WORKING WITH DISADVANTAGED FEMALE COMMUNITIES THROUGH DESIGN TOOLS

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Abstract

The gender gap is still prevalent in contemporary Hungarian society: the social statuses of women and men are often far from equal. The gap can be observed in the level of education and employment, in the difference in wages and in life experiences as well (Siposné, 2020). These indicators, besides pointing towards untapped potential, suggest difficulties in women's careers and draw attention to inequalities that begin at a young age. As compensating for disadvantage at a young age leads to measurably longer-term outcomes, this research focuses on the situation of children and adolescents through the lens of intersectional theory (Crenshaw, 1989). Studies show that certain groups can develop self-determination through design and maker-based methods, especially before and during the formative years of adolescence, mainly through the use of collaborative tools that empower participants (Vossoughi et al, 2016). Since the maker movement still tends be non-inclusive towards women and different marginalized groups, new methods and initiatives targeting these groups need to address this gap (Toupin, 2014). The current research is based on the hypothesis that a creative activity-based design methodology, which is respectful of the groups' specific barriers and is based on community engagement and participatory tools, can be used to develop competences and activities that help girls and women to gain skills, agency, empowerment, and decision-making tools. Through a multi-lens analysis of the target group and the methods currently used in this context, I propose a critical, flexible methodology based on design tools to address the target group of young, disadvantaged girls, a methodology that is suitable for catalyzing measurable changes in participants' attitudes, directing them towards more agency and empowerment in their lives. I present the extensive fieldwork I conducted in urban and rural Hungary with mainly Roma girls from a low-income background, which served as a ground for testing and development for the proposed methodology, FRUSKA. I also analyze the results of the co-design workshops carried out during the fieldwork and measure their impact and discuss future applications of the methodology.

Absztrakt

A nemek közötti egyenlőtlenség napjainkig megfigyelhető a magyar társadalomban: a nők és a férfiak társadalmi helyzete közötti különbség az élet számos területén érvényes. Ez az eltérés kimutatható az iskolázottság és a foglalkoztatás mértéke között, a bérek közötti különbségben és az általános szerepek és elvárások szintjén is (Siposné, 2020). Ezek a mutatók amellett, hogy kiaknázatlan potenciálra mutatnak rá, a fiatal korban kezdődő különbségre és később a munkaerőpiacon tapasztalható egyenlőtlenségekre is felhívják a figyelmet. Mivel a fiatal korban megkezdett hátránykompenzáció mérhetően hosszabb távú eredményekhez vezet, ez a kutatás az interszekcionális elmélet (Crenshaw, 1989) szemüvegén keresztül a fiatal és serdülő lányok helyzetére összpontosít. A szakirodalom azt mutatja, hogy bizonyos csoportok önismerete a design és a maker-alapú módszerek segítségével fejleszthető a serdülőkor formatív évei előtt és alatt, különösen a résztvevők kapacitásnövelését célzó kollaboratív eszközök használata révén (Vossoughi et al, 2016). Mivel a maker-mozgalom még mindig kevésbé nyitott a női fehasználók és a különböző marginalizált csoportok felé, fontos, hogy a rokon célcsoportokat bevonó új módszerek és kezdeményezések erre irányuló változást katalizáljanak (Toupin, 2014). Hipotézisem, hogy a csoportok sajátos akadályait tiszteletben tartó, a közösségi szerepvállaláson és a részvételi eszközökön alapuló, kreatív tevékenységben gyökerező tervezési módszertannal olyan kompetenciák és tevékenységek fejleszthetők, amelyek segítik a lányokat és nőket abban, hogy különböző készségekre, ágenciára és döntéshozatali eszközökre tegyenek szert. A célcsoport és az ebben a kontextusban jelenleg alkalmazott módszerek több szempontú elemzésén keresztül egy kritikus, rugalmas, tervezési eszközökön alapuló módszertant javaslok a fiatal, hátrányos helyzetű lányok célcsoportjának megszólítására, amely alkalmas arra, hogy mérhető változásokat katalizáljon a résztvevők attitűdjeiben, a képessé tétel és önrendelkezés erősítésén keresztül. A Műleírásban bemutatom azt a kiterjedt terepmunkát, amelyet Magyarországon városi és vidéki környezetben végeztem főként hátrányos helyzetű lánycsoportokkal, és amely a javasolt módszertan, a FRUSKA tesztelésének és fejlesztésének alapjául szolgált. A fejlesztési folyamat és az eredményeket bemutatását követően a módszer jövőbeli alkalmazása is javaslatot fogalmazok meg.

Theses

1. Women living in extreme poverty experience gender inequality on a deeper level than others in Hungary. In relevant literature this is described as ‘the feminization of poverty’ and the phenomenon specifically affects underprivileged women as a group.
2. In the case of women from disadvantaged backgrounds, life prospects can be improved by self-discovery and development. Agency and empowerment are valuable tools that enable this improvement.
3. Current educational settings of poverty-ridden and segregated youth groups in Hungary are not properly equipped to empower students and provide them with positive role models. Development of creative competences has the capacity to strengthen the identity and psyche of struggling youth.
4. Empowerment and agency are two key components of the psychological development of disadvantaged girls, and are further supported by decision-making as another important aspect of improving the prospects of the target group.
5. When addressing disadvantaged, young female groups, social design approaches should focus on the agency and empowerment of the participants. To do that, it is important to create both safe boundaries for participants with difficult life experiences, and enough room for self-expression and adequate reflection.
6. In urban settings, maker communities (which are focusing on empowering citizens with the knowledge and infrastructure for making and repairing their own things) can provide a supportive environment for disadvantaged girls to develop tools to build agency and empowerment. Creating space within the movement, literally and figuratively, can significantly improve disadvantaged girl communities’ prospects through the use of creative tools.
7. Based on the premise that social design’s role in the development of communities is not to be responsible but responsive, it is important to address young, disadvantaged female groups with an approach that is rooted in participatory design methods. This approach is sensitive, attentive, and requires participants to concentrate, focus, make small decisions, and tap into the physicality of space, objects, and their bodies.

Tézisek

1. *A mélyszegénységben élő nők mélyebb szinten tapasztalják a nemek közötti egyenlőtlenséget, mint más csoportok Magyarországon. A vonatkozó szakirodalom ezt “a szegénység feminizációja” kifejezéssel írja le, és a jelenség kifejezetten a hátrányos helyzetű nőket mint csoportot érinti.*
2. *A hátrányos helyzetű nők esetében az életkilátások önismerettel és kapacitásfejlesztéssel javíthatók. Az ágencia fejlesztése és a képessé tétel olyan értékes eszközök, amelyek lehetővé segítik ezt a folyamatot.*
3. *Magyarországon a szegénységben élő és szegregált fiatalok jelenlegi oktatási környezete nem rendelkezik megfelelő eszközökkel ahhoz, hogy a tanulókat megerősítse és pozitív példaképekkel lássa el. A kreatív kompetenciák fejlesztése képes megerősíteni a nehéz helyzetben lévő fiatalok identitását és pszichéjét.*
4. *A hátrányos helyzetű lányok pszichológiai fejlődésének két kulcsfontosságú összetevője az ágencia és a képessé tétel erősítése, amelyet tovább támogathatunk a szabad döntéshozatal gyakorlásával.*
5. *A hátrányos helyzetű, fiatal női csoportok megszólításakor a szociális design megközelítéseknek a résztvevők ágenciájára és képessé tételére kell összpontosítaniuk. Ennek érdekében fontos, hogy a nehéz élettapasztalatokkal rendelkező résztvevők számára egyaránt biztonságos határokat teremtsünk, valamint elegendő teret biztosítsunk az önkifejezésre és a megfelelő önreflexióra.*
6. *Városi kontextusban a maker közösségek (melyek fő célja, hogy infrastruktúrát biztosítsanak tagjaik számára az önálló kreatív tevékenységhez) támogató környezetet nyújthatnak a hátrányos helyzetű lányok számára, ágenciájuk és önállóságuk fejlesztése érdekében. A maker mozgalom kitágítása hátrányos helyzetű csoportok irányába jelentősen javíthatja a célcsoport kilátásait a kreatív eszközök használata révén.*
7. *A szociális design szerepe a közösségek fejlesztésében nem elsősorban a felelősségvállalás, hanem a reszponzivitás. Ebből kiidndulva fontos, hogy a fiatal, hátrányos helyzetű női csoportokat részvételi tervezési módszerekben gyökerező megközelítéssel szólítsuk meg. Ez a megközelítés érzékeny, figyelmes, és megköveteli a résztvevőktől az összpontosítást, a léptékhelyes döntéshozatalt, és arra invitálja őket, hogy a fizikai térben is alkalmazzák az így megszerzett készségeket.*

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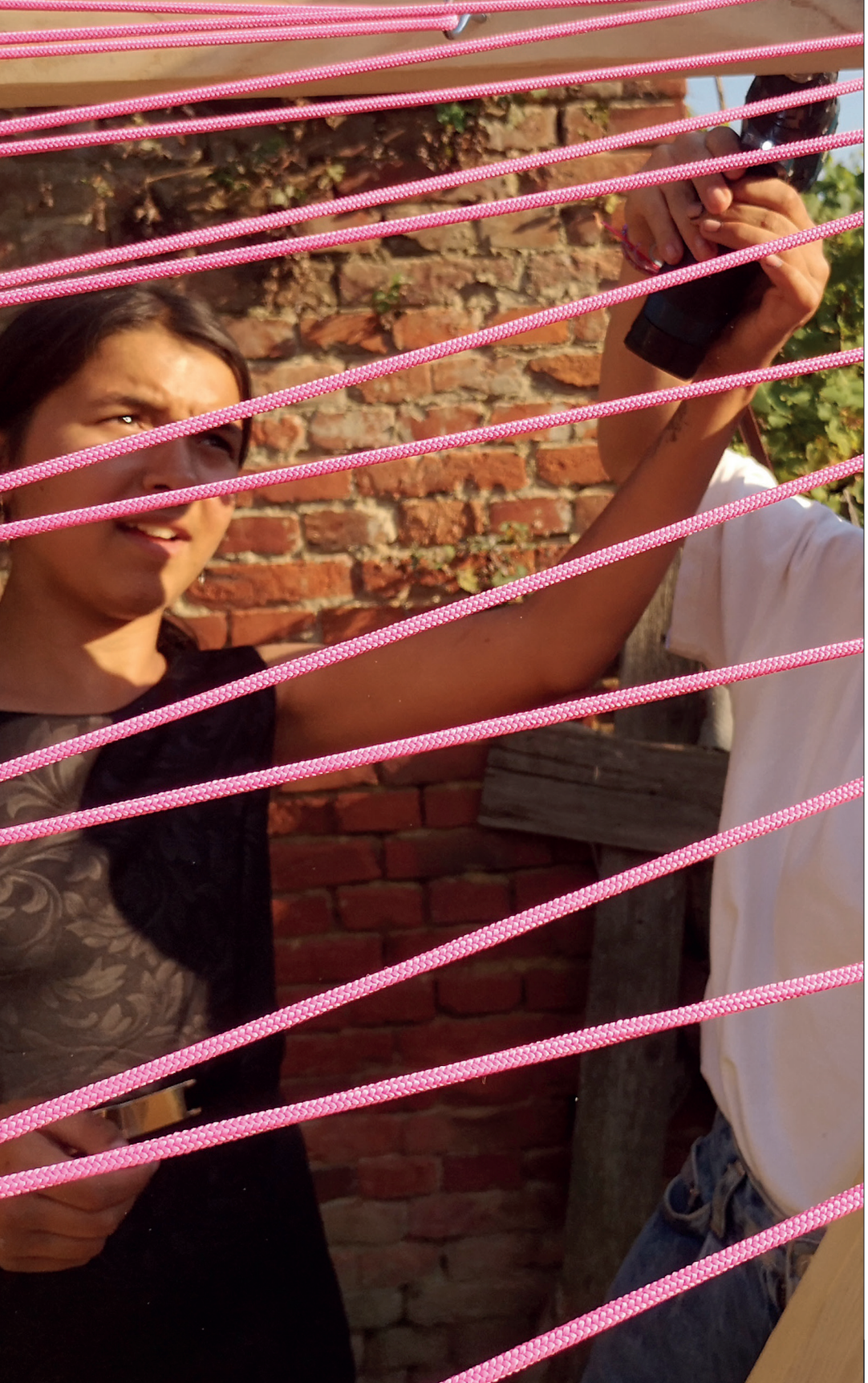
DOCTORAL DISSERTATION



I. CONTEXT

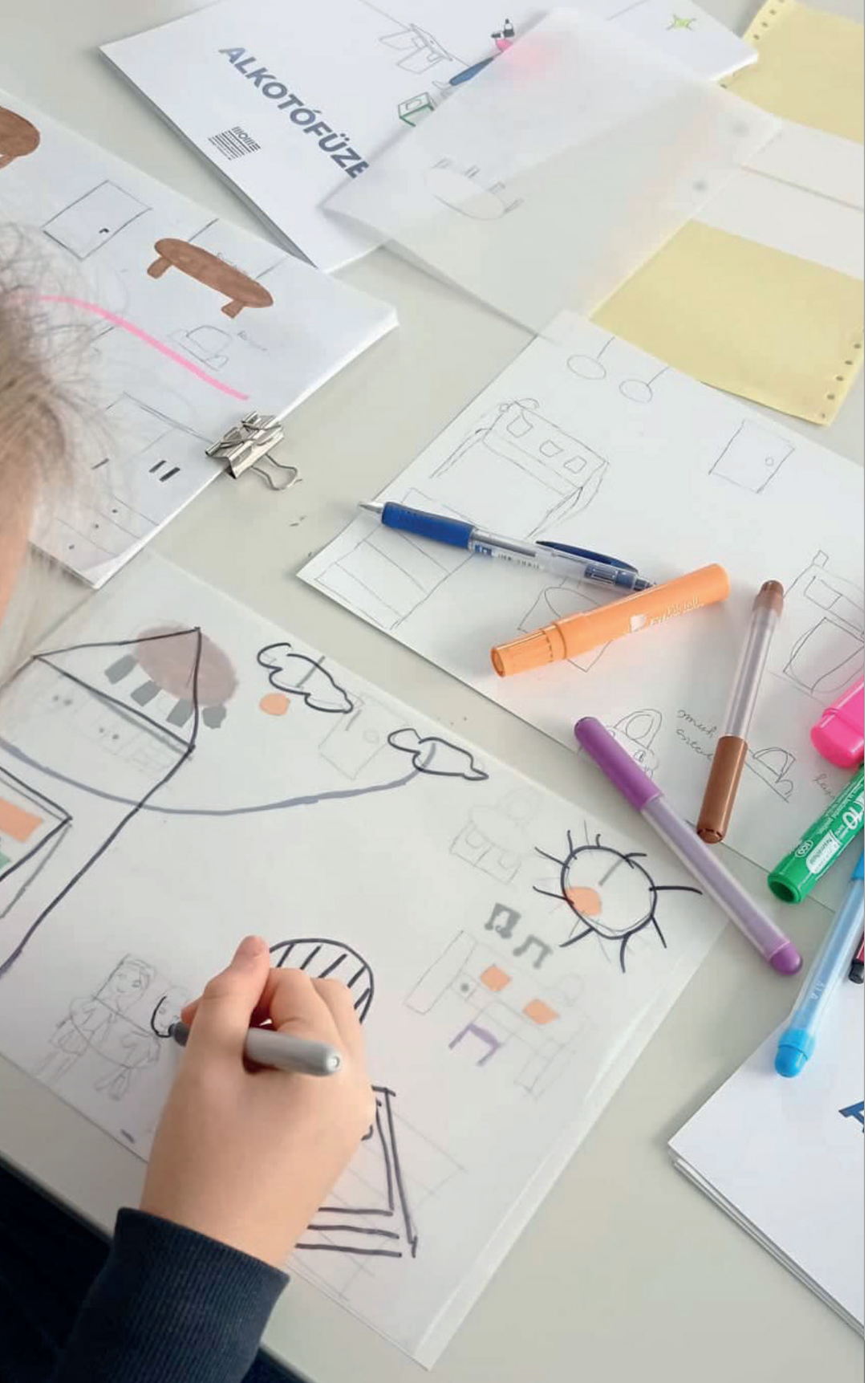
I.1. Introduction and the relevance of the subject

The research presented below is situated at the intersection of design, gender studies and sociology. Through this research I investigate whether social design can address gender-based disparities, and improve the self-awareness and resilience of women's communities. In the context of this research, women's communities are understood as gender-segregated groups (though not isolated from men), organized along the lines of women's social roles, geographical location and cultural identity, with the aim of maintaining a common cause. Therefore, in my research I aim at creating a design-based method that can help young female communities gain agency and empowerment through the use creative tools, improving their self-knowledge and goal-setting for the future.

