Proposed Title: Designing with Women: Participatory Architecture and Spatial Justice in Women's Health Environments

Introduction

Women's Health is a topic that has carried controversy and stigma since the beginning. Even in today's modern society, women struggle to find spaces that adequately support their health needs; services are either hidden in complex health systems or forced to the shadows due to political and religious debate. Even simply measures to support the socially accepted norm of mothers, like breast feeding areas and bathrooms with adequate baby change stations, are not commonly considered as a part of our society or build environments. Where is the disconnect? The absence of Women in the design of these environments. Women's health environments can range from maternal support areas, outpatient clinics, maternity wards and hospitals to abortion clinics and sexual assault exam rooms. These spaces are commonly designed without the participatory input of the users, resulting in spaces designed without fully considering the embodied experiences, cultural needs, and safety concerns of women. As Caroline Criado Perez states, "It's not always easy to convince someone a need exists, if they don't have that need themselves." (Criado-Perez, 2019). As healthcare systems evolve to prioritize patient-centered care, architectural design must interrogate where existing spaces fall short and explore participatory methods that embed women's voices in shaping their healthcare environments. This study builds research, both qualitative and quantitative, professional, and personal experience in clinical design and processes, particularly in settings where women are vulnerable and require both physical and psychological safety.

Problem statement

Despite the critical role of healthcare environments in shaping patient well-being, women's health spaces frequently fail to address intersectional needs, embodied safety, positive experience, and dignity. The purpose of this dissertation is to identify where women's health environments are not doing justice for women and then investigate how factors such as feminist design and spatial theory, social equity, and participatory design could improve women's health environments.

Research Objectives and Questions

The goals this study aims to achieve include the SMART principles (specific, measurable, achievable, relevant, and time-bound) and focus on a specific area of the research problem. The following objects aim to provide direction, define scope, guide methodology, and clarify purpose within the research:

- To identify architectural and spatial barriers that limit equity, safety, and comfort in women's health environments.
- To analyze how theorized and interdisciplinary studies such as phenomenology, place theory, feminist design theory, and participatory methods can reshape healthcare spaces to reflect women's lived experiences.
- To propose design strategies that address intersectional needs, trauma informed design, sensory-aware spaces, embodied safety and comfort, dignity, healing, and emotional resonance within Women's health environments
- To propose design frameworks that advance spatial justice and social equity for Women in healthcare architecture/environments

Some questions that will help define the problem and provide direction during the research review:

- Who should be engaged as a part of the design process to provide participatory architecture?
- What spatial and architectural conditions contribute to inequities or reinforce social/gender/cultural biases in healthcare spaces?
- When good design is achieved, how are theory and design principles applied to create safe, equitable, patient focused spaces?
- Where are there opportunities to integrate the theory and design principles identified into existing and future clinical spaces?
- Why is participatory, feminist-informed architectural practice necessary for achieving social equity and spatial justice in women's health design?

Methodology

The research methodology for this proposal focuses on theorized and interdisciplinary studies, with an emphasis on phenomenology. This qualitative methodology considers the lived experience of Women from a variety of different social, cultural, economic, and geographic backgrounds. This study of lived experience is both reflective and in the present, drawing on how someone immediately experiences life or more specifically to this context, spaces. Phenomenology when applied to architecture, is the study and exploration of the physical experience of buildings, building material, and their sensory properties. While both descriptive research and experimental research methodologies would also prove helpful to this proposal, a space to perform occupancy studies and gain research data is not available at this time.

