of space: 1) Engaged spaces include staff engagement with the built environment which creates “lived-in spaces” consisting of plants, artwork, and personal artifacts, and patient engagement with spaces experienced as warm and inviting. Engaged spaces increase individuals’ interest in treatment, thus increasing connectedness. 2) Disengaged spaces are experienced as sterile and unwelcoming. Aspects of disengaged spaces include plain décor, design elements of institutionalized settings, and the presence of common recovery messages. Disengaged spaces distract from therapeutic experience resulting in feelings of disconnectedness.

Conclusion
Architectural elements and design of treatment spaces can promote commitment to and interest in recovery. Participants describe greater willingness and desire to engage with treatment in spaces they feel comfortable. Further work is necessary to understand how participants experience the built environment of substance use treatment spaces and identify design elements of these spaces that facilitate recovery from SUD.
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INTRODUCTION

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), more than 20 million adults aged 18 or older in the United States had a past year substance use disorder (SUD) in 2017.23 These disorders span demographic and socioeconomic lines throughout our country. 16.3 million adults in the United States suffer from an alcohol use disorder, and alcohol disproportionately accounts for a majority of SUDs in the United States with 74% of these disorders.23 The burden of SUDs is immense, both to individuals and consequently to health care systems. Substance use disorders increase risk of financial instability, involvement with the criminal justice system, comorbid mental health issues, and other poor health outcomes.45 Further, substance misuse and SUDs collectively account for more than $740 billion lost annually in workplace productivity, healthcare expenses, and crime-related costs.33 Substance use treatment is vital to address these disorders. Approximately 4 million individuals with an active SUD received substance use treatment in 2017 – about 19% of those in need.23 Providing high-quality, efficacious treatment for individuals with a substance use disorder is greatly needed to reduce the associated health burden.

Treatment spaces vary greatly with respect to population served, treatment modality provided, and amenities with a treatment space. However, there is a dearth of literature describing the design of substance use treatment spaces, and how the built environment of treatment spaces may impact treatment engagement. After a review of more than 200 peer-reviewed articles, 5 articles were identified that describe the importance of architecture or design-related elements of substance use treatment facilities and treatment engagement. Only 1 article was published in the previous two decades – The Importance of Place: A Role for the Built Environment in the Etiology and Treatment of Problematic Substance Use – an architectural master’s thesis published in 2019.12 Further, previous research is limited by the population of interest – 2 articles focus on adolescents’ satisfaction with the design of SUD treatment facilities.35,36

Research has shown that the built environment can differentially influence health behaviors and outcomes. The built environment refers to manmade aspects of the environment, including structures, features, or facilities, and the organization of these aspects.7,13 Architectural layout and interior design are aspects of the built environment.8,9 The Pruitt-Igoe housing project is a notorious example that highlighted the association between architectural design and behavior.5,49 Initially hailed as a public housing success after its completion in 1955 in St. Louis, the design of the housing project would result in its demise. The design and architectural layout of the complex increased community segregation, and residents were often attacked in the tight, poorly lit interiors.49 Further, the design of neighborhoods and buildings can manifest as a physical risk environment, thereby increasing the risk of hazardous alcohol consumption, substance use, and overdose.6,29,46 Research has explored the association between the built environment of psychiatric settings or hospitals and behavior. Seating patterns, rearranging furniture, altering environmental color, and the presence of artwork are shown to mediate treatment outcomes for mental health disorders.3,10,17,30 The space provided an individual
(personal space) similarly comprises an element of the built environment. For example, crowding in psychiatric care facilities increases aggressive behavior.34

The purpose of this study is to better understand experience and engagement of individuals substance use treatment with the built environment of outpatient substance use treatment facilities. The study was developed to understand the intersection between the architectural orientation and/or design of substance use treatment facilities (described herein as treatment spaces) and primary end users’ experience with those elements (those seeking substance use treatment). We sought to better understand how architecture or design elements of substance use treatment facilities influence an individual’s interest, willingness, and engagement in substance use treatment. Further, we sought to understand the a) elements of a treatment space that limited willingness or desire to engage with treatment, and b) elements of a treatment space that related to an individual’s positive treatment experience. This was further explored through participants’ description of an idealized treatment setting.