My research question centers around defining effective creative tools and methods adequate for improving disadvantaged girl groups' self-esteem and skills, which can ultimately lead to stronger agency and a more empowered attitude.

In the theoretical section of the dissertation, I aim at defining the sociological context and the struggles and challenges of the target group. Following the overview of these challenges, an adequate theoretical framework is defined through the introduction of Intersectional Theory, a clear definition of the target groups, a discussion of participation and empowerment, and the positive impact of creative and maker tools. A critical review of the maker movement and current social and human-centered design practices, complete with a set of case studies from my personal practice, establishes the theoretical foundation for the Masterpiece.

The aim of my Masterpiece, which constitutes the second part of my thesis, is to develop a practical method through a series of experimental workshops with various groups of underprivileged girls using various design methods and tools. The insights, observations and learnings from these workshops are then synthetized, tested and further developed into the FRUSKA method which is documented in a handbook. In the Masterpiece, I present the process of developing the method, through analysis of case studies, demonstrating positive and negative outcomes and insights of the hands-on workshops. The practical work is closely built upon the findings of the theoretical research presented in the first part of my thesis. The method also includes a systemic impact assessment, which helps measure the changes detected in participants' attitudes. The method is presented in the FRUSKA Handbook (Csernák et al., 2023) published in digital and paper format, which helps practitioners, educators and social workers apply the method in their practices with the target group. Several case studies are presented, their results are discussed, and the data gathered during the workshops are presented and analyzed. Furthermore, the design process of the method and the semiotic aspects of the workshop results are discussed. The thesis concludes with a reflection on the workshop experiences and possible future applications of the method.



I.2. Disadvntaged women in Hungary: social science overview

Today, the position of women within different societies and communities are widely debated by mainstream media, civil groups and activists. As a woman, a mother and a designer, I am confronted on a daily basis with the complexity and contradictions of women's roles and the ever-increasing expectations of women. In today's Hungary there is still a large gender gap, and in many cases social statuses of women and men are not equal. This gap can be seen in the level of education and employment and in the difference between wages and salaries. While the number of employed men aged 15-64 in Hungary increased by 2.6% (2,352,000), the number of employed women of the same age group increased by only 2.0% (1,970,000) (KSH, 2017) in one year, from 2016-2017.

The same trend can be observed at the international level, but there are also positive developments. Female communities supported by the Chars Livelihood Program[1] between 2010 and 2016 show demonstrably higher resilience (flexibility, adaptation and resource mobilization capacity) in natural disasters than their male counterparts, and the results of the relevant study (Pritchard et al., 2015) suggest that support invested in female communities offers higher returns.

The relevance of the subject of advancing female communities is well demonstrated by the fact that the 5th one of 17 Sustainable Development Goals (SDG) targets Gender Equality (UN, 2015). The SDGs, an urgent call for action by all countries—developed and developing—were established in 2020, as a continuation of the global development work established by United Nations' Millennium Development Goals (2015-2020),

[1] Chars Livelihood Programme is programme that works with extreme-poverty households in the islands of north-west Bangladesh and aims to improve the livelihoods of more than one million people.

which also featured Promoting Gender Equality and Empowering Women as its third objective. Clearly, there is still a lot of room for improvement in terms of gender equality in all areas of life (such as education, domestic life, career, etc.), and the research presented below intends to contribute to the progress from the field of design. As such, the subject of the current research is situated at the intersection of three major areas: gender studies, social development, and social design. In order to understand such a complex problem, an interdisciplinary, creative-artistic approach is adopted both in research methods and in the Masterpiece. This interdisciplinary approach was informed and inspired by insights from the fields of sociology, social work, gender studies, anthropology, psychology and therapeutic creative tools, but its main outcome is rooted in design, and more specifically, in social design. The inquiry of the research presented here is based upon 8 years of field-based practice as a designer, which showed me the powers and the limitations of design in challenging and socially complex contexts. As I have been reflecting on the challenges faced in market- and research-based endeavors, my focus as a practitioner shifted towards tackling social challenges and gender inequalities. As young women from disadvantaged backgrounds face a multiplicity of barriers, they are placed at the focus of the current research.

Since the communities under study are primarily bound together by the social roles that women share, in order to understand and define the broader women's community that is the focus of the research, I consider it important to explore the concept of gender and the concept of advancement through women's advocacy. Feminism and gender studies, even as relatively young movements and disciplines, have very rich and layered histories and literatures. A central idea of gender studies is the recognition that gender is a social construct, and that it implies certain gender expressions in the context of interpersonal and group social interaction. A distinction between biological sex and gender was a crucial idea of the 1970s with a great political, philosophical, and cultural impact. American feminist philosopher Judith Butler establishes a distinction between gender performativity and gender roles, which delineates between the social behaviors of the individual expressing the behavior to articulate their own perception of their gender; and behavior which complies with societal gender expressions (Butler, 1988). The idea of gender performativity plays an important part in the current research, as it focuses on communities that are bound together by a set of similar life experiences, societal expectations, and performative gender expressions.

Since the main focus of this research is to investigate the issues and challenges that disadvantaged female communities face and identify the areas that can be tackled through the use of design, firstly it is crucial to look at the issues, challenges, and barriers themselves that women from diverse backgrounds face all over the planet today. Without citing the extensive history and literature of the discipline or the evolution of the political discourse in detail, it is important to briefly outline the key issues of women's rights movements, as the issues addressed by their political agenda are still relevant today and provide an overview of the specific challenges of women's life experiences.

Gender historian Martha Rampton argues that the main driving force behind feminism and women's political movements in general has been the creation and maintenance of social, political, and economic equality in predominantly patriarchal societies (Rampton, 2008). This rather general definition, of course, does not take into account the differences of class, race, age and geography that further stratify, divide and, in some cases, create conflicts among the movements under the banner of feminism. These divisions and the stratification of women's interests cannot be ignored because of the social nuance of the chosen topic, and it is within the intersection of these filters that my research is situated.

In the last two decades feminist discourse[a] has become more and more diverse, even divided, due to differences in approaches, agendas and focuses. The feminist movement can be read through a taxonomy of four waves since the inception of the movement until the present day (Hannam, 2012). The main ideas of the Fourth Wave or the central issue of contemporary feminism(s) today is to move towards reducing social inequality, while reflecting on the questions raised by gender expressions outside of the binary gender (Rampton, 2008). On the other hand, Intersectional Theory (Crenshaw, 1989), a concept referring to some key targets of the Third Wave (which focuses

[a] In the following, I use the terms feminism and feminist to refer to activism for women's equality. The demand for equal rights for women in the Western world arose as early as the 17th century, but the first major wave of feminism began to emerge only in the second half of the 19th century. As European and North American societies were gradually democratized and the legal distinctions between social classes were abolished, the lack of suffrage for women and their exclusion from the free labour market became less and less sustainable. To achieve this, the suffragette movement, which originated in England, was launched in the early 20th century (Rampton, 2008).

on racial and class-based inequalities), still highlights many challenges and struggles that has not yet been solved through the efforts of the feminist movement.

Intersectional feminism is a theoretical stance informed by Intersectional Theory, and focuses on the voices of those experiencing simultaneous, concurrent forms of oppression in order to understand the depths of the inequalities and the relationships among them in any given context (Crenshaw, 1989). According to Crenshaw, intersectionality identifies multiple factors of advantage and disadvantage. Examples of these factors include gender, caste, sex, race, ethnicity, class, sexuality, religion, disability, weight, physical appearance, and height. These intersecting and overlapping segments of identities may appear as both empowering and oppressing. Since 2000, more and more feminist discourses have been incorporating Intersectional Theory into their arguments, even though Crenshaw introduced the term earlier in relation to the oppression African American women face (Crenshaw, 1989). Crenshaw argues that black feminism, and the experience of being a black woman cannot be understood in terms independent of either being black or a woman. Rather, it must include interactions between the two identities, which, she adds, frequently reinforce one another (Crenshaw, 1989).

Despite the tendency that black-centred arguments are being adapted for various ethnicities through an intersectional feminist perspective (Fernández Kelly, 1995), Durst highlights that it is still not widely applied to certain ethnic groups such as Roma women in Central Europe (Durst, 2001). One of the few advocates of Roma feminist activism is Carmen Gheorghe, who points out, alongside other authors, how the lack of an intersectional discourse further pushes back these marginalized identities from advancing their social position (Dobrobantu et al., 2019). Moreover, if we recount age as a factor in the intersection of identities, we can state that girls are not only "marginalized within the category of children as females, and within the category of women as minors" (Taefi, 2009, p. 347), but possibly members of ethnic minorities as a further eclipsing layer.

From a design point of view, a target group that is well-defined and quite narrow might lead to a more successful approach as it helps avoid unnecessary generalization. However, from a wider perspective, the more specific the target group is, the more complex the necessary approach becomes; therefore, I chose Intersectional Theory as an appropriate method for investigating groups that experience multiple barriers in their lives.

As a further reference point, Bourdieu's notion of *habitus* can be cited here. A *habitus* is a model developed to understand systemic social behavior and social judgements. It offers a mapping and interpretation of the unconscious template of inner dispositions, a set of reflexes that one uses to make sense of the world and to act accordingly, based on one's social position. Consequently, different embodied identities can feel excluded from certain trajectories, based on their social status, gender, education, race, or other factors (Bourdieu, 1986)—and as Intersectional Theory states, even a combination of these. Therefore, this *habitus* is something that can be reflected upon, and the current research aims to encourage members of the studied community to reflect on their position, their *habitus*, through the means of design.

The history of women's movements in Hungary should be assessed in close relation to the political climate of the time. In her study on the subject, Andrea Pető points out that women's movements in Hungary under communism retained their prewar image and modus operandi, and many of them had to operate in secrecy as a result of the ideology of the single-party state (Pető, 2002). The problem is also that in contemporary Hungary there is an almost complete absence of upper-middle class women with leisure time and mobilizable resources among women activists, unlike in the United States or Scandinavian countries (Pető, 2002). This situation is further aggravated by the lack of a strong civil society and, in particular, of a potent and visible minority (e.g. Roma) intelligentsia. At the policy level, gender equality is a controversial issue in our country, although the family support system is constantly being strengthened. According to a shadow report by the Hungarian Women's Advocacy Association, "[...] in reality, there are hardly any institutions for the social equality of women and men, and public policy measures aimed at gender equality are rarely implemented, and even the ad hoc targeted programs that are rarely initiated are mostly implemented without the involvement of NGOs working in this specific field."

Social struggles related to gender inequalities remain an unresolved issue. When looking at the current socio-economic circumstances in Hungary, Siposné states that "The global economic crisis had social effects in Hungary earlier than in other countries (usually between 2009 and 2012) and therefore increased the extent of not only income poverty but also of income inequalities and of severe material deprivation." (Siposné, 2020, p. 42) She also stresses that according to data, housing inequalities, ethnic origin and having a large family are usually closely

related, creating overlapping disadvantages. Furthermore, the Roma population, which makes about 6-7% of the total Hungarian population and which has been the target of a historically ingrained bias, is considered the most exposed to poverty, with considerably low levels of education and employment which lead to deep poverty (Siposné, 2020, p. 43). A survey conducted by TÁRKI in 2012 revealed that while 12% of the total Hungarian population lives below 60% of the median equivalized income, this rate among the Roma population is 76% (Gábos et al., 2013). Additionally, poverty and social exclusion further threaten the following groups: children under 18, single-parent households, low-educated, unemployed, and Roma (in which case the risk is three times the average) (KSH, 2016). This is further emphasized by Schultz who, in the context of the struggles of human rights advocacy and feminism, stresses that Roma women are the region's most vulnerable ones, facing constant, multiple discriminations, based on race, class and gender (Schultz, 2012, p.41, p. 37). These simultaneous discriminations can be further understood turning to Intersectional Theory (see above).

In contemporary Hungary, the class or ethnic difference between women is a central, still unresolved issue, which further deepens the gap between the actors (ERCC, 2007)[3]. Thus, Roma women are victims of multiple discrimination on the basis of gender and ethnicity. According to the ERRC report, the measures and strategies implemented by the Hungarian government to improve the situation of women and Roma in the country have not yet led to a significant improvement in the situation of the majority of Roma women (ERCC, 2007).

According to a 2015 study on Hungary, deprivation can be further broken down into three indicators: the proportion of people living in relative income poverty, the proportion of people living in severe material deprivation, and the proportion of people living in a very low job-intensity household (employment poverty) (KSH, 2015). The groups defined by relevant indicators overlap, which signifies 1,9 % of the overall population of Hungary.

[3] "A romákat továbbra is érinti a többségi társadalomhoz képest nagyobb fokú szegénység, a lakhatási és oktatási szegregáció, az alacsonyabb iskolázottsági szint, a magas munkanélküliség, az egészségügyi szolgáltatásokhoz való korlátozott hozzáférés, melyeknek gyakran az országban uralkodó diszkrimináció a forrása."

With the transition to a market economy, the length of childcare benefits has increased, and the number of childcare institutions has decreased. This has led to women being increasingly pushed into the household to take care of their children, elderly relatives, and relatives living with disabilities. This has resulted in the feminization of poverty (Einhorn, 1993), as a dominant phenomenon in the country (Gregor & Kováts, 2019). As stated above, women from minority backgrounds are the region's most vulnerable ones, facing constant, multiple discrimination based on race, class, and gender (Schultz, 2012). Furthermore, (mostly Roma) girls are not only marginalized within the category of children as females but also within the category of women as minors (Taefi, 2009). Addressing poverty as a gendered problem helps us further understand the obstacles underprivileged females face. The two strongest barriers are the duty of childcare (which falls disproportionately on mothers instead of fathers) and the impediment they experience in the job market (Czibere, 2012).

The question of ethnicity (a dominant issue in contemporary feminist trends) and its place in research has been frequently raised during the course of the current research. Even though the research was not set out to investigate specifically Roma communities, and instead dealt with various disadvantaged women's groups, considering the statistics above it is not surprising that a considerable ratio of participants in the research were from a Roma origin. While I consider it important to highlight the *Gypsy-Hungarian distinction* in contemporary Hungarian society, as ethnographer Cecília Kovai describes it (Kovai, 2017), and to take cultural specificities into account, I strive to incorporate these into the final result of the research in an organic way, where the emphasis will not be on the communities' ethnicity. Instead, the method grants the participants space to freely define and express their identity based on the framework of Intersectional Theory (see above) in a design-based manner. While I give a key role to the assertion of cultural specificities in the development of the methodology of the fieldwork and design process, I also intend to make the model adaptable to situations that are independent of such cultural specificities.