In our review of architectural theory over the last century, phenomenology becomes a strong theme in the critique of modernism. Aldo Van Eyck in his essay *Is Architecture Going to Reconcile Basic Values* from 1959 notes how architecture (specifically modern architecture of the time) had betrayed society by its rejection of contemporary thought, which was to reintroduce the value of human experience into architecture in opposition to formalism. (Mallgrave, 2008). In 1971, Christian Norberg-Schulz adding further clarification to how phenomenology was evolving within architecture, in his book *Existence, Space, & Architecture*, where he adds further definitions of how humans psychologically perceive space " Pragmatic space integrates man with his natural, 'organic' environment, perceptual space is essential to his identity as a person, existential space makes him belong to a social and cultural totality, cognitive space means that he is able to think about space, and logical space, finally, offers the tool to describe the others." (Mallgrave, 2008). This highly theoretical approach, while helpful academically, takes the life away from phenomenology; its compartmentalizes the human into abstract pieces. As we approach the modern day, Toyo Ito is his 1992 essay *Vortex and Current: On Architecture as Phenomenalism* reexamines phenomenalism from a much more organic and ephemeral point of view, " ..people can remain within the surrounding currents of nature and/or the city, white at the same time situated in a framework of architectural form; they are enveloped simultaneously in two contradictory spaces: in an unstable, ephemeral phenomenon, as well as in a system which constantly seeks stability and continuity." (Mallgrave, 2008). Ito focuses not only on the individual perception of space, but also how the collective perceives space within a constantly shifting natural or urban environment; how to balance stability and instability in a harmonious order.

Literature Review

Feminist Design & Spatial Theory is a well articulated topic, with many peer-reviewed literary sources investigating feminism and its spatial relationships in a cultural, societal, and political view. While many of these sources focused on gender inequality, there were some great examples of how feminist design and spatial theory can be applied architecturally. In Rose Gilroy & Chris Booth's essay, *Changing the mould: the Frauen-Werk-Stadt model project*, we can see clear examples of how women successfully influenced traditional housing approaches. This social housing project in the suburbs of Vienna, designed and planned by women, articulates some of the key principles of feminist design thinking when applied to urban housing:

- Spatial flexibility: life is ever changing, and our spaces require us to adapt in phases and stages. Apartments should be practical and account for the needs of families but also be adaptable in their social and spatial hierarchy to accommodate all generations. (Gilroy, 2004)
- Importance of play: space for play is available, specifically space outside that is safe and visible (Gilroy, 2004)
- Safety: the development utilizes open routes that are visible to all, short travel distances, and transparent well-lit staircases. It avoids the creation of 'danger zones' which inspire anxiety and fear in women (Gilroy, 2004)
- Opportunities for interaction: Space to encourage neighborly interaction, by limiting the number of apartments per floor it reduces anonymity and enhances neighborly relations (Gilroy, 2004)
- Use of incidental spaces: flexible storage, parking, and utility spaces allow for easy conversion and group awareness if they are localized. (Gilroy, 2004)
- Connected dwellings: covered walkways, communal stairwells, and shared courtyards with immediate neighbors provide safety and opportunities for neighborly interactions (Gilroy, 2004)
- The heart of the home: the kitchen is centered as the heart of the apartment, providing a large daylit space that faces the common play areas outside (Gilroy, 2004)
- Neighborhood services & facilities: Creating a walkable community where members can live and work in close proximity to one another creates a self-supporting micro-economy. Facilities such as a community daycare allow children to form friendships with neighbors, and for parents to do the same. (Gilroy, 2004)

This supports the analysis of women's spaces within Bechtel's *Handbook of Environmental Psychology* which states,

> " Feminist research and theory suggest that masculinist worldview and male self-identify privilege separations and dualistic, stable categories, while the experience and self-identity of women center on connections and multiple, changing categories. Much of the research on women and environment demonstrates how the masculinist perspective has dominated the design of environments and how research, design, and planning from a feminist perspective can recognize and foster connections, intermediate and overlapping categories, and fluid boundaries. (Bechtel, 2002).