Research question: How does the built environment (architectural and design elements) of substance use disorder (SUD) treatment facilities play a role in treatment acceptability, treatment retention, and treatment outcomes?

Sub Questions

• How does the built environment of a SUD treatment space facilitate treatment?
• What elements of the treatment space present barriers to seeking SUD treatment?
• What is an idealized space/setting for substance use disorder treatment?
• Does gender, culture, or identity differentially alter experience within treatment facilities?

METHODS

Sampling and recruitment

Research Setting: Substance Use Treatment Facilities in New Haven, Connecticut

We conducted semi-structured interviews with individuals (N = 15) engaged in one of two primary outpatient substance use disorder (SUD) treatment facilities in southern Connecticut. A mixed sampling was utilized, whereby participants in the sample were engaged in: a) treatment that was primarily limited to daily methadone for the management of an opioid use disorder (OUD), or b) a more diverse treatment modality that included social work, one-on-one counseling, group counseling, medication, psychiatric and/or psychological services. Individuals present in this second treatment setting are treated for an array of substance use issues, including alcohol, cocaine, and opiates.

We conducted interviews to explore individuals’ experience with the built environment of outpatient substance use treatment facilities (treatment spaces), including architectural and design-related features (e.g. functionality, accessibility, and spatial arrangement). Further, we
explored how the built environment of a treatment space could influence an individual’s willingness, compliance, and adherence to treatment. We recruited participants from a larger study, or referrals from other participants, with the goal of recruiting 15 individuals in total. Table 1 below describes our sample demographics.

Table 1. Participant Demographics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No. (%)</th>
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<tbody>
<tr>
<td><strong>Gender Identity</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>7 (46.7%)</td>
</tr>
<tr>
<td>Female</td>
<td>7 (46.7%)</td>
</tr>
<tr>
<td>Transgender Male</td>
<td>0 (0 %)</td>
</tr>
<tr>
<td>Transgender Female</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>Gender Nonbinary</td>
<td>0 (0 %)</td>
</tr>
<tr>
<td><strong>Racial Identity</strong></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>12 (80.0%)</td>
</tr>
<tr>
<td>African American/Black</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>Hispanic/Latinx</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>Asian</td>
<td>0 (0 %)</td>
</tr>
<tr>
<td>Other</td>
<td>0 (0 %)</td>
</tr>
<tr>
<td><strong>Treatment Setting, No. (%)</strong></td>
<td></td>
</tr>
<tr>
<td>General SUD Treatment</td>
<td>10 (66.7%)</td>
</tr>
<tr>
<td>Methadone Treatment</td>
<td>5 (33.3%)</td>
</tr>
<tr>
<td><strong>Age (mean ± SD)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>47.5 ± 10.2</td>
</tr>
</tbody>
</table>

Data collection

Interviews with each participant (N = 15) were conducted in a private space in our research offices or the substance use treatment facilities. The interviews were semi-structured, with the use of open-ended questions in the interview guide (Appendix A1). Examples of these questions can be seen in Table 2. All interviews were audio-recorded, and following the completion of each qualitative interview, audio files (.MP3) were uploaded to Trint. Trint software (https://www.trint.com) was utilized to generate initial interview transcripts through the use of machine-learning techniques. Subsequently, we checked each interview transcription and edited all transcriptions for accuracy. Qualitative interviews ranged in length from 19 minutes 7 seconds (19:07), to a maximum 46 minutes 28 seconds (46:28), with an average length of 33 minutes. Participants received $20 cash following the completion of their interview.

Data analysis

Transcripts were initially open-coded for thematic analysis to identify initial concepts and codes. After development of an initial code list, similar concepts and outliers were identified to establish a concordant code list for analysis. Finalized codebook was used to code each transcript using Microsoft Word and Dedoose software.
### Table 2. Semi-structured Interview Guide

<table>
<thead>
<tr>
<th>Topic</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inviting elements of a space</td>
<td>What elements of a treatment space make you feel comfortable?</td>
</tr>
<tr>
<td></td>
<td>Thinking about previous treatment experiences describe elements of the physical treatment space that you liked</td>
</tr>
<tr>
<td>Ideal treatment setting</td>
<td>If you were given the job of building and decorating this treatment space, what are the changes you would make?</td>
</tr>
<tr>
<td></td>
<td>What is an example of a place you go where you feel very accepted or included?</td>
</tr>
<tr>
<td>Frequency</td>
<td>How often do you come here for treatment?</td>
</tr>
<tr>
<td></td>
<td>How easy or difficult is it for you to access the treatment space?</td>
</tr>
</tbody>
</table>