A number of international studies demonstrate that a focus on women's communities in regional and global dvelopment policy making has vastly positive outcomes. This volume of studies, commissioned by INSTRAW (United Nations International Research and Training Institute for the Advancement of Women), provides a very detailed historical account of

women-focused approaches to global challenges (Braidotti et al., 1994). The studies collected highlight the major issues of feminism and its responses to globalization critiques, as well as the lessons that women's communities can actually learn and the importance of looking at these communities as more than just a resource. The Women, Environment, Development discussion, which addresses the synergies between feminist thinking and environmental sustainability in the context of developmental work, has several main streams of thought. Some of them address the managerial aspects of minimizing negative effects of the process of economic development through targeting women with developmental assistance. Others tend towards the critique of Western development and its negative effect on women, and some search for alternative development models that are less exploitative, growth-centric and globalized (Braidotti et al., 1994, p. 92). One of the most important critiques of current, Western-centric development practices is the Ecofeminist movement. Originating in the mid-1970s from French feminist writer, Francoise Eaubonne, the term now refers to a stream within the feminist movement with a theoretical position based on the critical connection between domination of nature and women (Braidotti et al., 1996, p. 161). Besides a theoretical position, it is a social movement that promotes green consumerism, a holistic analysis of production and consumption, a social and environmental agenda within production, reproductive rights, an end to the arms race, and the critique of the exploitation of resources (Braidotti et al., 1996, p. 162).

A more recent, detailed and insightful example for the critique of exploitative practices comes from Ginger Ging-Dwan Boyd, who, in her article 'The Girl Effect', points at Nike campaigns to show how, in the arena of global capitalism, women's advocacy can easily become a marketing ploy and an effective tool for market expansion. In her study, the author shows how empowerment becomes a buzzword which targets widening the brand's consumer market regardless of the overall effect of the commercial strategy (Boyd, 2016).

The literature reveals many meeting points between the aspects of political activism for women's equality and sustainability development that also involve social interests. One of the key concepts in women's movements is group or small group organization, which includes both men and women; indeed, according to bell hooks, the future of feminism depends on the activation of small groups. Hooks points out that separating different notions of feminist thinking that take place around kitchen tables, involving a wide range of people, from the academics and civil activists threatens the feminist movement. However, returning the new feminist thinking to the small group setting would promote this radical thinking, thus integrating critical analysis and discussion of personal experiences. It would be useful to reintroduce small groups as a forum for critical consciousness-raising, where women and men in neighborhoods or small communities could discuss issues affecting women, as small groups are crucial for critical thinking (hooks, 1989).

This small-group, democratic grassroots activism is in line with the key ideas of sustainability development, which holds the current gendered hierarchy responsible for many of the planet's ecological and economic problems (global natural crisis, poverty, overpopulation) and sees the solution in the equalization of existing power relations[4]. Similar principles are to be found in the co-design methodologies discussed later, and the design ethics underpinning the research also emphasizes equality-based, democratic design processes.

[4] "But neither women nor any other concerned group can assume a monopoly on providing valid solutions to the crisis. The importance and the magnitude of the task call for alliances of all parties involved in the process of transformations towards pro-environmental changes." (Braidotti et al. 1994.)

I.3. Disadvantaged girls at the intersection of identities

Crenshaw's Intersectional Theory (see above) draws up a framework that proves helpful when trying to understand the situation of different female communities. Looking at vulnerable adolescent girl communities, even though social development and social work is widely researched in the US, mainly concerning African American and Latino groups, we can see that it is rather understudied how European American, and especially Eastern European and other semi-peripheral groups relate to these settings (Krumer-Nevo & Komem, 2015, p. 1191). A recent study by Krumer-Nevo and Komem points out that even though intersectional feminist theory has broad applicability and provides useful tools for understanding marginalized groups and their oppression, these tools and approaches are rarely used in practical settings of social work (Krumer-Nevo & Komem, 2015). Furthermore, the authors state that it is essential to apply critical consciousness when working with communities, in order to turn around the internalization of oppression the disenfranchised experience. The idea of a positional dialogue presented in their study demonstrate the possibility of engaging girls and social workers in 'socio-political talk' on personal issues (Krumer-Nevo and Komem, 2015), and as a tool, it is also included in the research presented here.

Several anthropological studies confirm that despite the cultural differences, there is a considerable amount of similarity between the experiences of girls from European ethnic minorities and African American girls (Schultz, 2012). In Hungary, Roma are considered the biggest minority population, with 6% of the population self-identifying as belonging to the group (KSH, 2014). United Nations' 3rd Sustainable Development Goal of empowering girls and women includes eliminating child marriage as an international objective (United Nations, 2015), which is a particularity in socioeconomically or racially non-dominant girl communities, even though the reasons

behind it vary. Durst argues that life stories of Romani girls show patterns similar to African American ones, drawing our attention to parallels in early motherhood experiences of West Baltimore girls (Durst, 2001; Fernández Kelly, 1995). This shows that, contrary to conservative viewpoints linking early motherhood to biological or cultural factors and the dependency on national aid programs, a more plausible explanation argues for reproduction as a 'symbolic capital' (Durst, 2001). This 'symbolic capital' associated with childbearing signifies the change in social ranking of Romani girls; for some, it is the only chance for establishing independence and some type of career, or even agency. Thus, it is rather difficult to find motivation in education, because the completed degrees do not usually contribute to the future prospects of girls, given the lack of employment and social support (Durst, 2001); on the other hand, childbearing grants respect and position at least within the community.

In conclusion, it can be stated that diverse adolescent youth should be studied by taking into account the cultural, institutional, and socioeconomic processes. Considering adolescents' construction of identity as part of an ongoing formation of relationships, institutions, culture and family rather than seeing them as passive reactors to a static system produces more accurate and detailed observations (Cooper, 1999, p. 19). Moreover, it helps overcome the misconception of seeing educational difficulties of low-income or minority students as resulting from 'cultural mismatch' and recognize how institutions might lack the knowledge to guide them (Havas & Liskó, 2005, p. 94-95). We can state that underprivileged girls are a particularly vulnerable societal group both economically and ecologically, resulting in the lack of tools for exerting control over their future, be it from an educational or sustainability perspective. The population of Hungary presents a relatively high percentage of vulnerable social groups, where members of youth, females, or ethnic minorities (in Hungary's case, mainly Roma) might find it extremely difficult to fight poverty and move towards more conscious and strategic practices of sustainability.

[Summary]

Gender inequality is still a prevalent issue in contemporary Hungary. Barriers like the lack of access to quality education or fair opportunities on the labor market, unequal share of the reproductive work in the domain of the household (domestic responsibilities, childbearing and care work), an increase in gender-based violence, or heightened vulnerability in relation to housing (KSH, 2014, 2015, 2017), all of which can be described as the 'feminization of poverty' (Gregor & Kováts, 2019). The multiple obstacles that women face in different social positions can be grasped through Intersectional Theory (Crenshaw, 1989), which helps us understand the effect that intersecting identities (related to attributes such as age, race, ethnicity, class, physical appearance, etc.) can have on an individual or social group and articulates the debilitating effect when these intersections create cumulative adversities.

It is widely established that in case of youth groups, empowerment programs have the capacity to reduce adverse outcomes (Ruhr & Fowler, 2022) through capacitating them to act as agents for change in their communities and enhance their life skills and improve their developmental outcomes, thus reducing the negative impact their background can have on them. Therefore, in case of disadvantaged female communities, young girls are chosen as the focus of current study, as the authors' personal field-based experience reassures the tendency that young girls' development can be impactful regarding their future prospects.

II. SOCIAL DESIGN THEORETICAL BACKGROUND

II.1. Gender and design

All design reflects certain notions of gender in relation both to the culture in which it is created and to its users. That being said, not all design approaches the question of gender in a conscious, evidence-based manner, and even if they do apply a preconceived notion of gender relations, it is not necessarily a progressive or egalitarian one. Design field professionals specifically address questions of gender in designs. Harris Reed, an Anglo-American fashion designer, and Rad Hourani, an interdisciplinary artist, are known for their concept of genderless or genderfluid fashion, that overlooks cultural codes for performative actions of gender, and that provides a certain freedom for their wearer. Monica Förster's Lei (2009) is the first ergonomic office chair for women. Lei is the result of a lengthy study on female sitting posture, and is ergonomically designed to prevent occupational injury, and as such, it not only focuses on the female anatomy in its construction, but it also highlights the fact that in industrial design, the female anatomy's specificities are often overlooked. On the other hand, we can find countless examples of 'gendered values', user expectations, and often gender-conforming, stereotypical features and functions embodied in a functional object, showing an example of sheer insensitivity and lack of awareness, like numerous examples of pinkwashing. Sometimes, however, sexist forms of communication and design are intentionally employed. Whereas some areas of design are more interested in addressing specific genders through simplistic gender marketing—like fragrance design

or the design of sports cars— the inclusive and universal design approach brings forth an idea of pleasing all, or at least both binary genders, unfortunately seldom considering non-binary identifying individuals.

To take a step back, it is important to mention the intersections of design and gender theory relevant to the work. It is a relatively underrepresented topic in design literature, which has so far focused mainly on divisions of design fields and inequalities in gender representation throughout design history. Cheryl Buckley, the British design historian, argues that design history and practice is dominated by male worldviews and ideas, while women only play the role of consumers or advertising models (Buckley, 1986). Buckley theorizes that women's presence in design is historically four-fold: 1, Firstly, women's interaction with design was largely ignored, except when in the context of patriarchy; 2, secondly, patriarchy was reshaped and reconfigured depending on specific social, economic and political circumstances and women were categorized as 'natural', 'decorative' and 'instinctive'; thirdly, the position of the designer was of the 'auteur', a largely male-centered image, and lastly, the role of design was defined through its relation to modernism, progress and innovation (Buckley, 1986). On the other hand, Judy Attfield questions the gender neutrality of the design canon itself, asking why traditionally female domestic objects and cottage industry products have been excluded from this canon if their presence is inseparable from the creation of classical 'design objects' (Attfield, 2000). Connecting natural materials, handmade and small-scale production to femininity and domesticity not only narrows down the space women are allowed to take in design history, but it is also restricting towards practices that might not center around technology and innovation, but tradition and preservation. Attfield reminds us that design is an active verb that involves making things: "The experience of engaging in the act of designing is not confined to professional designers, nor amateur do-it-yourself activities such as home decorating, it is something that most people do every day when they put together a combination of clothes to wear or plan a meal." (Attfield, 2000, p. 17) This inequality, this imbalance in power relations is also an intense concern in my own work, since the professional legitimation of female creativity is a central theme in the work described below. Based on similar grounds, Buckley asks us to "begin to understand making/ producing/ assembling as part of a continuum *that is design*. This perspective can include the close-up, domestic, intimate, personal." (Buckley, 2021, p. 54)

Many complex approaches also exist with regards to gender. Within mainstream Western culture, gender is perceived as a duality that divides people into two categories (male/female), and even though culturally more diverse and non-binary definitions of gender today are widespread, mainstream design still looks at users through the lens of this dichotomy. Due to a mainly patriarchal society and the historically advantaged position of men, a lack of diversity in the decision-making processes that design entails results not only in exclusionist or homogenized design solutions but reinforcing unjust power relations and hierarchies. The perpetuation of the female-male category in design is problematic because not only does it reinforce stereotypes, but it also implies hierarchy: woman or girl products are often smaller, of substandard workmanship but nonetheless often more expensive and simplified, implying less user confidence. This includes the negation of technology, meaning that technology becomes invisible; the reduction of functionality, which simplifies operating displays and reduces information; and a type of representation that relies on images/icons rather than, for example, text and numbers (Herling & Becker, 2019).

Maaß points out that this dichotomy and its derivatives have vast consequences, too, but designers have control over these narratives: *"Designers however have the power to define what is the "right" and what is the "wrong" input and interpretation of output respectively, thus standardizing the permissible conduct of the user. People who cannot adjust their behavior accordingly because they do not dispose of the assumed abilities, skills and cultural habits, of experience, time, patience and motivation, of devices, money or social media networks cannot adapt the application to their needs. They are being excluded due to the technical design."* (Maaß, 2003, p. 216) Applying gender-specific solutions may lead to the 'ghettoisation of women' (Herling & Becker, 2019): special versions of otherwise male-associated products for women are thus perceived as outside the norm (Van Oost, 2003, p. 196). This is also demonstrated in the devaluation of technological areas within the realms of products and work: technologies that are established in female living environments are no longer perceived as "proper" technologies, for example, the washing machine, the microwave, and the fridge (Bath, 2009, p. 40).

Design's professed objectivity serves to make its subjective relationships between knowledge and power appear universal, and non-questionable. Moreover, the future-oriented and innovative thinking associated to design "[...] have proven enduring cultural myths surrounding its practices, even while design education clings to outmoded modernist paradigms." (Mareis & Paim, 2021, p. 14). Technology and its accessibility to users is very much associated with progress, innovation and long-term well-being. However, if women are discouraged to access and use technology through the design of these access points, it impacts their lives vastly. This is especially true for the case of maker practices and initiatives, that, contrary to the original code of ethics promoting democratization of the maker movement, still tend to perform exclusivity and gatekeeping (see more below in Chapter II.5).

If the design process is perceived as a model for decision-making, the embodiment and demonstration of power, and building representations of different viewpoints, then inclusion of vulnerable groups in the design process as well as their representation is not only desirable, but is a necessity.

II.2. Responsive, not responsible: Social design, definitions and approaches

As a designer, I am often confronted in my career with the contradictions and ethical challenges of the role of the profession, which is further complicated by the ambiguities of market-based practice. The main driver of my research is the desire to translate my design knowledge into a knowledge-sharing community application. I am primarily interested in how community design (co-design) situations and Human-Centered Design (HCD), which I will discuss later, work in the specific communities and circumstances that are of concern to the current research. In the following chapter, I will outline the design methodology background of my research and briefly describe the research-design methods I have incorporated into this framework. In the following I will draw on some of the key definitions, supplemented in some places by my own experience.

One of the founding texts of the social design discourse, Victor Papanek's 'Design for the Real World', does not offer a clear definition of the term, but rather a circumscription. He describes design as the most powerful tool in the hands of humanity and warns the designer that his decisions have social and moral consequences (Papanek, 1984). The idea of community-centered design emerged repeatedly in the 20th century, but in the 1960s, globalization, the rise of environmental problems, and the post-war development and expansion of consumer culture led to the collective incorporation of the social dimension into design practice, and many designers began to address issues such as sustainability, third world problems (famine, poverty, the spread of epidemics), and the integration of minorities or disadvantaged groups into design thinking.

Naturally, while Papanek's approach has inspired numerous theorists and practitioners, it has also been inviting criticism and scrutiny to this day. Clarke stresses that while Papanek's rhetoric emphasizes the distance between a morally and ethically superior "social design practice" and a profit-driven corporate culture, it fails to recognize the complexity of design's role within the political and moral economies that drive social change (Clarke, 2021).

Victor and Sylvia Margolin's approach offers a different framework for the definition of social design. In a 2002 study, they explore the practice of design (and within this, product design in the broader sense) as a phenomenon that shapes social processes (Margolin & Margolin, 2002). The study also draws attention to the fact that architecture and urbanism typically have more developed methodologies for socially sensitive design than object/product design. The authors compare the practice of design to the practice of social development. In this analogous model, the process is broken down into the following elements: engagement, analysis, design, implementation, evaluation, and closure. The social design process may work in a similar way, with the difference that the completion phase never concludes the design process, as there is presumably always the opportunity and need for iteration, for improvement of the process based on feedback. Another key concept and methodological suggestion for the process is participant observation, also from the field of social development. Participant observation is a tool to help the designer understand and find solutions to complex problems (or "wicked problems"[5]) such as social differences and related difficulties. Participant observation helps the designer to empathize, to apply a different perspective from the learner and to look for out-of-the-box solutions.

Lucy Kimbell and Joe Julier offer a broad definition in 'The Social Design Methods Menu' (Kimbell & Julier, 2011): social design as a design approach is about offering participants a practice-oriented learning process that results in useful, usable products and services with a positive message. At the same time, it encourages the efficient and beneficial use of resources and provides opportunities for dialogue-based continuous improvement of the results achieved.

[5] Conklin 2003.

One of the most thorough synthesis studies on social design, 'Social Design Futures' (Armstrong et al, 2014), defines social design as simply a catch-all term to describe practices that respond to community or socially engaged situations by offering design-based solutions.

In sum, social design refers to design attitudes, processes and their end products that take the form of efforts to reduce social inequalities arising from diverse factors such as class, ethnicity, disability, and age (both old and young). Closely linked to this approach, the principle of inclusive design is based on the assumption that the goals and needs of the majority society and of a minority group with special needs can be met by an appropriate design attitude. Kimbell and Julier also point out that these two concepts (social and inclusive design) can easily be overlapped (Kimbell & Julier, 2011).