In the review of spatial justice and equity, the most notable historical precedent that has been largely unchanged in terms of how urban areas are planned is that "public space has mostly been linked to men, while the private space has been typically identified with women" (Alvarez, 2020). In buildings and public spaces, physical and cultural barriers also exclude women with children. As Kanes Weisman points out, a woman with a child in a stroller, trying to get through a revolving door or a subway turnstile, is a "disabled" person (Alvarez, 2020). Space is also very much a form of representation. The city of Vienna conducted a review of the utilization of playgrounds; they found that at age 10, girls' utilization of parks steeply decreased. Instead of assuming this was by choice, they decided to implement series of pilot projects to collect data. What they found was that a single, large space was the problem; this forced girls and boys to compete for space. Social conditioning has taught girls to be non-competitive with boys, and they tend to give the boys the space. When the pilot projects subdivided the parks into smaller area, the statics reversed and it was more commonly used by girls than boys (Alvarez, 2020). They also found that by widening park entrances and offered multiple points of entry, it did not create social situations where girls were forced to walk through or by groups of boys who enjoyed congregating at the park gate (Alvarez, 2020).

Precedents & Case Studies

Precedent 1: Toronto Birth Centre, Toronto, Canada, LGA Architects

Located within the borrow of Regent Park in Toronto, Canada, the Toronto Birth Centre offers a publicly funded alternative to hospital or home births for indigenous or marginalized women. The space was designed in close collaboration with midwives, indigenous elders, and clients. The space includes design features that engage the senses: cedar wood (for smell) images of nature and cultural art (sight) a non-clinical environment with biophilic colours and textures (touch), no monitors or paging systems (reducing noise) and space for family both in the room

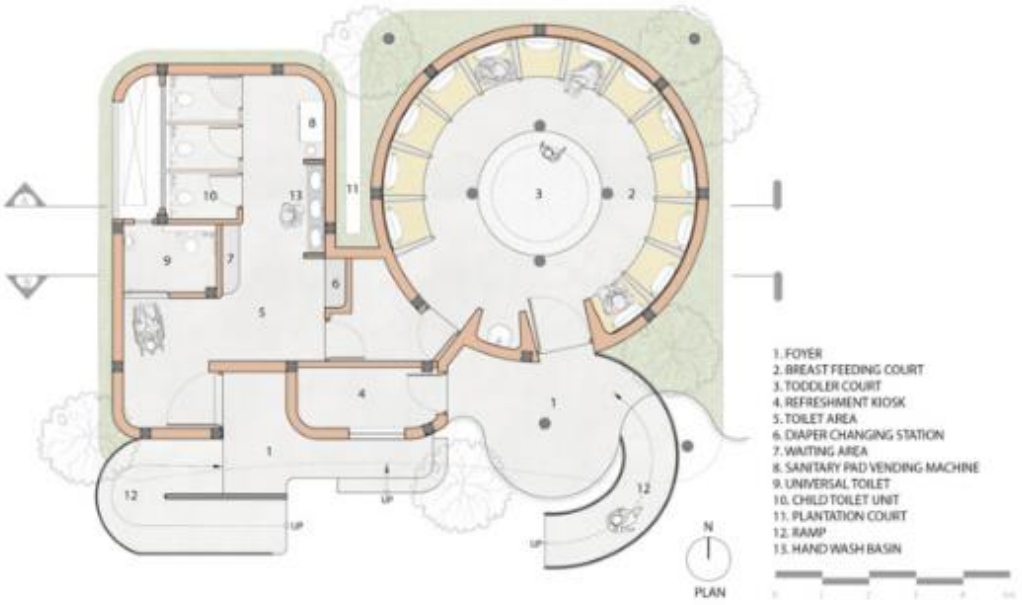
and comfortable waiting areas (safety). Through consultation, the birth rooms reflect and support the philosophy of ‘active birthing’ allowing women space to move while maintaining privacy in their own suite. The presence of family is integral into the design, and the design also supports the clinical team to ensure safe practice and delivery.