**Ethical considerations**

There are several ethical considerations that required anticipation prior to implementation of this qualitative research. The first ethical consideration is the population of interest, as individuals with substance use disorders who seek treatment are a vulnerable population. Participants may have comorbid mental health issues that precipitate or exacerbate their substance use. Individuals may become uncomfortable with questions being asked during the interview and decline to answer, or desire for the interview to end. Verbal and nonverbal cues from participants must be acknowledged by the interviewer. Participants may reveal sensitive information about past or present substance use, which may implicate acquaintances, friends, or family. Additionally, participants may fear retribution or reprisal by revealing likes or dislikes of substance use treatment facilities they are presently at.

Importantly, all interviews are protected by confidentiality, albeit while acknowledging there are topics that could have required mandatory reporting. To protect the confidentiality of participants, identifying information – names, places, and locations – was omitted from interview transcripts. Audio files (.MP3 format) from interviews were stored in a secure, password-protected location to ensure participant confidentiality. Participants were provided financial compensation for their time. Payment – particularly large sums and/or cash payments – can present ethical concerns for coercion. To address these concerns, compensation was limited to $20 for each participant interview (33 minutes average). This amount was determined to fairly compensate participants, while simultaneously reducing feelings of coercion by researchers. Informed consent, a description of this research, and research procedures were approved by the Institutional Review Board (IRB) at the Yale School of Public Health prior to conducting qualitative interviews.
RESULTS

Through qualitative interviews, several themes and subthemes subsequently emerged. The sections below describe individual’s perspective of the built environment of substance use treatment spaces, including architectural layout and design, and the association with treatment. We first describe *disengaged spaces* which present barriers to treatment. We then describe *engaged spaces*, which promote treatment acceptance and facilitate treatment.

**Disengaged Spaces**

Disengaged spaces are experienced as sterile and unwelcoming. Aspects of disengaged spaces include unpleasant odors, poorly lit interiors, and presence of common recovery messages (e.g., maintenance therapy). Disengaged spaces distract from therapeutic experience, resulting in feelings of disconnectedness. Fundamentally, disengaged spaces present barriers to accessing or seeking substance use treatment, and often elicit feelings of internalized stigma. Several subthemes of disengaged spaces emerged, and will be discussed further.

*A detriment to recovery*

Common treatment messages and posters on walls of treatment facilities can serve as an impediment to substance use recovery. Common messages of recovery – including DARE posters and those depicting opioid maintenance treatment – led to feelings that a treatment space is nothing more than a workplace, rather than a therapeutic setting. The following participant, a 33-year old white female, suggests there are similarities to OSHA posters: “Like, the signs. Like when you see like a sign that's talking about like maintenance programs, and like stuff like that immediately. Like, I don’t know. You know when you go in a place and it's like standard, and you could like see where there like OSHA posters are, like stuff like that. So, like I don't know. You don't want to think about that stuff.”

These posters may be experienced as stigmatizing, particularly for individuals just beginning SUD treatment. As one participant explained being overloaded by these posters, “No, I personally don’t [like them]. I think it’s kind of like, like an overload. Especially all at once, you know, when you’re just coming into a space. You know, it was just, just from just looking around, you know, it’s kind of getting thrown at you right away, and from somebody that’s just coming off the street and really maybe not even sure that that’s what they want to do yet. You know, it can be off putting.” These messages present a barrier towards treatment engagement and mindfulness within the treatment space, as these messages can be distracting, and present a source of distress. Further, they may appear judgmental and be discouraging.

Some participants experienced default treatment messages as demoralizing, and described the similarity to advertisements, as this participant notes: “Like they try [to emphasize importance], well to me it's more of like an advertisement.” These messages make treatment spaces feel impersonal and routine. For example, participants acknowledged multiple therapeutic modalities for those recovering from an opioid use disorder, and described frustration with posters that depicted medication assisted treatment as the only mechanism to promote sobriety.
This participant, recovering from an OUD, describes her frustration, “Yeah, most of them you'll see those on the wall. Yeah, which isn’t my route either and it's annoying.”