Fortunately, social design literature and methodological manuals are widely available, often open-source publications, such as 'Development Impact and You' (Nesta, 2014), 'The Social Design Methods Menu' (Kimbell & Julier, 2011), IDEO's 'The Field Guide to Human-Centered Design' (IDEO, 2015) and 'Method Cards' (IDEO, 2015), SLUM LAB's 'The Social Design Public Action Reader' (SLUM Lab, 2013) and many more. These influential works of social design literature have many similarities and overlaps with each other and are typically not closed-ended, ready-made methodologies. In this dissertation I do not intend to describe these works in detail, as they are widely applied and discussed in current research, but in case studies below, citations mark where applied tools and methods can be linked to the works above. Flexibility and situatedness are common features of these works, pointing towards the observation that there are no universally true solutions that work in every situation. These tools are essentially designed for use in community situations but lack the applicability to specifically female or segregated groups, as they lack the space for expressing specific life-experiences and acknowledging disenfranchisement.

Ezio Manzini offers tools for methodologically clarifying co-design processes and identifying the actors in the process that are helpful in developing a systemic approach (Manzini, 2015). The design mode map (Manzini, 2015, p. 40) clearly distinguishes the four main areas of socially engaged design at present (Design and Technology, Design and Communication, Grassroots Activism, and Cultural Actors). The text also makes clear that each social design and co-design process can be positioned along different coordinates at the intersection of

these axes, depending on the actors involved and the goals they pursue (expert design, problem solving, interpretation, and extended design). It does not offer, however, the options of mobility between each segment of the map, which ultimately would be an important indicator of actors in the process.

Another key concept in social design is 'midwifing', as used by design theorist Andrea Botero, who identifies the midwife as an expert and a participant-observer outside the institution, who intervenes only minimally (in contrast to today's medicalized birth practices), and places much more emphasis on the competence of the woman giving birth and on supporting her in that experience, than on asserting her own authority and exploiting her position (Botero, 2013). *"With that in mind, midwifing for design might relate and draw attention to the caring and accompanying aspects that exist before, during, and after specific projects and which are necessary to bridge communal endeavors with a variety of possible horizons."* (Botero, 2013, p. 110). By analogy, then, the supportive approach of social design processes as mutual learning and democratic situations reinforces the position of the community or group at the center, promotes autonomous action and ultimately focuses on strengthening their own competence. The concept of social design as 'midwifing' is also very relevant because it highlights the role of the designer as an interpreter, synthesizer, and participant, as opposed to a top-down social expert.

In alignment with the above, it is also necessary to examine and reframe the impact and responsibility of social design. In socially engaged, design-driven initiatives, it is important to stay mindful in regard to the community, consider the long-term effects of interventions and to monitor and measure the process as much as possible. In order to avoid harmful or poorly established practices, a long-term and embedded approach is ideal. As Fehér points out, time is of the essence in working with disadvantaged micro-communities. Experience shows that gaining a real understanding of the problems is a time-consuming process. Short-term projects can only be concerned with a single issue, often producing superficial solutions, and in-depth social design work can be most effective through a series of time-consuming, systematic and interdependent steps (Fehér, 2019, p. 187). Just as important is the optimal partnership between designer(s), initiators and the community. A partnership that is based on mutuality, respect and shared values proves to be more fruitful and impactful in the long run (Fehér, 2019, p. 189), a premise further reinforced by Milic (Milic, 2021, p. 6). It is crucial for the designer to think in terms of solutions that are based on a tangible, practical approach and inherently use the tools of design. This approach creates a clear distinction between social design interventions and other socially oriented developmental endeavors. It is important for the designer to be open to ideas developed with the target group and to approach the task with a flexible, interdisciplinary approach, solution-oriented rather than discipline-specific—or, in Paul Polak's words, one should *think like a child* (Polak, 2009), meaning that one should approach everything with genuine curiosity and solution-orientedness instead of preconceptions informed by their professional training. The results must have an impact even when the designer is no longer present with the community (Fehér, 2019, p. 191).

Kimbell points out that in order for social design to live up to the hopes placed on it, designers should develop critical and reflexive perspectives on the conditions, possibilities and consequences of their practices (Kimbell, 2020). She proposes a double-loop approach in social design, which, adapted from studies of organizational change, requires that designers develop reflexive and critical understandings of conditions, possibilities and consequences of designing into their practice. Such an approach can be adapted with incorporating the following principles: acknowledging situated accountabilities; enabling deliberative co-creation; mediating uncertainty and inventiveness; conscious future-making; embracing pluralism without relativism; and reflective and reflexive learning (Kimbell, 2020).

Nevertheless, social design needs to be approached with a realistic set of expectations. The *good enough designer*, as Thorpe and Gamman define it (based on Winnicott's *good enough mother*), is *"not omnipotent regarding the ultimate outcomes of codesign processes"* (Thorpe & Gamman, 2011, p. 226). They emphasize that the designer is only able to be responsive to societal challenges rather than to be responsible for them, and the good enough designer addresses societal problems by leveraging available resources and working with relevant social actors or stakeholders. The concept of being responsive instead of responsible aligns with the democratic, participatory approach of social design, which is based on a horizontal distribution of power instead of a top-down one.

II.3. Participatory methods in design: Human experience as expertise

II.3.1. A critical view of HCD

However advanced and sophisticated human-centered design methods are, in practice there are shortcomings to each approach. Firstly, a human-centered design approach that exists in a capitalist market is inherently profit-oriented, looking to increase desirability, feasibility and viability (Design Thinking, IDEO). According to Pasanen, even though designers have fought for long to have more leverage in decision-making, even in more experienced organizations they rarely have an equal voice (Pasanen, 2019). Since design is still largely subordinate to business, the power asymmetry results in the profit-centered concerns overruling human-centered approaches. For this reason, an abundance of well-designed products and experiences can be found on the market, yet not ultimately created in the best interest of the user. Pasanen cites two examples of such paradoxical product initiatives: Airbnb and Uber. Airbnb, which is an accommodation-sharing platform, was originally created to provide an affordable and more personal experience for travelers and hosts alike. However, because of the lack of holistic and in-depth research, it facilitates mass tourism impacting local communities negatively. It also increases demand for carbon-intensive transport, consequently adding to global emissions and contributing to a climate crisis. Uber, a ridesharing app on the other hand considers its drivers 'driver partners' rather than employees to maximize flexibility and to avoid paying them employee benefits, which ultimately contributes to a lack of accountability on both sides. Pasanen also states that this anthropocentric interpretation of human-centered design ultimately lacks the perspective of other non-human species and the planet, contributing to wasteful and unsustainable practices.

II.3.2. Participation in artistic and design practices

In order to gain a better understanding of how participatory practices have gained a wide acknowledgment and application in design, it is useful to take a look at how participation has pollinated in the culture of the second half of the 20th century. Due to the dynamic changes in post-modern politics, society and culture, an increasing need arose for the redistribution of power in many layers of contemporary life. Artistic practices have started to shift increasingly towards social issues and participation has entered the toolbox of those creating culture. Alongside the advance of feminism and emerging new art forms, artists attempted to develop a public art that would reach outside the gallery and initiate a public conversation. Loraine Leeson, a British visual artist, focuses on the role of art in social and environmental change through her work in the public domain. In her theoretical work, she has extensively studied participation in artistic practices and has questioned and redefined collaboration and participation through the interweaving of different relationships between stakeholders in said processes (Leeson, 2018). When looking at the relevance of interdisciplinary work in relation to social change, it is important to understand and reflect on one's own professional and personal background. Leeson addresses the value of creating spaces, real or virtual, facilitating interaction between people with different life experiences. Her expression, the 'dynamics of difference', describes the creative energy produced by this process, helping to investigate how the practice has addressed issues of ethnic diversity and migration against a backdrop of increasingly imposed and institutionalized notions of multiculturalism (Leeson, 2018). Considering what social change and social impact means, Leeson stresses the importance of the archiving function of socially engaged creative practices, as well as the articulation of knowledge of disenfranchised social groups, and developing alternative models through creative collaboration. Leeson also raises the question of how social change brought about through an arts project can be assessed, and if so, what kind of legacy a successful project can hope to achieve, which is a strong underlying dilemma of the research presented here.

Claire Bishop, a British art historian, points out that many types of collaborative creative practices can be included under the umbrella term of 'participatory art', each of them focusing on a segment of the practice: socially engaged art, community-based art, experimental communities, dialogic art, littoral art, interventionist art, participatory art, collaborative art, contextual art and (most recently) social practice. This terminology connotes the involvement of many people (as opposed to the one-to-one relationship of 'interactivity') and avoids the ambiguities of 'social engagement'. She also poses the question 'what artist isn't socially engaged?' (Bishop, 2012), which is indeed a concern many design theoreticians and practitioners have raised before.

Participation in the field of design shows similarities as well as differences to the above. Participatory Design is an approach to design that invites all stakeholders (e.g., customers, employees, partners, citizens, consumers) into the design process in order to understand their needs and to create more insightful solutions. When we think about artistic participatory practices, we understand participation as otherwise outsider communities engaging in the creative process itself. In terms of participatory design, this is not always the case, in fact, these communities are often not let into the creative phase of design, instead they only take part in problem-mapping, early ideation, or testing/prototyping. Participatory design is also not interchangeable with co-design: the two differ in their proposed level of user involvement. Participatory design, offering outsiders/non-designers a limited involvement, can lead to tokenism or other biased practices (Lee, 2008). Tokenism signifies the act of *appearing* inclusive rather than *being* inclusive, which, might be harmful in the case of marginalized groups, so Lee suggests that "Design Participation development should place more emphasis on the issues of 'how' or the actual design practice [...] rather than just still only looking at the issues of 'why' or even 'should people participate'." (Lee, 2009, p. 2).

Co-design, on the other hand, strives to involve users throughout the whole process, which, ideally, offers a more equal distribution of power. The level of participation, however, can still vary according to the involved parties' preferences, competences, or other specificities of the situation. In the field of democratic public participation, Sherry Arnstein's Ladder of Citizen Participation model (Arnstein, 1969) is a widely used tool to understand civic engagement (Figure 1). The model describes how empowered public institutions and officials deny power to citizens, and how levels of citizen agency, control, and power can be increased. A key characteristic of the model of participation in democratic processes is that if it is to be considered "participation" in any genuine or practice sense, it requires the redistribution of power. In Arnstein's formulation, *citizen participation is citizen power*.

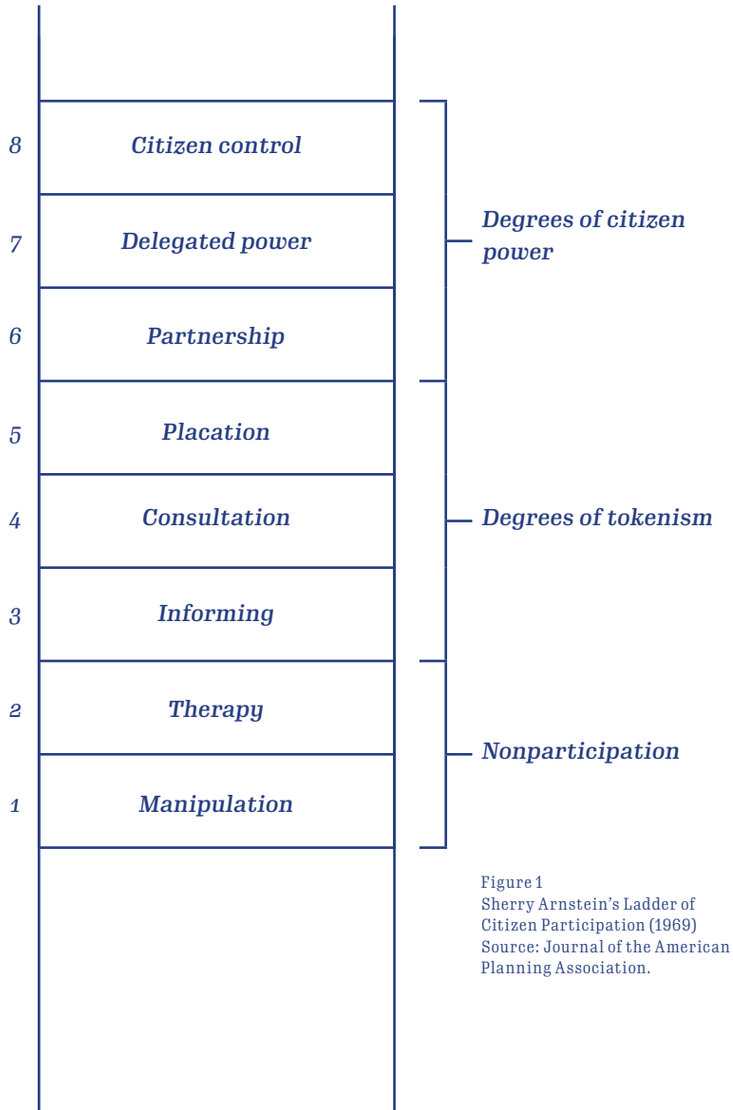


Figure 1
Sherry Arnstein's Ladder of Citizen Participation (1969)
Source: Journal of the American Planning Association.

This model informed many theories in public engagement, and a 1997 model by Elizabeth Rocha, the Ladder of Empowerment was one of the first civic-participation models to describe the characteristics of individual and collective forms of community empowerment in democratic decision-making (Rocha, 1997) (Figure 2).

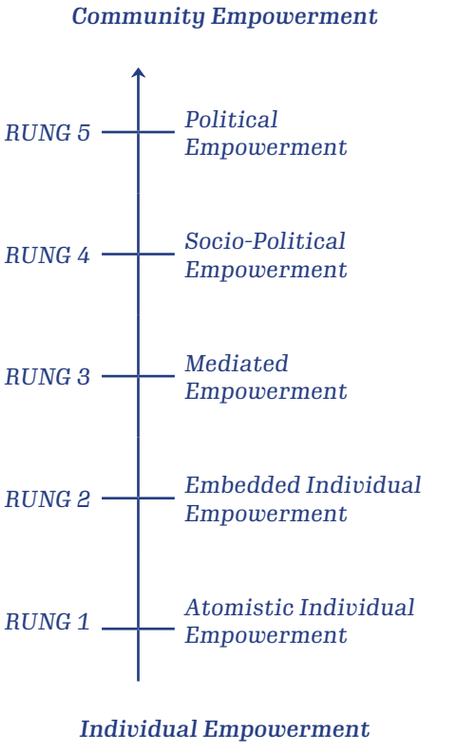


Figure 2
Proposed by Elizabeth Rocha in 1997, the Ladder of Empowerment describes five fundamental forms of empowerment on a developmental continuum that builds from empowering individuals by providing supportive services to empowering entire populations by effecting political, legislative and legal change.
Source: Journal of the American Planning Association (organizingengagament.org).

This model is unique in that it addresses the way individual and collective power informs each other, and it describes the process of *building power*. The framework describes empowerment as a dynamic relationship between individual and collective agency: actions that are focused on individual empowerment, while important, represent less potential power in a community, while actions that bring about structural, political, and institutional changes systematically represent the greatest amount of potential power. While both models are incredibly useful in understanding larger societal and political processes, they are not directly applicable to co-design, because the stakeholder relationships and the outcomes vary both in characteristics and in scale. Instead, a different model is used and adapted throughout the current research, which stands closer to the majority of design processes, called the Four Stages of Student Engagement (Healey et al., 2014). In this case, 'students' in the original proposition are substituted with 'participants', in order to connect the model more clearly to non-educational settings; however, in the context of this research many cases described below nevertheless featured students or youth as target groups. The four stages of engagement described here are the following:

CONSULTATION
(participants are asked for their opinions, perspectives, ideas and concerns in a non-structured way);

INVOLVEMENT
(offers more opportunity for input into decision-making and in a more structured-way, but not agenda-setting);

PARTICIPATION
(allows input at the design stages, including defining the agenda, the group rules or the design activities);

CO-PRODUCTION
(participants are treated as equals from the initial stage and can exercise decision-making in the project outcomes) (Figure 3).