Images 1-4: LGA Architects (n.d.) https://lga-ap.com/portfolio/toronto-birth-centre/

Precedent 2: SHE Block Breastfeeding Centers for Mothers on the Move, Surat, India, Aangan Collaborative LLP

SHE Block Breastfeeding Centres is a municipal initiative promoting inclusive, dignified, and accessible spaces for women in urban environments. It aims to recognize and address physical, emotional, and logistical challenges faced by women in the public realm. The ideology that embedding gender-sensitive design into civic infrastructure ensures women can feel safe, dignified, and respected in our urban communities. Designed for ‘mothers on the move’, there are four locations spread across the city in areas with notably high women presence in

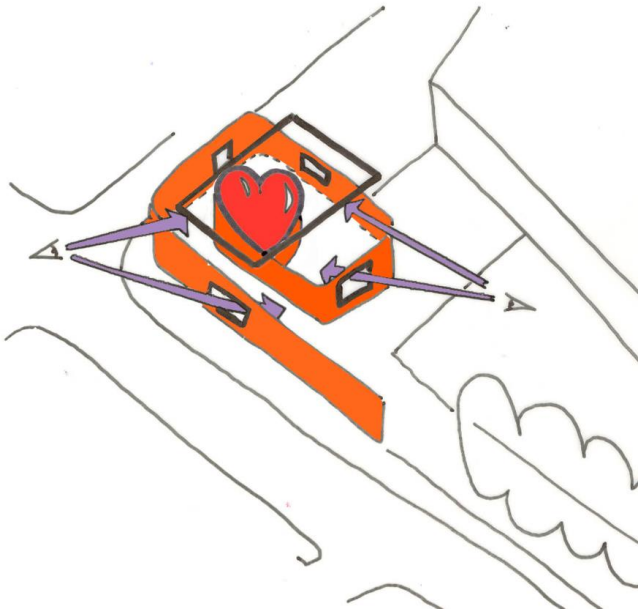
pedestrian zones - transit hubs, market areas, and community nodes – ensuring accessibility for a diverse population of women. While it does not explicitly note the participation of women, the inclusion of design features such as supportive seating for mothers, plug points for breast pumps, a play court for toddlers within the centre of the mothers seating area, child-friendly toilets and diaper-changing platforms in the washroom all allude the women's participatory input in the design. The architecture of the space is soft, warm, and empathetic while maintaining functionality.

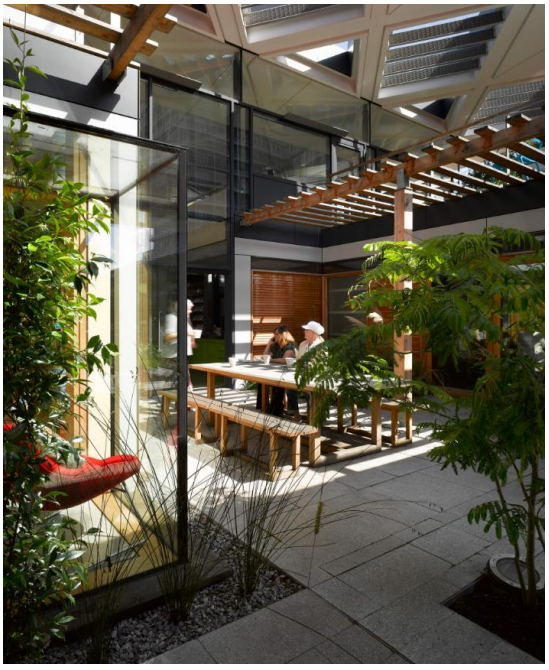


Images 5-6 (Aangan Collaborative, (n.d.): https://www.archdaily.com/1033608/she-block-breastfeeding-centers-for-mothers-on-the-move-aangan-collaborative-llp?auth=hadid

Precedent 3: Maggie's West London Centre, London, England, RSHP

Maggie's Centres are cancer treatment support centres located globally, and they have a profound collection of buildings by famous architects and architectural firms. The one I have chosen to review in the West Long Centre, and while not explicitly related to women's health or feminist environments, its intimate collection of healing spaces supporting dignity and emotional well being could easily support the needs of women's healthcare. These spaces are designed to those affected by cancer to gather, learn, support one another, and heal. The central heart of the building is a open kitchen area, inviting users to gather, nurture, and collaborate. The building is thoughtfully introverted, its exterior wall offers privacy and comfort while its raised roof and surrounding gardens offers lots of natural light and views to nature. The complete contrast from clinical space, this building acts as a refuge for those receiving cancer care at the hospital next door. The space provides a sensory aware environment, that is dignified, emotionally comforting, and psychologically safe.