Most participants describe a desire for hopeful messages that provide optimism and the prospect of better days that lay ahead. Specifically, participants describe the importance of pro-recovery messages and slogans to think about such as this participant, “I would make sure there was more pro-recovery signs, like maybe like little slogans that just like stick in your head or something to think about throughout the day.” Similarly, the importance of messaging that felt personal was described by this participant, a 38-year old white male. “Definitely [I would want] decorated walls, something on the walls that’s not always the same recovery poster. You know, AA this, this, this, here’s the serenity prayer. We all know it by now. Something a little more personal.”

A bad place to get clean

Paradoxically, a treatment space can serve as a direct trigger for substance or alcohol use and relapse. Aspects of the treatment space can present as a threat to maintaining ongoing sobriety, whether directly or indirectly. These include physical or geographical location of a treatment space, architectural or design elements of a treatment space, and behavioral permissiveness of treatment spaces. Nevertheless, participants routinely described the behavioral permissiveness of a treatment space as the greatest threat to maintaining sobriety. One participant, a 45-year old white female, describes a bad place to get clean, and why she chose a different SUD treatment program: “Congress is bad, you know. You walk, you can’t get to the parking lot without people wanting to sell you something or asking if you can buy, if they can buy something, or, it’s just bad. People are getting shot over there. It’s just a really bad place to try to get clean at.” As described here, treatment spaces can present a threat to physical or emotional wellbeing.

Use, or sale of substances and/or alcohol on the premise outside of the treatment space present serious issues of temptation for substance use and are a direct threat to maintaining sobriety. Individuals in substance use treatment who are not committed to sobriety may negatively influence and coerce other individuals in recovery. Indirect threats to sobriety in a treatment space were also discussed. This participant, a 49-year old white female, discusses how the presence of certain individuals can be traumatizing or triggering, “Some of the girls felt, are there because they've been victims, you know, of other things. That's why they use drugs. And you've got this person [convicted of sexual assault] sitting here, you know, and I just think if that's something that they're working on, maybe there's another group they should be in.” The intermingling of individuals with little concern for history or background can present a threat to others (e.g. the presence of this individual could be traumatizing to others who were previously victimized) and could precipitate events of relapse.

Multiple interviews described the shooting incident mentioned above – how it made them feel uncomfortable, unsafe, and wary of continuing treatment at the facility. Threats to wellbeing can present amorphously or as a result of specific influences, including geographical location or architectural elements of a treatment space. This participant, a 44-year old white male, describes
the lighting as a threat to his wellbeing: “Like my, my methadone program for instance, they, I’ve had a seizure there because of the lights and the floors. The floors are, are like, like 70s orange and purple. With the fluorescent lights bouncing off them, it really screws with your eyes.” Confined areas of treatment spaces – lobbies, hallways, or clinician offices for example – presented a concern for numerous participants, eliciting feelings of anxiety and agitation. The following participant, a 46-year old white male, described space as a trigger for anxiety, “Just the sizes, and, and closeness to the out, you gotta be. The smaller your office’s stuff is, you’re closer to the person, and if you’re a person that got issues, you know. Being around people, being confined in a small area, I don't care it, it, it does [cause] anxiety, like, I don’t know. Not claustrophobic, but umm, I don’t know. Like too [many people] in my space I want to say.”

Other architectural elements were described as presenting a threat to emotional or physical wellbeing in the treatment space, including the organization of hallways, orientation of bathrooms, and the presence of loud doors. Many participants describe treatment spaces that appear as no more than poorly retrofitted office space. Left unaddressed, attributes of architecture or design in these spaces can undermine the quality of treatment provided and imperil those in treatment. Together, these examples represent the myriad ways that treatment spaces can constitute a threat to physical or emotional wellbeing.