An important takeaway here is that these different levels of engagement are optional to participants, and, especially in the case of disenfranchised groups, exercising autonomy can also be manifested in the shape of choosing a lower level of involvement that feels comfortable or taking a step back entirely from participation.

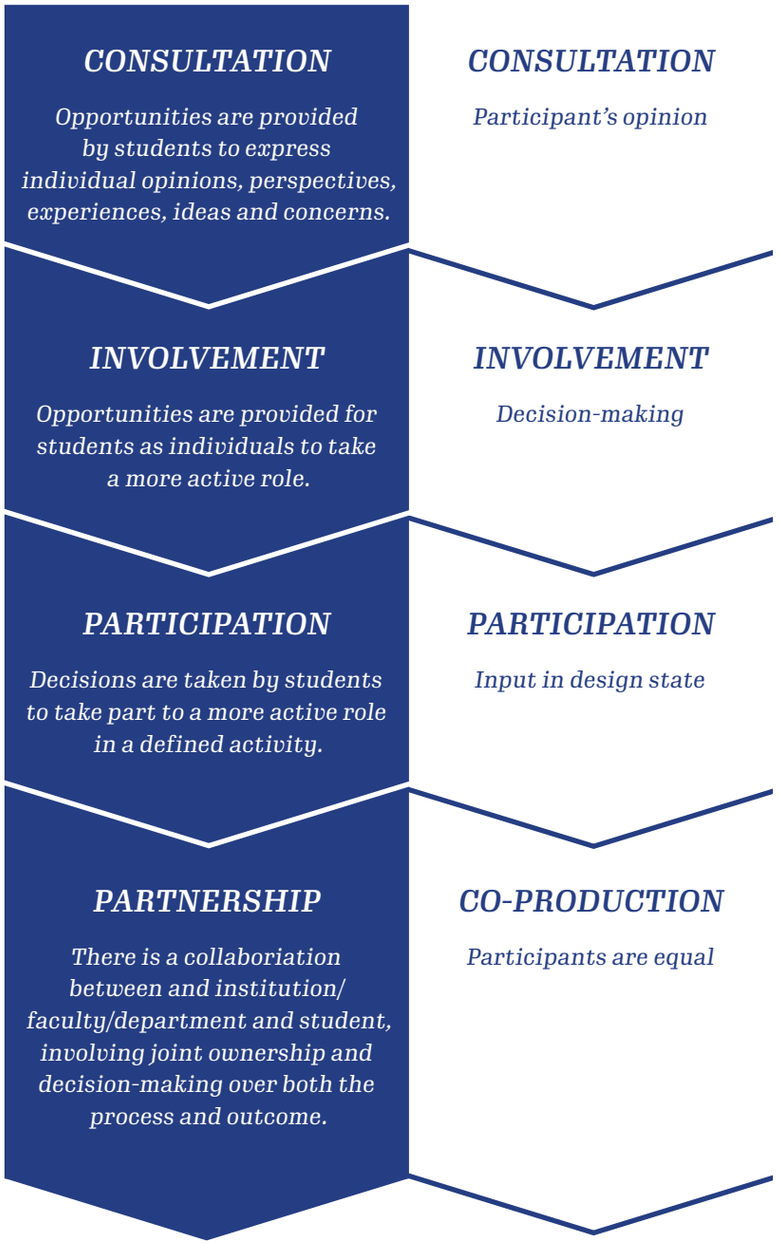


Figure 3
Four stages of student engagement (Healey et al, 2011),
Source: Higher Engagement Academy.

Figure 4
Four stages of student engagement model, modified model by author.

This also puts forth the question of power dynamics in a design process, and brings up a dilemma regarding in whose domain the decision-making happens. Since in the case of this doctoral research I was interested in a democratic, egalitarian approach not only regarding design processes, but the entirety of the research, considerable inspiration was drawn from different fields of social sciences that apply participatory methods in their scientific work. Participatory Action Research (PAR) within the field of sociology is a methodological approach that shows many similarities to social design and design activism, which also leaves room to adopt an intersectional approach. From a social science perspective, PAR breaks down the classical dichotomy of researcher and researched and attempts to dissolve the subordination, whether intentional or not, that is created between researcher and researched in the research process (Letiecq & Schmalzbauer, 2012). One of the great advantages of the PAR method is that it treats the local community as an active participant, involving it as an equal partner in the process. In Sara Csillag's characterization, *"[t]he actual transfer of democracy and control [...] takes place within the framework of cooperative research [...] [T]he transfer of sovereignty, in the Habermasian sense, of democracy and control, takes place within the cooperative framework."* (author's translation) (Csillag, 2018, p. 55)[6] This reasoning is also the basis for the involvement in closed communities that takes place in the initial stages of social design processes.

Agency and autonomy through design is an emerging and key question of contemporary Design Theory, concerned with the shift of focus towards the inclusion of the Global South and indigenous peoples. Theoretically, the question of autonomy can be considered the most fundamental feature of life, so in relation to design, it serves as a partial anchor towards transformative practices, as demonstrated in the case of Latin American autonomous design (Escobar, 2021). Agency, on the other hand, is a more elusive concept, especially from the viewpoint of participation and co-creation. While psychology defines

[6] "Számomra a tényleges demokrácia és a kontroll átadása tehát a kooperatív kutatás keretei között valósul meg. Az már más kérdés, hogy ebben a keretben ez azt is jelenti, hogy nekem mint kezdeményezőnek van a legnagyobb elméleti tudásom, de ezt én nem adom be a csoport munkájába teljesen, vagyis ez tulajdonképpen azt jelenti, hogy én nem veszek részt teljes mértékben, mert mindig visszafogom magam. Számomra az uralommentesség, a habermasi értelemben véve, a demokrácia és a kontroll átadása a kooperatív keretben valósul meg."

agents as goal-directed entities able to monitor their environment in order to select and carry out efficient actions towards an intended goal, and agency as the ability to perceive and to change the environment of the agent, there are two key theories that further layer this notion: the Davidsonian and the Frankfurtian theory. According to the Davidsonian theory, agency is limited to our beliefs, desires and intentions causing behaviors. In a 1971 essay, Davidson writes: "We never do more than move our bodies: the rest is up to nature." (Davidson, 1971, p. 23) The mental causes of our actions play a momentary and ballistic role, so accordingly, agency is best described as punctuated, but goal-directed. On the Frankfurtian approach, exercising agency is an ongoing causal process involving the agent embedded in and responding to their environment, progressing towards the end of the process, so intentional agency extends out into the world as causal processes are initiated toward a specific goal (Frankfurt, 1978). According to this theory of agency, even if we deliberately refrain from acting, we exercise agency by intentionally attending to our environment and reacting to the causal inputs provided by our perceptual modalities. However, intentions still play a role in this notion. An agent's intention represents a series of actions for achieving a goal. The agent's intention defines the *telos* toward which they are managing the causal process, sharing the boundaries with the causal process they are guiding. Thus, the agent's causal role is an ongoing one, terminating when the outcome is achieved or when the agent's intentions are recalibrated. In the territory of participatory design processes, this leaves room for participating agents to exercise ownership and responsibility towards their intended goals and contributions. This requires participants to inhabit a conscious position, which might be unfamiliar or uncomfortable for disenfranchised groups, as coming from a marginalized group can also be associated with experience of being left out of decision-making or narrative-shaping.

Women's empowerment, however, requires a somewhat different setup in the context of participatory research. Fine and Torre present a feminist application of PAR in a psychological context (Fine &Torre, 2019). The authors highlight that a feminist approach to Critical Participatory Action Research (CPAR) facilitates a "feminist inquiry [which] explores and unveils the hidden (and woven) transcripts of desire, despair, identities, relationships, wounds, and fantasies of those who have been marginalized." (Fine & Torre, 2019, p. 11) They also point out that CPAR projects begin with the conviction "no research on us without us", meaning that "people who experience injustice must have a seat at the research table; that no one can speak

"their" stories for "them"; that marginalized bodies and tongues carry stories untold; and that together—across generations, race and ethnicity, experience, education levels, trauma, and desires—we can build a research team that practices what feminist philosopher Sandra Harding (1994) calls strong objectivity." (Fine & Torre, 2019, p. 3)

On a similar note, according to Aziz, participation in action research seeks to restore the ability of the oppressed groups to create knowledge and practice on their own terms, while engaging them in consciousness raising and action (Aziz, 2011). Thus, an important part of participatory action research is to create spaces which enable the participants to engage together in critical reflection and action planning. Precisely because of the specificities of the target group (disadvantaged women, minority women), the process needs to start with a shared redefinition of values or the establishment of a common set of ground rules in the shape of a field inquiry. Afterwards, an analysis for action needs to be drawn up, in order to define current realities and find the need for change. An advocacy training aims for creating strong voices in the community to enter a public conversation and a policy dialogue. Tracking the activities for the sake of change measurement helps reflection and iteration going forward (Aziz, 2011). While the process described above is quite adaptable to design settings too, it is worthy to take a step back and look at how Aziz and other scholars describe 'empowerment' as a main purpose of the developmental work done with women. The term 'empowerment' is derived from 'power' and to empower someone means to give authority to them, enabling that person to gain power (Okeke, 1995). This definition inherently reflects a constructed imbalance of power or authority between the giver and the receiver. Instead of relying on this notion of being granted power from a person or a group in a superior position, I propose a more horizontal approach to understanding empowerment. In order to gain some clarity on what empowerment might be and how to achieve it, it is necessary to think about power in terms of the ability to make choices: to be disempowered, therefore, implies to be denied choice. As Kabeer remarks, "[empowerment] is inescapably bound up with the condition of disempowerment and refers to the processes by which those who have been denied the ability to make choices acquire such an ability." (Kabeer, 1999, p. 437)

Consequently, empowerment entails a change in power dynamics: an expansion in people's ability to make strategic first- and second-order life choices in a context where this ability was previously denied to them. However, it is important to look at possible inequalities in people's capacity to make choices (derived partly from their social status) rather than in differences in the choices they make (Kabeer, 1999, p. 439). However, it is understood that one cannot give people power or make them 'empowered', the only thing that one can do is to provide the opportunities, resources and support that people need to approach power (Page & Czuba, 1999). The current research focuses on design's capacity to provide these opportunities and resources.

II.4. Positive impact of creative tools on psyche and attitudes; impact of the maker movement

In low-income, vulnerable communities, the lack of perspective and job prospects can have especially debilitating effects on youth groups. Young girls often are the most vulnerable in this sense, as early marriage, a domestic career and the role of the caretaker is the only visible option to them. Looking at the data in Hungary, educational attainment of mothers who had a child at a young age is very low. This is partly related to their young age, but it is not the full explanation: the 2016 microcensus data for women aged 15-19 years shows that only 3.3% of women of this age have not completed grade 8 of primary school, compared to 12.2% in the case of young mothers. (KSH, 2019) Those who have completed 8th grade and vocational education corresponds with the proportion of those with vocational and apprenticeship qualifications on a national average. Thus, the number of young mothers who have not completed the 8th grade of primary school is significantly over-represented. This is particularly true in more traditional or ethnic communities where the family serves as both the sole economic and social support system for individuals. Their circumstances often result not only in early childbearing and leaving the education system too early, but also several other psychological factors that further hold back individuals from breaking out of their barriers. The lack of support in the education system (especially in rural segregated schools) further deepens the abandonment young girls might experience and these difficulties might result in a lack of motivation, goal setting, confidence, and agency, which are key factors of building personal agency and empowerment. In many cases, these interconnected phenomena foster a role conflict between the world of the family (which considers a girl an adult from early adolescence) and the world of school, which still treats them as children in need of discipline.

In Erikson's psychosocial theory of development, identity formation, as well as the first manifestations of agency, occur during the adolescence phase, the failure of which leaves the individual in a state of "role diffusion" (Erikson, 1968). Considering adolescents' construction of identity—which underprivileged youth often miss out on also due to the lack of diversity in role models—as part of an ongoing formation of relationships, institutions, culture, and family rather than seeing them as passive reactors to a static system produces more accurate and detailed observations. (Cooper, 1999).

Previous studies indicate that adolescents of low socio-economic status report lower self-esteem in comparison to their peers of higher socio-economic status (Veselska et al., 2009). Addressing and improving low self-esteem is a key factor in working with at-risk adolescent girls as low self-esteem is widely documented as a correlative factor in depression and anxiety (Veselska et al., 2009), lower health-related quality of life (Mikkelsen, 2020), criminal behavior, drug and alcohol abuse, and teen pregnancy (Reasoner, 2002). Confidence and satisfaction in oneself (self-esteem) can be influenced by peer and parental relationships, various intellectual and physical abilities, appearance, competence, as well as identification with a reference group (either positively or negatively). These factors impact girls more significantly than boys, especially through adolescence, as gender-role expectations impose limits at a higher scale on females (Hartz et al., 2005, p. 71). Previous studies show that self-efficacy and self-esteem might act as a buffer for negative psychosocial factors in adolescents (Mikkelsen, 2020). Promotion of self-efficacy might contribute to reducing emotional symptoms among all socioeconomic groups and thus to reducing social inequalities in emotional symptoms (Meilstrup, 2016). Increasing self-awareness helps girls identify personal preferences, values, and a life purpose and create a realistic appreciation of personal strengths and weaknesses, therefore helping them in setting more realistic goals.

Numerous studies have confirmed how positive role models and peer groups can have a remedial effect on underserved youth communities. It is well-established that role models can influence their representative communities, and this influence on younger generations can be positive as well as negative influences. Hurd et al. describe positive effects as pro-social behavior, such as respect towards other people and a willingness to help others or take action for the community, (Hurd et al., 2010, p. 329), however, the effect of the negative, or anti-social behavior of the role models was measurably higher on the studied groups. Research in Hungary confirm the importance of this positive connection to role models. Gruber describes an initiative that challenges the systemic and institutional discrimination that Roma youth in Central and Eastern Europe are growing up facing, by emphasizing the importance of positive role models (Gruber, 2012). The initiative, called NoBadKid uses the methodology of Pressley Ridge, which is a non-profit organization from the United States, founded in 1832 by two orphanages that operated next door to each other. In the late 1960s, the organization specialized in educating, assisting and caring for children and young people who were labelled problematic because of their anti-social behavior. Since then, it has continued to pay particular attention to working with families, educators and teachers, focusing on kids who are discarded, expelled, home-schooled or placed in residential care, aiming at helping them learn new behaviors and realize their self-worth, by which they could begin to reflect on their true values through positive reinforcement and role-models (Gruber, 2012). The initiative applies various tools to create an opportunity for the participants to mature, such as storytelling, cooking, physical activities, and creative activities.

Even though presenting clear evidence for the benefit of participating in creative arts is difficult, it is important to identify the potential that creative arts as a therapeutic and transformational tool can present. The impact of creative arts in healing and in endeavors for community building is challenging to measure due to the diverse interpretations of mental well-being and creative arts, as well as the diversity of circumstances they can take shape in. Creative activities have always been evident within the context of mental health and well-being and there is growing recognition that creative activities and the arts have an important role to play in improving the overall health of individuals. A study by Leckey confirms that the therapeutic effects of these activities promote relaxation, provide a means to self-expression, and reduce blood pressure while boosting the immune system and reducing overall stress (Leckey, 2011). In the context of health care, McNiff (1992) and Ulrich (1992) both suggest that arts and humanities play a pivotal role in promoting mental well-being. According to research, creative arts reduce stress, promote mutual understanding, and create awareness of individual differences, besides having the effect of promoting stronger and more effective working relationships (McNiff, 1991; Ulrich, 1992). Another meta-analysis suggests that the relationship between creativity and well-being is significantly higher when focusing on creative activity and behavior instead of divergent thinking tasks (Acar et al., 2020). Acar

and colleagues state that *"well-being is more likely to be achieved when someone takes concrete steps toward their goals and witnesses the outcome of their own creative activity."* (Acar et al., 2020, p. 9) Creative activities or behavior are more strongly linked to well-being than creative ideation, they have a stronger impact on communities, as participation in creative activities benefits the organization through increased innovation and effective problem-solving, and the well-being of community members. Engaging in creative activities involves more than ideational creativity, as it often incorporates physical action and physical creation, which are predictive of well-being, especially in the case of maker communities.