Images 7-10 (RSHP, n.d.): https://rshp.com/projects/health-and-science/maggies-west-london-centre/

Precedent 4: Tia locations, (Soho, LA, Phoenix, Williamsburg), USA, ALA Architects

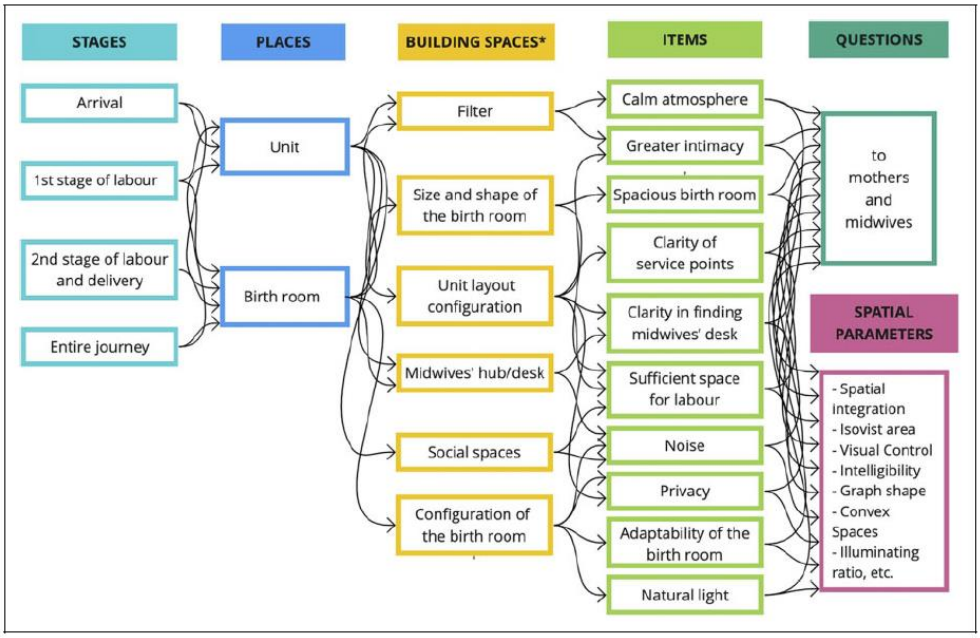
Tia is a private women's health clinic, offering luxury women's care across the realms of primary care physicians, gynecologists, and acupuncturists to provide collaborative care of wellness, reproductive health support, and mental health. While not centered in the realms of justice and equity, it offers insight into the application of feminist design and spatial theory to " create a space that patients are drawn to so that they're more encourage to stay on top of their health…" and ultimately return for additional services. Residential inspired finishes and furnishings give the space familiarity and warmth, while distinctive colors, materials, and graphics add both brand and feminine identity.

Images 11-13 (ALA Architects, n.d.): https://www.alastudio.com/work/tia-phoenix, https://www.alastudio.com/work/tia-soho

Case Study 1: A Broad Study to Develop Maternity Units Design Knowledge Combining Spatial Analysis and Mothers' and Midwives' Perception of the Birth Environment

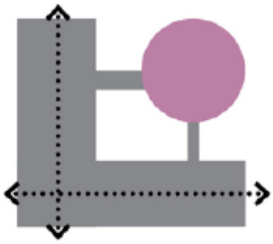
This study focuses on both qualitative and quantitative data collected across two birth environments to determine how spatial design affected both client and staff perception of maternity units. Overall, the midwife led environment generally scored higher, with the two leading factors being calm environments, and flexible and intelligible environments (Nicoletta, 2022). The 7 spatial characteristic that were studied and found to have a significant impact on perception of space included:

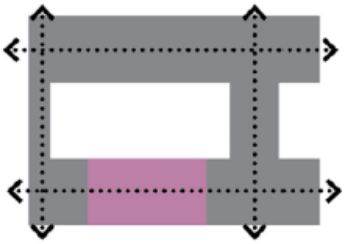
- Calm atmosphere
- Greater intimacy in the birth room
- Spacious birth room
- Clarity of service points in the unit
- Clarity in finding midwives
- Sufficient space for labour in the unit
- Noise in the birth room
- Privacy in the birth room
- Adaptability of the birth room
- Natural light in the birth room



Calm atmosphere in the unit

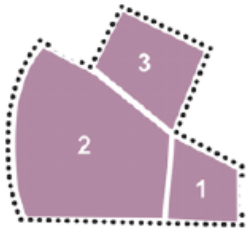
Setting	Midwife-Led Unit				Obstetric-Led Unit			
Perception		N.	Mean	St. Dev.		N.	Mean	St. Dev.
	Users	50	4.88	.52	Users	62	3.52	1.21
Built Environment	*Isolation from external flows* Yes, independent building				*Isolation from external flows* No, inside hospital maternity ward			





Adaptability of the birth room

Setting	Midwife-Led Unit				Obstetric-Led Unit			
Perception		N.	Mean	St. Dev.		N.	Mean	St. Dev.
	Users	50	4.62	.72	Users	62	3.38	1.17
Built Environment	*Number of Convex Spaces* 3				*Number of Convex Spaces* 1			



Spacious birth room

Setting	Midwife-Led Unit				Obstetric-Led Unit			
Perception		N.	Mean	St. Dev.		N.	Mean	St. Dev.
	Users	50	4.82	.52	Users	62	3.39	1.35
Built Environment	*Free surface* 23 m²				*Free surface* 14 m²			

Images 14-17 (Nicoletta, 2022)

Findings & Discussion

Through the literature, precedents and case study review I believe it can be clearly concluded that engaging women as a part of the design of women's healthcare environments results in spaces that are rooted in feminist design and spatial theory, allow for social justice and equity, and ensure users feel physically and emotionally safe, and dignified. What emerges from participatory work are spaces that are beautiful, empowered, and well liked by the users. They encourage women to continue receiving care or recommending that service space to others. Participatory design can be operationalized by ensuring user engagement is mandatory, women designers and architects are engaged as a part of the process for designing women's spaces, and historical precedents are not used to lead design decisions.

Some of the barriers identified and summarized include a lack of privacy, spaces feeling unsafe (resulting in anxiety and fear), withdrawing from scenarios where women need to compete with men for space, rigidity in space, a lack of thoughtful materiality and visual interest, socially isolating spaces, and spaces not designed for the care and/or accessible transport of children.

Conclusion

In order to provide better design for women's healthcare environments, a more open and empathetic point of view must be taken. Architecture has a responsibility to go beyond the banality of boring, sterile, and unauthentic spaces. Bringing together the participation of women users, women clinicians, and women architectural designers ensure that these spaces are feminist informed and align with the values and needs of its end users. While not an easy task, the continued advocacy for why this level of participatory action is required to create functional, spatially just environments will continue to take steps forward for space in society for women, created by women.

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Case Study 1: A Broad Study to Develop Maternity Units Design Knowledge Combining Spatial Analysis and Mothers' and Midwives' Perception of the Birth Environment

Nicoletta S, Eletta N, Cardinali P, Migliorini L. A Broad Study to Develop Maternity Units Design Knowledge Combining Spatial Analysis and Mothers' and Midwives' Perception of the Birth Environment. HERD. 2022 Oct;15(4):204-232. doi: 10.1177/19375867221098987. Epub 2022 Jul 10. PMID: 36165447; PMCID: PMC9520132.

Key Terms:

- Feminist Design and Spatial Theory
- Participatory Design Methods
- Spatial Justice in Healthcare
- Social equity in Healthcare
- Intersectionality
- Trauma informed design
- Sensory-aware spaces
- Embodied safety and comfort
- Healing and Emotional Resonance