**Controlled settings reminiscent of institutionalization**

Individuals in substance use treatment often have a history of institutionalization and experience with the criminal justice system. Treatment settings can serve as reminders of previous experiences with institutionalization. Elements of the treatment space can evoke feelings of institutionalization or be reminiscent of institutionalized settings. Consistently, participants described elements of the building façade, lobby area, or front desk that gave them pause. This participant, a 33-year old white female, describes the lobby area of the treatment setting: “They have like a glass window, which isn’t super welcoming and they like move their little cardboard piece, like, to like talk to you through the glass and then they make, they have to like buzz the door open and then you go into the back and everybody has like their own little room.” These elements establish a ‘tone’ for treatment as soon as they arrive, which creates a separation between those giving and receiving treatment and can create power differentials that mimic other institutionalized settings.

Various architectural elements present in the treatment space are similar aspects present in controlled environments including structural barriers present in treatment spaces – locked doors, restricting access to restrooms, and staff present behind protective glass. Further similarities include plain décor that lacks color or decoration. One type of treatment messaging present on the walls of treatment spaces was described as depicting a jail cell as a consequence of substance use. The following participant, a 50-year old white female, describes the building façade and how it serves as a reminder of her experience with incarceration: “When you walk in, when you walking up to the door, it kinda reminds me of jail, like, but I was, I was incarcerated before. It reminds me of the doors going into jail. There, it’s, it’s like if you look in at the doors from the outside, they’re like this yellow, yellowy color, and it’s ugly.”
Architectural barriers present within a treatment space create emotional and psychological barriers, whereby individuals in treatment do not feel at ease, comfortable, or welcome in the treatment space. This same participant further describes feeling ‘locked’ inside the treatment space, “There’s no, there’s no windows. So, you feel like you’re block, you’re clock, you’re locked, like you’re blocked in and there’s no way to get out. There’s only one way in, and one way out. So, if you needed to get out, you’re stuck here.” Architectural or design elements that are reminiscent of institutionalized settings are of further concern given the prevalence of comorbid mental health issues among this population. Individuals with substance use disorders may have anxiety, panic, or depressive disorders which are exacerbated or triggered by these settings.

Importantly, participants described small changes that can reduce feelings of institutionalization and establish a more welcoming environment within SUD treatment spaces. One participant noted the importance of lamps, “Lamps, like if you go into, it just takes away from the feeling of institutions. You know, cause once again, people at my level, including myself, it’s not too often we get to go into somebody’s home. It’s always institutions to this, to that, go to this appointment, go to that appointment. You go back to your lame ass room where there’s nothing. So just go into a place where there’s lamps, kind of bridges that gap. It turns a place from just being another room into something where you feel a little bit more comfortable.”

**Engaged Spaces**

Architectural space and the design of substance use treatment facilities coincide with an individual’s feelings within the space. Specifically, treatment spaces can influence an individual’s desire or willingness to engage with treatment, or interest in seeking/continuing treatment with a given space. Engaged spaces include staff engagement with the built environment which creates “lived-in spaces” consisting of plants, artwork, and personal artifacts, and patient engagement with spaces experienced as warm and inviting. Engaged spaces increase individuals’ interest in treatment, thus increasing connectedness. Engaged spaces establish connections with the natural world, create lived-in spaces, and engender feelings of care and respect. Cumulatively, these qualities establish more therapeutic settings that facilitate treatment. We identified several subthemes which describe the nature of engaged spaces.

Establishing a therapeutic milieu appears vital to create welcoming treatment spaces that facilitate SUD treatment. Creating a treatment setting that is therapeutic, and one that is comfortable, are not mutually exclusive characteristics.

**Nature is nurture**

Many participants describe a desire for engagement with the natural world as part of substance use treatment. Individuals described the therapeutic value of engagement with the natural world, both inside substance use treatment facilities and the restorative power of engagement outside. Examples of engagement with the natural world inside of treatment spaces include the presence of live plants, as well as photographs, paintings, or murals depicting nature scenes with animals or flora. One participant describes the appeal of nature artwork within a treatment space, “The first two months I was in treatment, there was a place I went to after the
program and, you know, a couple of the people weren't good. But the walls and everything, they had like suns painted on there and, you know, like ducks, they had pictures up. It was better like that. You know what I mean? Because everybody likes to look around, you know.”

Consistently participants described a preference for imagery and artwork that was not specific to substance use treatment, which provided an opportunity to reflect beyond their substance use. This participant describes further, “You know, more of a, more of like a where you could like kind of like zone out and really zoom into the picture, and, and almost like, see yourself there, you know. So that to me is, you know, a moment where you could, like, get out of yourself. And put yourself in a nice, serene setting, whether it's, you know, for two minutes or five minutes that you're staring at it.”