II.4.1. The positive impact of the maker movement

According to Collier, who studies maker movements in relation to their effects to well-being and mental health, makers are defined as "people who enjoy figuring out how to create a wide range of products from home improvement to self-service to crafts. Regardless of terminology, there are increasing numbers of people, globally, that share a passion about their hobbies, art forms, handcrafts, grass-root innovations, and DIY projects." (Collier & Wayment, 2017) While one can find only a handful of published studies that explore the psychological benefits of maker initiatives, the research by Collier and her colleagues examines whether a maker identity is associated with well-being, and if so, whether a maker identity is associated with SWB (subjective well-being). The authors rely on previous studies suggesting that crafting can provide satisfaction, optimism, social support, and a way to effectively cope with negative feelings as well as to improve well-being (Pöllanen, 2015), reduce stress, and heighten self-esteem (Adams-Price & Steinman, 2007). Collier and Wayment propose four factors that help connect a maker identity and SWB: positive affect and high arousal during the experience, and the ability of the individual to generally refrain from excessive self-focus and avoid ruminative thoughts (Collier & Wayment, 2017). Similar to artistic identity, having a maker identity could help a person to have a more cohesive or synthesized sense of self. Synthesized identity, which is associated with self-knowledge and sense of direction, is an important component of mental health. Furthermore, as described in Csikszentmihalyi's model, reduced self-focus is important for engaging in experiences that block ruminative thought, leading to optimal creative experiences (Csíkszentmihályi, 1990). Excessive self-focus in the context of a creative activity can be detrimental in that it can exacerbate negative mood. Another core characteristic in the positive effect of maker activities is the relevance of the "quiet ego". Coined by Wayment et al., the term quiet ego refers to a set of features that reflect values of balance and growth (Wayment et al., 2015). Individuals more equipped with quiet ego characteristics report an ability to be more present in the moment, feel connected to others, an ability to shift perspectives, and value learning from experiences, including failure. The authors have found that quiet ego characteristics are a strong predictor of resilience, coping efficacy, and well-being. (Wayment et al., 2015).

II.5. Gendered spaces and modes of operation in the maker movement

("Throwing like a girl": Female bodies in (maker) space)

There is an extensively studied literature concerned with biological, physiological, and social differences between men and women (de Beauvoir, 1974; Merleau-Ponty, 1962), however, this section only aims to outline the theoretical positioning of women's presence and movement in the physical activity of making (creating, building, manufacturing). Historically, women were considered weaker, less accustomed to physical activity or labor and more attuned to softer forms of physicality (de Beauvoir, 1974). Iris M. Young describes this preconceived notion as specific to the 'dynamics of the "feminine existence"'. According to the author's definition, this means "a set of structures and conditions which delimit the typical situation of being a woman in a particular society, as well as the typical way in which this situation is lived by the women themselves. Defined as such, it is not necessary that any women be "feminine"—that is, it is not necessary that there be distinctive structures and behavior typical of the situation of women." (Young, 1980, p. 140) There is a style of bodily comportment conceived as feminine, and this style entails particular modalities concerning the structures and conditions of the body's existence in the world. Referring to Straus (Straus, 1966), Young notes that there is a typical difference in the way men and women use their bodies, specifically in physical activities, as in the case of throwing where one can observe a failure to make full use of the body's spatial and lateral potentialities (Young, 1980, p. 142). Many of the observed

differences between men and women while performing tasks that require coordinated strength, however, are attributed to the way each sex uses the body in approaching tasks instead of muscular strength. Young observes that "for many women as they move in sport, a space surrounds them in imagination which we are not free to move beyond; the space available to our movement is a constricted space." (Young, 1980, p. 140) It is also implied that the reason for women to approach a physical engagement with timidity, uncertainty, and hesitancy is that they often lack confidence in having the capacity to do so, partly also due to the fear of getting hurt, appearing self-conscious and awkward. This uncertainty can be attributed to feminine bodily existence being self-referred (meaning that the woman takes herself as the object of the motion rather than its originator), to the point that the female body does not feel that its motions are entirely under her control, having to divide her attention between the task to be performed and the act of performing the task. Finally, feminine bodily existence is characterized by a certain objectification through performing a motion that is looked at (Young, p. 148). A similar observation is made by Barbour, who argues that experiences of movement aimed at achieving specific tasks are actions that need to be mediated when performed by women (Barbour, 2018). These actions are mediated in a sense that their performers work towards completing a task, but they are also subjects that are viewed through their actions, aware of this external gaze which has an effect on the action itself (often thematized in a feminist context). Such experiences result in "a discontinuity between a woman's intention as a subject undertaking a task and her action as an object that she saw from an external perspective" (Barbour 2018, p. 216). Therefore, taking one's lived experience of movement as embodied (rather than academic) knowledge is crucial in establishing equity between genders. As Barbour notes, the fifth epistemological position (constructed knowledge, where women experience themselves as creators of knowledge within and out of objective strategies of knowing), provides women with the insight that every human being is engaged in the construction of knowledge (Barbour, 2018, p. 213) and therefore embodies this knowledge in the world. The context and the individuals within are always affected by relations of knowing. These relations have historically produced positions of power for the subjects and objects of knowledge to occupy, which they may reproduce or challenge. Considering the act of designing and making (fabricating) objects as somatic experience and knowledge, a similar phenomenon of othering can be observed in spaces of maker culture despite the democratic approach taken by the movement's followers.

The maker movement originally grew out of an initiative by various communities with the aim of increasing the availability of digital manufacturing and communication technologies, such as 3D printers, laser cutters and online community platforms. The maker culture adopts a set of values defined by an open-source rationale based on the sharing of knowledge and the free circulation of designs, making it theoretically open to anyone interested in open-source methods (Eckhardt et al., 2021). It has also been established that the maker movement can contribute to sustainability and empowerment by promoting a culture of restoration, recycling, and upgrading (Millard et al., 2018).

The origin of the maker movement has been speculated about by many authors. One possible explanation for the emergence of the movement is that maker activities are a popular way for people to reclaim production in a world where consumerism and globalization has an immense effect on our daily lives (Kuznetsov & Paulos, 2010). Collier claims that there is an increasing number of women turning to handcraft and making in order to reconnect with familial traditions and to their cultural heritage (Collier, 2011). Others have suggested that as climate issues have entered the mainstream conversation, people have turned to making and therefore to an anti-consumption and sustainable culture as a response to consumer culture.

Public makerspaces and hackerpaces have existed for a long time in Europe, and started to appear in North America, Asia, and Africa largely after the 2000s. While makerspaces are centered around the notions of more traditional material choices and crafting techniques, hackerspaces are oriented more towards digital technology and making. According to the inventory provided by hackerspaces.org, more than 500 hackerspaces are currently in operation all over the globe. Whether operating in Europe, the United States, or elsewhere, hackerspaces tend to attract a very specific set of users. Despite attempts at openness and inclusivity (Tuesdays, for example, are often maintained as night where all are welcome), hackerspaces have generally found it difficult to attract and/or retain women, lesbian, gay, trans and queer (LGBTQ) persons, gender non-conformists and people of color, among others. Several studies show that the ratio of male and female users is visibly disproportionate, and the tools and machines used in these spaces by male and female users differ because of a gendered use of technology. A study by Voigt and colleagues reveals that in European FabLabs, the most dominating difference are not varying machine usage times but differences in absolute numbers between women and men joining a FabLab (Voigt et al., 2017). There are four times more

male makers than female makers in the first place, and such a gap translates different usage rates for specific machines. It can be observed, for example, that the ratio of male to female makers using circuit board etching is 10:1, or that 3d-printer and CNC milling machines are more frequently used by males but cutting plotter and laser cutters are twice as often used by female makers.

According to Voigt et al., the maker movement already has a strong political agenda that aims at bridging the gap between a few producing and many consuming stakeholders, helping consumers to gain access to production. Frugal innovations and a circular economy mindset are concepts for empowering those with less 'fabrication power' and makerspaces are important venues for the creation of opportunities as they enable low-cost entrepreneurship, but their exclusionist and western-centric nature often shuts out the very groups who would benefit from these opportunities (Vossoughi et al., 2016, Voigt et al., 2017). The maker movement has been recognized to serve as a strong platform for sustainable, more eco-conscious, and self-sustaining small-scale practices of production and consumption. On the other hand, the movement has also been criticized for establishing a non-inclusive, technocratic and westernized mode of practice, that does not give due respect to the viewpoints and needs of disadvantaged gender identities, ethnicities and various minorities (Toupin, 2014; Chachra, 2015). Toupin argues that, due to the lack of security and inclusiveness, the open space concept being the core of the standard hackerspace model is largely undesirable for feminist hackers and makers. Instead, they envision a different role for their hackerspaces, one in which boundaries offer both safety and a platform for political resistance. Toupin mentions the Geek Feminism wiki and the Ada project as two crucial catalysts of feminist or female-centered maker culture. The Geek Feminism wiki (started in 2008) and its blog (started in 2009) functioned as a core around which feminist hackers, makers and geeks could build an online community. The project was, in many regards, a consciousness raising initiative, where individuals could share experiences, documenting instances of sexism, sexual harassment and discrimination which arose in the course of their relationships within maker culture. Ada Initiative, another feminist organization, provided another force towards the establishment of feminist hackerspaces. Founded in 2011, the NGO supports women involved in the broader tech industry. Ada Initiative creates codes of conduct and anti-harassment policies offered to conferences, hackerspaces, and events in order to create a safer, more inclusive environment for diverse maker communities to operate under. Feminist hackerspaces often strive to operate under intersectional and feminist premises, in order to acknowledge and include multiple voices. Moreover, as these feminist maker groups have felt excluded by dominant hackerspace cultures themselves, extending this feeling to the experiences of others is regarded by them as a priority. Toupin states that "The desire to adopt a non-racist feminism which avoids the historical pitfalls of white feminist agendas cannot be overstated, but [...] simply advocating these principles and claiming intersectionality does not magically eliminate the problems". By simultaneously sharing principles of inclusivity and establishing disparate boundaries of a safe environment, feminist hackerspaces collectively express an alternate hacker, maker and geek culture, one that strives to be more open towards all identities (Toupin, 2018).

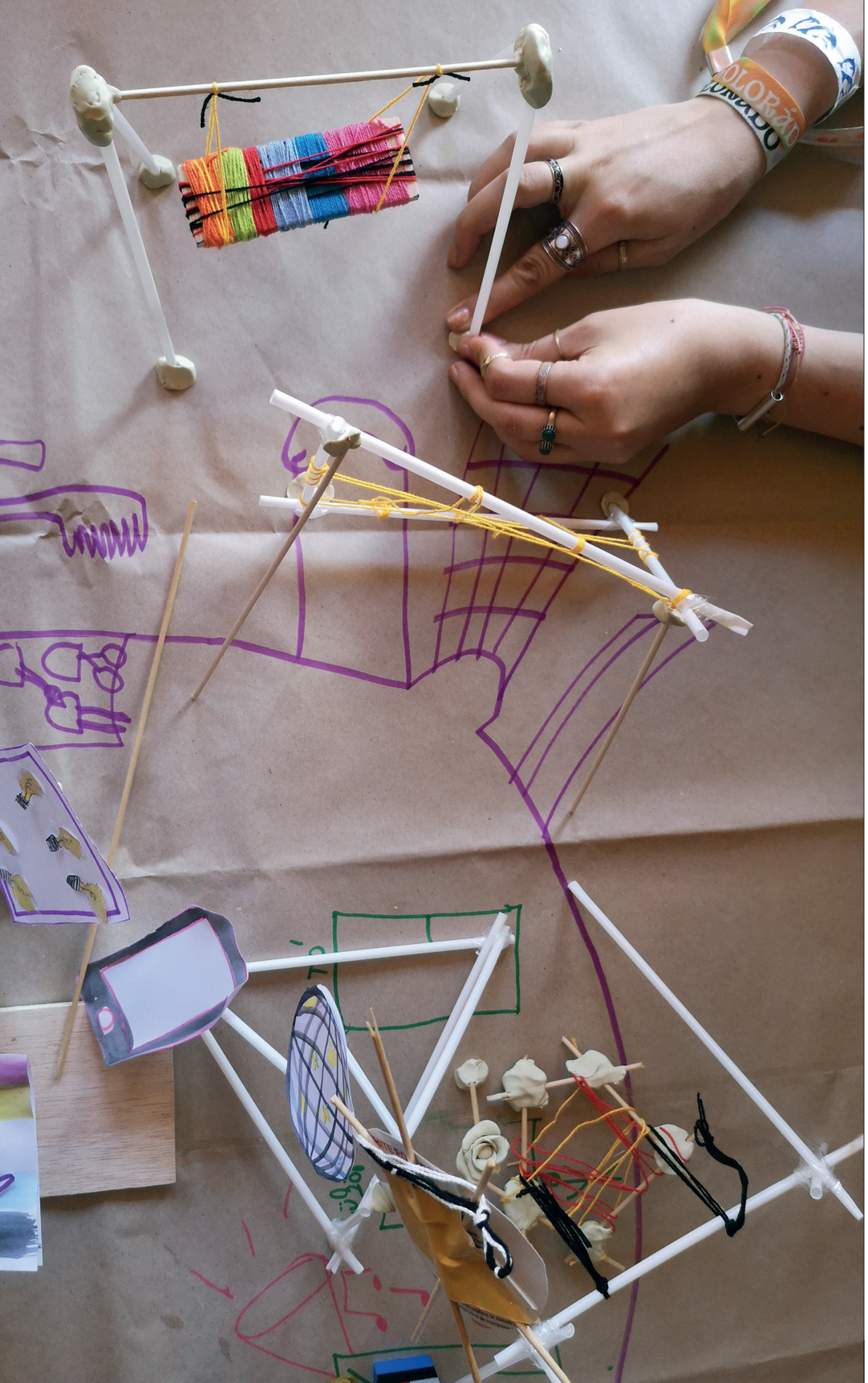
Numerous studies and practice-based research confirm the positive long-term effect of the introduction of co-creation methods, maker practices and STEM and STEAM-based programs among underprivileged youth, especially girls (Dietrich et al., 2017; Tan et al., 2018; Pilloton, 2020; Hughes, 2020), acknowledging that building or making things "is a way [...] to have a voice, to exercise power, to be a free and independent woman, and to play an active role in the physical world." (Pilloton, 2020, p. 22) Shaping this space that surrounds participants (by participants and peer mentors themselves or by the mediation of facilitators) does emphasize the parallelism with shaping the narrative of the societal space that they inhibit as a catalyst for changemaking (Pilloton, 2020, p. 11). Therefore, it is especially important to create spaces within the maker movement that are receptive to the needs and specificities of girls from marginalized communities, in order to provide opportunities for growth, creativity and empowerment.

[Summary]

The topic of gender is deeply embedded into traditional design field, however, the concept of gender that these inquiries are based on may be stereotypical and dichotomical, leading to a reinforcement of dated values and concepts and ultimately leading to pinkwashing. Viewing women as a group with inherent barriers set by the still-persisting patriarchal society of today, social design or human-centered design (HCD) claims to offer tools for dealing with such vulnerabilities and barriers. As a field of long-standing engagement with societal needs, social design aims at proposing appropriate (often participation-based) approaches to address needs of both majority and minority groups (Kimbell, 2011). Many concepts within social design promote the idea of a caring, attentive and supportive designer (see Botero, 2013; Thorpe & Gamman, 2011).

On the other hand, there are voices critical of HCD (Pasanen, 2019), mainly concerned with the anthropocentric view of the field, that doesn't consider the needs of other species as part of an ecosystem, also putting forward the question of the right kind of participation. Looking at multiple concepts of participation (Arnstein, 1969; Rocha, 1997; Healey et al., 2011), from both artistic, educational and civic perspectives, the key concepts of agency, autonomy, empowerment and ownership are highlighted. The notions of agency and empowerment considered the most crucial are also highlighted through multiple interpretations (Davidson, 1971; Aziz, 2011; Kabeer, 1999).

Since the focus of the current study is female youth groups, their social and psychological development is elaborated on, looking at the positive impact that creative tools can produce (Cooper, 1999; Hartz & Thick, 2005; Meilstrup 2016; Gruber, 2012). As the maker movement is built on a bottom-up style of organizing, participation and democratic values (Wayment, 2017; Pöllanen, 2015), it is a promising movement for empowering various groups through engaging them in different creative activities. However, as a widely established critique of the movement recently posed, maker spaces are still exclusive, white- and male-centric locations of creative production (Toupin, 2014), therefore it is necessary to widen the beneficiary groups of the movement, creating space for different identities — literally and figuratively.



III. PRACTICE-BASED RESEARCH IN DESIGN

III.1. Methodology

III.1.1. Methodological framework: a feminist epistemology

The framework of this doctoral research is built on the principles of practice-based research in the domain of design. As such, an amalgam of methods is used, rooted in different fields, such as social studies, humanities and design. In the case of the Masterpiece, a variety of qualitative and quantitative methods are used in order to assess and measure the impact of the intervention described below.

Practice-based research is widely discussed by both theoreticians and practitioners (Nelson, 2013; Joost et al., 2016; Vaughn, 2017), but here, I will discuss a more recent body of work written by Kaszynska and Kimbell, as the most fitting to the nature of this research (Kaszynska & Kimbell, 2022).

Being an instance of practice-based research, the inquiries presented here often raised the question of what classifies as the production of knowledge. As Kaszynska and Kimbell point out, *"the need to make sense of practice research in design as research—and not just as practice—is a response to challenges both old (such as ancient philosophy's arguments separating scientific knowledge from practical knowledge and the 'knowledge of craft') and more recent ones (such as the assessment of research quality in art and design higher education institutions)"* (Kaszynska & Kimbell, 2022, p. 3). The authors propose two frameworks to give guidance on the question: The first framework being

a classificatory scheme (describing three conditions that must be met for something to qualify as practice research); the second is an analytical framework characterizing the outcomes of practice research in design in three contexts. In terms of the classificatory scheme, three conditions are given which, together, describe practice research projects. Practice research is claimed to be: Situational—carried out in specific situations and through situational transformation, generating insights into those situations (thus, subject to situational understanding and analysis); Situated—aware of its own position in relation to existing and relevant bodies of research (as a form of networked knowledge production); Situating—contributing to an existing stock of knowledge (as judged by a community of validation) while at the same time engaging in world-changing through action (ontological transformation). The second framework relevant to the inquiry is an analytical framework that specifies what is produced through practice research in design, stressing the point that its outcomes are different from those of research and those of practice, meaning that both a new concept/design is proposed, based on which new knowledge might be established. (Kaszynska & Kimbell, 2022, p. 3-4). In order to capture the richness of the new knowledge created in such a setting, not just by the author, but by the participants, practice research in design can be looked at as a form of networked, constructive knowledge production and practice development. As Kaszynska and Kimbell point out, [practice research in design] *"results in the production of new concepts/designs and new knowledge, relevant to and for assessment by the community in the situation, as well as in new concepts/designs and new knowledge for design practice and for design research, relevant to and for assessment by design practice and research communities."* (Kaszynska & Kimbell, 2022, p. 4).

Relying on the frameworks established above, the research presented here aims at producing knowledge that is situational, in the sense that it investigates a specific target group, their needs, their barriers and their resources; situated, as it is positioned according to an intersectional feminist discourse, contributing to understudied topics in the field of design; and situating, as it proposes a novel method of co-production in creative processes relevant to the specified target group.

While current research relies heavily on methods used by social sciences and humanities, it remains in the territory of design and artistic research, as it produces theoretical and practical knowledge in these specific fields, investigating a topic and target group, with sociological, anthropological, and psychological implications. As such, an amalgam of methods was used, including qualitative ones (Participatory Action Research (PAR), Grounded Theory, narrative life-interviews, photo diary, self-reflective research diary, narrative technique) and quantitative ones (questionnaires and synthetized participant self-reflection).

A main guiding research technique, Grounded Theory, uses theoretical sampling that is not defined in the beginning but develops in parallel with the theory. The process of GT consists of the elements of data collection, analysis, coding, memo writing, and constant comparison, and the revealed results and newly emerging problems drive the researchers toward new situations, places and people until the investigation reaches its so-called saturation point (Horváth & Mitev, 2015). Grounded Theory (GT) is considered the spearhead of the "qualitative revolution". The 'Discovery of Grounded Theory', a book by Glaser and Strauss (1967), is a defining historical event in the social sciences. It was born in a climate in which many people were opposed to "soft", non-structured qualitative approaches as they were considered to lack 'scientific' rigor. In response to this, Glaser and Strauss created a method which made the process of theorizing transparent, from data collection, interpretation and interpretation to the development of a theory, the interpretation and presentation (Glaser & Strauss, 1967). In doing so, they defended qualitative research against the prevailing view that only quantitative methods are accepted as a valid way of gaining systematic scientific knowledge.

Since GT is still considered a relatively controversial approach to scientific enquiry, rigor is necessary during its application in research. Among the varying interpretations of GT, Glaser's model serves as the starting point in this research (Glaser, 1978). According to Glaser, the gathered data can be read through the process of substantive coding. This substantive coding is based on the established concepts and indicators, and indicators are constantly compared to previously stated indicators in order to find patterns and variables. While the approach of GT has not been followed strictly throughout current research, the approach has been particularly useful while pinpointing the focus area and the target group of the inquiry, while narrowing it down from disadvantaged female communities to disadvantaged, locus-based female communities, and then to disadvantaged adolescent girl communities.

Participatory Action Research (PAR), as already described above, is a technique of inquiry used mainly in the field of sociology, where it is applied to challenge existing social dynamics and gain a deeper understanding on the experience of varying social groups, while moving towards actionable and tangible results.

In addition to the research and design methods used in the fieldwork which I will describe later, the work was often guided by intuition. This experience-based method of working, which has a long tradition in feminist discourse, was an inspiring tool of great freedom, especially in the early stages of the fieldwork I carried out for the current research. A wider aim of this practice-based research is to achieve an understanding of women and girl's experiences, redefining the term "political". A crucial idea of the 1970s feminist movement, namely that the 'personal is political', is still a relevant ontological position, especially in contexts such as experimental and interdisciplinary research. The phrase was popularized by the publication of a 1969 essay by the feminist author Carol Hanisch under the title "The Personal is Political" in 1970 (Hanisch, 1970). It has also been used by some women artists as the underlying philosophy for their art practice. But it is also an expression of an ideological position about traditional science. Sarachild, elaborating on this position, states that "The decision to emphasize our own feelings and experiences as women and to test all generalizations and the reading we did by our own experience was actually the scientific method of research. We were in effect repeating the 17th-century challenge of science to scholasticism, "study nature, not books', and put all theories to the test of living practice and action." (Sarachild, 1968). Feminists criticized the omnipresent, objective viewpoint of contemporary science that claims to see everything without being influenced by any standpoint, as if their largely male, white, heterosexual positionality would grant them a legitimated system of knowledge. The dismantling of this knowledge posits an embodied subject situated in a concrete social structure, a gendered and racialized subject. (Rosa, 2022). As Donna Haraway argues, *"We need to learn in our bodies, endowed with primate color and stereoscopic vision, how to attach the objective to our theoretical and political scanners in order to name where we are and are not, in dimensions of mental and physical space we hardly know how to name. So, not so perversely, objectivity turns out to be about particular and specific embodiment, and definitely not about the false vision promising transcendence of all limits and responsibility. The moral is simple: only partial perspective promises objective vision"* (Haraway, 1988). Along these lines, during my inquiries I strived to grant space to intuition even in circumstances where objective, quantitative and factual observations were favored, and tried to approach the lived experience (the participants and my own) with an attentive and open mind, putting aside the knowledge I had brought with me. Resonating with Autry's reasoning in relation to sociology's data-driven approach, I also aimed at giving space to integrating more personal, visceral experiences into the research. "In addition to the complexities of racialized experiences, sociology is ill suited to the emotional and the visceral, to the kind of passion and resonance of the BLM movement", which indeed applies to the kind of passion and resonance found in instances of activism, advocacy and creative activities where lived experience plays a role. "Again, a lot gets left out of social analysis when we restrict ourselves to only those accounts that can be rationally explained and proven with primary evidence. Probing the limits of disciplinary conventions can produce multifaceted, illuminating work that might look more like art than science, but it also feels more like some kind of truth." (Autry, 2017)

III.1.2. Individual knowledge as a steppingstone: The constructivist approach in learning

Due to the target group's specific life experiences, a constructivist approach is taken in order to create a respectful space for learning for the individuals. Constructivism is "[...] an approach to learning that holds that people actively construct or make their own knowledge and that reality is determined by the experiences of the learner" (Elliott et al., 2000, p. 256). Constructivist approach to learning believes in the personal aspect of constructing meaning by the learner through their experiences, keeping in mind that this new meaning is informed by the interaction of prior knowledge and new events. In this sense, knowledge is seen as constructed, rather than innate, or passively absorbed, and implying that this constructed knowledge is individual in each person's case. As learning is seen as an active rather than a passive process, learners construct meaning only through active engagement with the world.

Another important notion of the constructivist approach is that learning is seen as a social activity: it requires interaction, rather than immersing oneself in an abstract concept (Dewey, 1938). According to Vygotsky (1978), community plays a central role in the process of "making meaning", and the environment in which the youth develop has a significant impact on their conditioning and worldview. Thus, all learning processes contribute to socially constituted knowledge, but all knowledge is personal. This means that each individual has a distinctive point of view, based on pre-existing knowledge and values, and thus their interpretations on the same lesson or activity may vary. In conclusion, knowledge is a social construct which is also influenced by the individual's features, and these two interpretations constantly inform each other.

In terms of tutoring, the primary responsibility of a 'teacher' (meaning the individual who is responsible for the facilitation of imparting knowledge) to create a collaborative environment for problem-solving, where 'students' (meaning active learners) become active participants in their own learning. From this perspective, a teacher acts as a facilitator of learning rather than an instructor. It is important to continually adjust the level of help in response to the learner's level of performance, also known as 'scaffolding' (Wood, Bruner & Ross, 1976).

Examining the key aspects of a constructivist approach to learning is important in participatory and socially informed co-design processes, as they are based on the principle of valuing all stakeholders' knowledge and thus their right to express their opinions and contributions.

Honebein summarizes the seven pedagogical goals of constructivist learning environments as below (Honebein, 1996, p. 11-12):

1. To provide access to the knowledge construction process.
2. To provide experience and appreciation for multiple perspectives (alternative solutions).
3. To embed learning in realistic contexts (authentic tasks).
4. To encourage ownership and a voice in the learning process (student-centered learning).
5. To embed learning in social experience (collaboration).
6. To encourage the use of multiple modes of representation (visuals, audio, text, etc.).
7. To encourage awareness of the knowledge construction process (reflection, metacognition).

As I will demonstrate later while discussing the fieldwork, the principles above are crucial in order to create an active, engaged and egalitarian environment of peer-to-peer learning and making.

However, difficulties in the target groups' engagement in such a learning process resulting from a traditionally frontal school education environment also appear as factors that need to be taken into account. In order to tackle issues—such as barriers to taking ownership and responsibility towards one's learning process, a relatively short and fragmented attention span, blockages towards the usage of one's authentic voices, lack of technical skills and confidence in self-expression through different mediums—an amalgam of different methods and techniques can be used which are elaborated on below.

III.2. CASE STUDIES: Practice-based research settings

During my primary and practice-based research I kept a running record of events and projects in a working diary, which made it easier to follow the sequence of events and helped with the summary of experiences. In the examples described below each technique and insight is highlighted within the circumstances of application along with personal remarks. In relation to the theories presented above (Grounded Theory, critical feminist epistemology, constructivism), the case studies also serve as guiding poles for the formulation of the Masterpiece.

Descriptions of case studies include fieldwork in Dány (Pest county), which took place in the early stages of this process and can be linked to the theoretical research, and Tomor (Borsod-Abaúj-Zemplén county), which was conducted in a practice-based manner. During the fieldwork in Dány, my aim was to gain a general picture of the specific challenges of disadvantaged women's careers through personal experience. I explored this through the production and summarization of narrative life course interviews recorded by myself and my fellow volunteers. In this community, I had the opportunity to try the narrative interview technique. The research was not conducted further in the same location, but instead the experiences gathered there fed and balanced the fieldwork in Tomor, which was part of the broader portfolio of MOME Ecolab. Here, the process of learning about specific living conditions through interviews was long preceded by the personal connection to the community through professional activities.

Each case study presented here is concluded with the insights gained through the process, which then were included in the theoretical framework of the Masterpiece.

III.2.1. Research with BAGázs: The individual as expert

Location	Dány, Hungary
Target group	Roma women from a severely disadvantaged background
Number of participants	20
Age group of participants	15-60
Contact person/ organization	BAGázs Association
Goal	conducting life-narrative interviews as a basis of a prospective female support group

The fieldwork in Dány was carried out in the framework of the volunteer program of the BAGázs Public Benefit Association. The program was called 'Dialogue for Roma Women' and was a targeted data collection project on women residents of the Roma settlements in Dány. BAGázs launched its work on the adult women's community in Dány in early 2018. Currently, there is a Girls' Circle for adolescents and a Women's Circle for the adult community in the settlement, where the main focus is on sharing and discussing problems. Also, the mental health program, by the women residents of the settlement's own admission, is a key tool for women, both to help them overcome pride and open up, and to share problems through the power of community to work together to find solutions. The collection of narrative interviews was also an integral part of this program, and the

aim was fundamentally to gain a broader, more detailed picture through the collection of material, and to see the systemic issues affecting women's fates. Altogether, there were 20 life narrative interviews, 2 of which were conducted by me.

The narrative interviews were preceded by an exploratory site visit with volunteers and a methodological training, which reinforced in the participants a position of immergent observer that encourages gradualism. I considered it important to include the narrative interview technique in the research because it is an empirical, qualitative research method where storytelling makes the narrator the protagonist; the narrative gives us her own perspective and thus the power remains in her hands. "Telling stories is essentially a meaning-making process" (Seidman, 1991, p. 7), as people draw out details of their experiences in the process of ordering and making conscious their own experiences. The essence of the narrative technique is that the interviewee (narrator) freely leads the life story narrative based on his or her own perceptions and judgements, which the interviewer helps to roll on by asking questions only after a closed narrative section. A very important characteristic of the technique is that the interviewer does not use guided questions, does not judge, avoids looking for connections and verbalizing them (which is, however, not absent from the subsequent evaluation), and does not use 'why', 'how' and similar arbitrary questioning. Instead, she leaves the narrator as the most competent knower of the story, thus giving room to the deeply subjective nature of the recollection. However, as much as the interview may lose in objective, data-driven evaluation, it gains from the narrator's flow, from the details that emerge from her personal experience of the story. It also has the important aim of confirming the narrator's control over her own story and the story's value and ownership, not to formulate truths instead, and not to give
the impression of the false objectivity of an outside observer. In this way, the narrator can gain self-confidence through the experience, through the affirmation of her own competence, and can master the narrative (and this is particularly important in traumatic situations and difficult life events), and, where appropriate, can feel the therapeutic effect of sharing and narration. The use of narrative technique has confirmed for me the hypothesis that individual storytelling plays a key role in social design processes.