Subsequently, engagement with the natural world outside of physical treatment spaces was important. The therapeutic value in engaging or coexisting with nature was described as helping place individuals at ease, promoting self-efficacy, and encouraging collaboration between individuals in recovery. These experiences could benefit treatment outcomes. The following participant, a 44-year old white male, describes an ideal treatment setting: “I would try to have a garden, and have it incorporated into the program so that clients are involved in taking care of it, because getting into nature kind of helps relax people. Even people that don't realize it.” Other examples of engagement with the natural world included group walks.

The benefits of engaging with the natural world were described further by this participant, a 42-year old female. “When I'm more in motion, that's when I'm more open and connected with my thoughts and how I'm feeling. So, I feel as though like, you know, harvesting the crops, you know, whether there's chickens or, you know, hens and all that, I feel. With the treatment center, it's almost, you know, that's therapeutic in that setting and also, too, it would be, I think it would be helpful to others that, you, you know, there's, there's more to life, you know.” This quote suggests that individuals may be more open and honest – with themselves and others – in a setting that incorporates or integrates nature, allowing for deeper engagement with treatment.

**Lived in spaces**

Accessorizing a treatment space through the use of personal artifacts, live plants, artwork or photography creates a lived-in space. Participants described their comfort and desire to engage with treatment in these settings. One participant noted how she automatically feels more relaxed in settings such as these, “I feel like, I, I, I know I'm gonna be able to put my feet up, so I’ll automatically start to feel relaxed. And it's like, ya know, instead of like sitting around a desk, like you're about to like do some work, you know.” Her comfort was greater in this setting, thereby increasing her desire to engage with treatment.

Individuals that work in treatment spaces (e.g. clinicians, nurses, or other staff) were described as independently creating lived-in spaces. The following participant, a 38-year old white male, describes his psychiatrist’s office, and how he has established his own space that simultaneously feels unique and inviting. “He has his own little office in there, and it's, his space is fantastic. He has [pauses] the best way to explain it is if you walked into an office, or one, if
like, and somebody was obsessed with like Star Wars and you would see little figures everywhere. And it’s, but it’s not specifically Star Wars. Just an example.” Other participants described their experience within a counselor’s office, finding comfort in the items present or arranged throughout the office. The following participant describes the unique presentation of each counselor’s office in a treatment space: “Then, particularly every counselor has their different vibes, so people that are more comfortable with other vibes end up with those counselors, you know. So, you know, everybody’s got their own little, you know, niche that makes them feel comfortable.”

Lived-in spaces exist opposite of treatment spaces that feel like nothing more than a workplace, or retrofitted office space.

**Beyond architecture or design – Spaces are the people inside**

Beyond elements of architecture or design, spaces are also the people inside a given space. One participant, a 46-year old white male, noted the importance of people within a space, “Oh, the thing that makes me feel most comfortable, period, anywhere is being around good people. That’s what I strive for. You know what I mean? Just people with hearts that care. You know what I mean? People that want to help all the time.” When given the opportunity to describe physical characteristics of a space experienced as comfortable or inviting, participants consistently alluded to the presence of gregarious and hospitable people within that space, not necessarily architectural configuration or principles of design. Other end users – hosts, visitors, or staff for example – influence the experience and perspective of a given space.

Similarly, when participants were given the opportunity to describe an ideal space for substance use treatment, the people within were regarded as significant. This participant describes further, “To be honest with you, people are the biggest thing for me. It’s, it’s always the, the attitudes and the uh, the, the way you’re treated is what makes me feel comfortable, uh, because I can go into the dumpiest of dumps, and if the, the, the vibe from the people is comforting, then I’m comfortable.” Further, participants described the importance of people within treatment spaces specifically, such as this participant. “And the only good thing about it [the treatment space] are the welcoming employees that work there, and it’s only some of them. So, there’s, there’s nothing great about that space.” This underscores the importance of staff who are welcoming and nonjudgmental in treatment spaces.

As discussed previously, other individuals seeking treatment can present a threat to physical or emotional wellbeing, and the ability to maintain sobriety. Conversely, the staff in a treatment space can undermine the ability to establish a positive and therapeutic relationship with a given treatment space. Several participants described treatment experiences with staff who are *just there for the paycheck*, perceived as feigned interest and inauthenticity. This participant describes his experience: “There is some of them people in there that, that just are there for the paycheck. Yeah, they’re just there for the paycheck, that’s it. You know what I mean? As far as your personal problems and everything, yeah, they listen to you, this and that, but they don’t umm, they’re there for the paycheck, you could tell.” This results in a treatment space that feels bleak and inhospitable, as the space becomes nothing more than a workplace.
Participants were discouraged by their experiences at treatment facilities where staff were ‘just there for the paycheck’. This participant, a 45-year old white female, describes the ostensible compassion fatigue of clinicians or staff at SUD treatment facilities, and the complacency with the plainness of the space: “Yeah, a lot of them are, are pretty plain. Like, it seems like they've, you know what? I get the feeling that they've all given up. You know what I mean? Like, and I don't kind of blame them because I know a lot of drug addicts and I just lie and don't give a shit, you know? And I think after a while, umm, I don't think they have someone to care about the environment that you walk into.”

The commonality among interviews was the importance of people who care, establishing a place that cares about you. One participant noted the importance of being treated with respect, and how it can be unusual: “Make sure somebody is there to answer your questions. Just when you walk in the door, it’s, know that you’re in a place that’s going to treat you a little bit differently than the other places you’ve been to.” Despite the diversity of architectural or design possibilities that influence an individual’s subjective experience within a space, the inhabitants of a space – whether temporary or permanent – establish the feel of a space. Needless to say, the intersection between the built environment and treatment/health outcomes is simultaneously influenced by people in the intermediate space between.

DISCUSSION

In our study, individuals in SUD treatment described the importance of the physical treatment space and its association with treatment. Participants described the association between the treatment space and their emotional state. Disengaged spaces were perceived as a hindrance to accessing substance use treatment, treatment desirability, and treatment acceptance. Engaged spaces were perceived as facilitating access to treatment, and interest in SUD treatment.

Treatment messages commonly found within SUD treatment facilities may present a form of externalized stigma. Providing more hopeful messages could address stigma present in the treatment space and establish a more welcoming environment. Further, constructing treatment spaces that provide individuals with sufficient separation from other end users, and accessorizing the treatment space with plants and artwork are a few examples that could improve treatment spaces.

The design of treatment spaces appears to underlie important treatment-seeking behaviors, and eventual treatment outcomes. Given the profound burden of individuals with a substance use disorder present in the United States today, addressing the built environment of treatment spaces may reduce this burden and the risk of relapse. This study provides a framework for future research and policy in this area.

Summary of findings

Two themes emerged identifying two types of spaces: 1) Engaged spaces that include staff engagement with the built environment which creates “lived-in spaces” consisting of plants, artwork, and personal artifacts, and patient engagement with spaces experienced as warm and
inviting. Engaged spaces increase individuals’ interest in treatment, thus increasing connectedness. 2) Disengaged spaces are experienced as sterile and unwelcoming. Aspects of disengaged spaces include unpleasant odors, poorly lit interiors, and presence of common recovery messages (e.g. maintenance therapy), experienced as distressing and dehumanizing. Disengaged spaces distract from therapeutic experience resulting in feelings of disconnectedness.

Extensions

User-centered design or user-driver development philosophy has practical applications for substance use treatment facilities. User-centered design is an iterative process that focuses on the feedback and evaluation of end users of a space to improve the design or architecture of a space. Substance use treatment facilities have two groups of end users – primary end users and secondary end users. Primary end users include individuals who seek SUD treatment, while secondary end users are staff present within a facility, including clinicians or social workers. Function and purpose-built substance use treatment facilities provide promise for SUD treatment by tailoring the built environment to the needs and desires of those in treatment. Concomitantly, treatment engagement and treatment outcomes may improve.

Limitations of data & data analysis

Limitations must be acknowledged that are present within these qualitative data and subsequent findings. This study is specific to one geographic location, and our findings are limited to one city. Further, the sample was homogenous with respect to racial identity, as the sample predominantly reported white racial identity (80.0%). Nevertheless, the mean age of the sample (47.5 years ± 10.2) as well as an equal distribution of male (46.7%) and female (46.7%) gender identities are strengths, as previous research primarily focused on the experiences of adolescents (13-18 years) or female gender identity. These findings may be transferable to other groups; however, this requires future research.

Notwithstanding that the sample had extensive experience with an assortment of treatment facilities, qualitative interviews focused on experiences in two primary substance use treatment facilities which may not be representative of all treatment spaces. Moreover, data collection, interview transcription, and qualitative analysis was performed independently. This establishes greater familiarity and respect for the data given my proximity to each element of the study, including data collection and interpretation. Nevertheless, extensively relying on one individual’s work and assessment can present views or biased analysis that is no longer impartial.

Despite these limitations, the research herein provides a robust foundation towards understanding substance user’s experience with the treatment space itself. Further research is needed to understand the intersection between the built environment of substance use treatment facilities, and subsequent treatment experiences.
Impact summary

Architectural elements and design of treatment spaces can promote feelings of recovery. Participants describe greater willingness and desire to engage with treatment in spaces they feel comfortable. Further work is necessary to understand how participants experience the built environment of substance use treatment spaces, and identify design elements of these spaces that facilitate recovery from SUD.

A diverse number of architectural and design elements were found to be inviting or welcoming in substance use treatment spaces. Several components consistently arose in qualitative interviews, many of which could be broadly implemented in treatment settings with respect to treatment population or financial constraint. These aspects included the presence of live plants, lamps, and color on the walls. Shades of blue or light blue were commonly characterized as therapeutic. Landscape photography and artwork were also commonly cited as requested elements of a treatment space, specifically artwork created by individuals in recovery. The presence of artwork created by those in recovery was described as meaningful and hopeful.

Improving the comfort of treatment spaces may promote a more therapeutic setting, thereby increasing treatment acceptability, engagement, and adherence. Additionally, these settings may serve as a form of therapy unto themselves, promoting openness and honesty with oneself and others present in the treatment setting.
APPENDIX

A1. Interview Guide

Research Question: What role, if at all, does the treatment space itself play in the quality of treatment individuals receive?

Sub Questions

- How does the built environment of a SUD treatment space facilitate treatment?
- What elements of the treatment space present barriers to seeking SUD treatment?
- What is an idealized space/setting for substance use disorder treatment?
- How does treatment modality influence experience or engagement within a treatment space?
- Does gender or identity differentially alter an individual’s experience within SUD treatment facilities?

Physical Environment

1. Briefly describe your experience with treatment, and what you sought treatment for [Use most recent and/or longest experience in treatment as referent space]
2. Walk me through a typical day when you are there for treatment, including
   a. Transportation, exterior of the building, entering the building, lobby area, hallways, treatment or group room
3. How accessible is the treatment space? (transportation, parking, disability access, signage)
4. What do you like about the treatment space here? (Lighting, color, noise, acoustics, space, arrangement)
   a. How has that impacted your experience here?
5. What do you dislike about the treatment space here? (Lighting, color, noise, acoustics, space, arrangement)
   a. How has that impacted your experience here?
6. Do you have experience with other treatment spaces?
   a. Thinking about previous treatment experiences you have had, describe elements of the physical treatment space that you liked or disliked
7. If you were given the job of building and decorating this treatment space, what are the changes you would make?
   a. If you were to design an ideal treatment space, what would it look like?
   b. Please describe an ideal treatment space
8. How do you feel when you enter the building here?
9. How do you feel when you are in the lobby?
10. What elements of a treatment space make you feel comfortable?
11. What elements of a treatment space make you feel uncomfortable?
12. What elements of a treatment space make it feel inclusive?
13. Do you feel like who you are as a person is reflected in the treatment space?
14. How do you feel your identity (culture/race/gender) is reflected in the treatment space?
15. What are important elements of your culture or heritage that would make this space feel like home for you?
16. What elements of your spirituality could be incorporated into the treatment space?
17. What is an example of a place you go where you feel very accepted or included?
   a. What is your favorite place? Why about the physical place do you like?

Frequency

18. Tell me about how you got here today
   a. What do you do if [mode of transportation] is not available to you?
19. How often do you come here for treatment?
   a. Would you like to come here more often?
20. How easy or difficult is it for you to get here? How easy or difficult is it to access the treatment space?
REFERENCES