Dány is located in the district of Gödöllő in Pest County, with a Roma community of about 350 people (110 households). Households here are typically smaller than those in the region, with 2-4 children per family. The community is more closed and homogeneous than in the surrounding settlements. The social structure is conservative and gender roles are very clearly defined. As the male family members take on the leading position in terms of employment and decision-making in the family, most women and girls cannot work because of responsibilities linked to the household. However, the assistance programs of BAGázs, such as debt management and financial planning, almost exclusively target women, given that they are the ones who run the household and manage the majority of the family budget.

Traditions around family formation are very specific to these communities. Several interviewees reported that, although the younger generation does not typically marry at an early age, the choice of partners takes place at a relatively young age (around 13-15 years) and, if the older generation is satisfied with the choice, families tend to stay together despite the undefined relationship structure. In the village, elopement is common, which is essentially the choice of a mate without asking the parents (proposal), and girls' family views it as a shameful act, especially if the chosen mate is not approved by her parents. In some cases, this leads to family rupture, but it is often resolved and ends in reconciliation. From the stories told, it is clear that early marriage plays a particularly important role in the lives of young girls, as marriage and childbearing, rather than the cumulative difficulties of further education and entry into the labor market, suddenly represent a big leap in social status within the community. Girls who become wives and mothers often try to marry off their children as soon as possible, as mother-in-law is the highest status available to them (and of course the most responsible).

Generational cohabitation and early school-leaving mean that young girls learn to do housework and childcare at a very early age. They are thus ready to run their own household (which they typically share with their mother-in-law) at an early age.

Disease rates are also high due to unbalanced lifestyles and often poor, unhealthy diets. It is common for the offspring of children who die young to be taken in and raised by their grandparents in an attempt to provide a more settled environment for the children. Children are often not brought up in their own immediate families but sometimes shared between

families. (The proverb ‘It takes a village to raise a child’, though widely attributed to African origin, and overused until the point of cliché, takes on a different meaning here, where segregated settlements of certain villages can indeed be attributed to a complex family tree, and raising children is considered a shared community responsibility.)

The personal interviews I conducted in the course of the research provided a more detailed picture of the cumulative difficulties a woman faces throughout her lifetime, her main challenges, her experiences of choosing a partner, starting a family, raising children, earning a living, and perhaps creating a vision for the future, with some interviews revealing whole life stories with several similarities regarding women’s position and attitudes. The interviews were evaluated by the group of interviewers, using the Grounded Theory approach (see above, II.1) in a nontechnological way (besides transcribing the interviews in a digital format, no software-based data evaluation took place). After recording the interviews, interviewers created transcripts through revisiting and relistening the recordings several times. After all interviews were transcribed, several group meetings were organized where emerging patterns, keywords and cross-references were established. As the 20 interview subjects were scouted in a relatively closed community from a settlement in Dány, numerous family ties were found to be referenced in the interviews, and different sides of the same stories were recorded with returning characters from the neighborhood and wider family.

Several patterns that emerged throughout the intertwined stories were identified during evaluation meetings, such as: early marriage and childbirth; domestic violence and addiction; substance abuse; sexual abuse; negative, racist and non-encouraging experiences in early education; mental and physical disabilities; mental illness; insufficient housing conditions; lack of job prospects and physical labor or dangerous working conditions; unequal distribution of domestic and reproductive work; a feeling of confinement within the community coupled with the lack of prospects towards new paths.

While the interviewed women's life stories revealed certain notions or difficulties which can be identified as systemic issues and reveal the gendered experience of poverty, patterns specific to current research are highlighted below. These patterns or storylines were later included thematically in the content of the Masterpiece, and their effects on the target group were also kept in consideration.

- ∅ Lack of decision-making (lack of opportunity, lack of skills or tools)
- ∅ Lack of agency (confined system of rules)
- ∅ Lack of a solid self-image and self-knowledge
- ∅ The experience of inherited trauma and circumstances, strategies
- ∅ Need for compliance, the lack of asserting one's needs or intentions
- ∅ Over-responsibility and under-responsibility, the lack of establishing boundaries
- ∅ Complicated relationship to ownership
- ∅ Lack of motivation or grip, compulsive acting
- ∅ Lack of positive role models
- ∅ Gender differences as threatening notions
- ∅ Internal conflicts of adolescence: on the verge of being a child or an adult

[Insight]

In summary, the most crucial elements from the perspective of a creative domain are the

LACK OF AGENCY, DECISION-MAKING

AND THE VAST ARRAY OF

DIFFICULT LIFE EXPERIENCES

that need to be taken into account.

III.2.2. Research and design assignments in Tomor: Women in the micro community

Location	Tomor, Hungary
Target group	Wider Roma community of Tomor, Lak and Homrogd
Number of participants	15
Age group of participants	10-60
Contact person/ organization	László Siroki, local community organizer
Goal	Experimenting with social design methods through course-based formats, development of social enterprises

As part of the MOME Ecolab, I have had the opportunity to collect personal impressions of the villages in the Bódva Valley, which share many similarities with Dány, for several years. The trip to Tomor and Bódvaszilas was organized immediately after the intensive three-day training of BAGázs. I had high hopes of getting to know the community of Tomor, because I had discovered encouraging points of contact from the beginning. Ecolab was linked to the community by Márton Gosztonyi, a sociologist and business development expert who had known the community of Tomor for many years and who has remained an active participant in the subsequent joint work.

Tomor is situated in the Edelény district of Borsod-Abaúj-Zemplén county. It is located nearly 40 km from Miskolc and 50 km from the Slovak border, with a population of 234 (117

women, 60 families) (KSH, 2011). One of the characteristics of the community is that, although the Roma population is quite large in the area (around 20% of the population in Tomor is Roma), there are no settlements within the area, the village is not very divided by ethnicities, and the overall picture is orderly. Compared to the surrounding settlements, with which it is linked by kinship and working relations (Lak, Homrogd), it is a relatively harmonious village, which nevertheless has its own specific problems.

What makes the community of Tomor very special is the presence of a strong, visionary, experienced leader (László Siroki, "Laci"), a willingness for development and a general spirit of enterprise.

Laci, a key figure in the Tomor community, actively seeks to bring together local adults and young people, and believes it is important to be able to develop market-based activities based on local assets. ROMAMA, a Gypsy Diner, the heart of the Tomor community, has been operating as a social cooperative since 2016. The building, a house built in the previous century, is located on the upper of the two streets in the village, Petőfi Sándor Street, and features an elongated garden that stretches up the hill. The building itself consists of one room, the dining room, and a kitchen, with a farm building at the back. The restaurant is open by appointment and serves traditional local Roma food (such as lecsó, vakaró, and rooster stew). ROMAMA also serves as a base for a variety of activities for the local community and hosts other activities such as camps (film and media camp), bands formed by members of the community (Dorco Band and Dorco Band Junior), and the Bari Shej ('Big Girl', a developmental leisure programme and school for young local girls).

Compared to the interviews conducted in Dány, the interviews (conducted during the 2019 course) show a slightly different but largely similar picture. The life story interviews, which were mostly with female residents, reveal nostalgic childhoods, problematic school situations often fraught with abuse, girls running away at an early age and starting a family (13-15 years old), obstacles to employment, housework and child rearing as well as tasks that are classically female, the delimitation of gender roles, and the occasional addiction-related health problems of the older generation. However, it is also noticeable that lack of prospects is mentioned less frequently than in Dany, due to what can be described as orderly and peaceful family relations, and the younger generation is often given the opportunity to break out of familiar patterns. Young girls are encouraged to continue their education for as long as possible, and to choose a partner and have children as late as possible. Returning to local values and the empowerment that it brings is a key factor in individual and collective family histories, often centered on ROMAMA. Continuing education is not only important for the younger generation, but it is also common for the adult population to finish primary school later, or to learn new professions. In terms of generational differences, it is striking that the childhood stories of the current adult generation still include the classic stories of extreme poverty, living in tiny flats and experiencing hunger on a daily basis. In contrast, in their own lives and those of their children, the 'lost innocence' is contrasted with technology, the difficulties of working remotely (often abroad), discrimination, and hopelessness. Yet the stories recorded clearly show that the close ties of family, belonging, care, the mother figure, cooking together, and openness are key values in the community's own mythology. The name of the diner, ROMAMA, stands for Roma mother—the place thus brings the community together in a symbolic and physical sense, creates a workplace and offers the opportunity to move on, whether through cooking or playing music together.

The social design methodologies mentioned above emphasize that collaborative work with a community is a way of laying a foundation of trust. In similar situations, the designer's connection to an existing, closed community can be seen as a difficult trajectory, further complicated by class difference at times. In order to establish the trust that underpins collaborative work, I drew heavily from PAR (Participatory Action Research) techniques used in sociology (see above, II.4.). PAR can be seen as a "great equalizer", as it redistributes the power between researcher and researched. The use of the PAR method is appropriate when the local community is able and willing to act as an active participant, creating equal parties in the process. Using the elements of PAR can be beneficial especially in the initial stages of social design processes. There are many known and experimental methods (ice-breaker situations, co-creation situations, mutual interview situations, informal activities) and it is often not possible to plan in advance what method to use and how to use them. Another complicating factor is that the building of mutual trust is a dynamic process that may never be complete but is essential for the development of an effective design process that offers real solutions.

[Insight]

If we consider individual knowledge as a source of expertise, taking in mind the constructivist theory, knowledge can be seen as manifested or activated instead of gained or learned. This also means that the designer takes up the position of a partner and a facilitator, instead of a tutor or a leader. Empowerment through shared creation that values the individual's experience, instead of helping her as an outsider patron, can open possibilities towards initiatives that are rooted in the inherent difficulties of disadvantaged communities. During this field-based project, the collaboration and the participation-based methods used throughout helped us shape ideas, concepts and ways of working that the community really internalized and took ownership of. This ownership has helped keep up the collaboration on the one hand, and it contributed to the developed ideas to be maintained and developed further by the community, without the designer's presence.

III.2.3. BódvaPakk, MOME Care Packs, and Bura Babybed: Designing with women as experts during a vulnerable time

BódvaPack research and design project

Location	Bódva Valley (Bódvaszilas, Bódvalenke, Bódvarákó, Tornaszentandrás and Perkupa)
Target group	Disadvantaged mothers
Number of participants	10-15
Age group of participants	15-40
Contact person/ organization	Safe Start Houses
Goal	Research of current childbearing practices, designing a bundle that tackles the challenges surrounding childbirth in disadvantaged communities

Bódvapack project grew out of MOME EcoLab, the Sustainability Research Group of the Moholy-Nagy University of Art, and Design Budapest (MOME) between 2017-2018. The Bódva Pack was created with a group of researchers, doctoral students and alumni from different fields, from Architecture,

Product Design, Textile Design, Graphic Design and Design Management programmes of MOME. While working in rural Hungary (mainly in Bódvaszilas, Bódvalenke, Bódvarákó, Tornaszentandrás and Perkupa), we conducted extensive research. The initial approach of the research team was to design a toolbox that gives actual responses to real problems and needs of the local community, starting with measuring the resources. We found that such a toolbox has to contain objects that are necessary for the well-being of the newborn, but which are not easily accessible by local means. Since we found safety and healthy sleep to be among the most basic needs, we dedicated the first toolbox to these.

Throughout the years of fieldwork within the community, involving local disadvantaged families (mainly mothers), local social workers and healthcare workers, we found that the most important problems are connected to the safety and health of newborn babies. Very few resources are available locally for building a layette, therefore many families don't have the means to bring their newborn home from the hospital after birth. There are no baby beds in most families, therefore lack of proper sleep is common. In cases when co-sleeping is practiced, the lack of information and safety measures among mothers can cause SIDS (sudden infant death syndrome). Babies are often held in hand; lack of proper carrying and adequate baby posture between sleeps causes developmental setbacks.

During the research we defined the following goals: mapping the resources currently available to local families when planning parenthood; finding out what are the most crucial needs young mothers or families have for improving the newborn's circumstances; contacting local policymakers and the local Social Supply System and working with them.

After an intensive period of research and fieldwork, we visited two 'Safe Start Children Houses' in the Bódva Valley, where we presented our DIY product developments. The aim of the visit was to talk with and get feedback from local mothers and families about our current prototypes that had been developed, such as a children cot, baby carrier and baby basket. The toolbox targeting safe sleep, called Bódvapack, was designed for the very first stage of life—the newborn baby's introduction to a family. We looked at the most basic needs of newborns and their families, also taking the policies of Child Protection Services into account.

As a response, the research group developed and prototyped the first package of the line: the aforementioned Sleep Toolbox, or BódvaPack. This package facilitates safe sleep with the following contents: a flat-pack, DIY, easy-to-assemble baby bed with removable walls; a thermal baby blanket printed with local motifs developed to connect it to future toolboxes; a baby carrier; basic DIY wooden toys made from the leftovers of the beds' material; a booklet containing assembly instructions; and a user manual.

The BódvaPack has been designed by taking into consideration the characteristics of the local material and budgetary resources. All the objects can be produced locally for the families to use and for wider, for-profit production in the future, that would benefit the local makers. The long-term goal was not only to design and develop the rest of the thematic toolboxes, but to design, build and sustain a maker community and a social workshop for production. The initial prototypes have been tested on the field within the community and the necessary modifications have been registered and applied in further development.

[Insight]

The insight gained during the project served as a significant influence in several following projects, such as the BabyPack or the Bura Babybed described below. In the case of BódvaPack, while certain participatory elements were used during the process, the design workflow followed a mostly traditional approach, resulting in a few discrepancies such as issues with usability, reproducibility, and adaptability. These insights were developed and implemented further in the projects described below.

MOME Care Packs: BabyPack

Location	Budapest and online
Target group	Disadvantaged mothers in lockdown
Number of participants	10 experts and consultants, plus 350 beneficiaries
Age group of participants	15-40
Contact person/ organization	Hungarian Red Cross
Goal	To research the mothers in the lockdown situation, to design, optimize and distribute a package that offers relief.

The COVID-19 pandemic has created a global disruption in the usual flow of life. This was also true for the design field and, coincidentally, it collided with the formation of the Innovation Center at MOME. As an immediate response, all design and research teams immediately turned towards the challenge and designers adapted the attitude of first responders. The Social Design Hub came up with a response to the experience of isolation of different vulnerable groups, namely families of newborns, expecting mothers, elderly people living alone, and children, who had to continue their studies in an online classroom setting. These target groups were all heavily vulnerable to the spreading virus, as well as threatened by the new paradigm. Disrupted commerce and inaccessible products, lack of information, complete overload of healthcare systems all around the globe, disconnection in social services, social isolation, and general uncertainty have taken a toll on the global population's mental and physical health. In Hungary, expecting mothers fall under the care of the Health Visitor Network,

which is a completely unique system in Europe. “Health visitors are highly qualified healthcare professionals whose traditional role is to promote and improve the physical, mental, and social well-being of families”, therefore their presence is strongly connected to the perinatal period and family life until adolescence (Szöllősi, 2020). The loss of these interpersonal connections had a two-fold effect on pregnancies during the pandemic: the lack of close connection to medical professionals have minimized the number of unnecessary interventions, resulting in less C-sections and other invasive labor procedures (Hidalgo-Lopezosa et al., 2022), but it also influenced the personal perinatal care of mothers (Ibrahim et al., 2021).

During the design process, several interviews were conducted with experienced mothers, pregnant women and Health Visitors via telephone and video chat in order to gather relevant information and assess real needs and pain points. With constant iteration and in close contact with these individual experts, the content of the BabyPack kit was created and tested (all during the first 6 months of the lockdown). Both the digital and physical prototype were completed, tested, and published online (https://segitopakk.mome.hu/en) in an Open-Source format in order to provide accessibility as wide as possible. The BabyPack in Times of Isolation is a kit containing the basic equipment and information necessary to receive a newborn and makes the first three months of the post-partum period easier. The kit was created as a digital package, containing information on post-partum and newborn care; recommendations of basic equipment; hygiene products and a set of templates to create elementary objects such as a sleeping nest, baby towel, and small toys.

The ideas, information and patterns can be downloaded by anyone who would like to help families such as those who are expecting their first child in such unstable times and who would need baby care tools and equipment. Part of the listed objects can be easily accessible, can be prepared easily by using materials one can find at home and when ready, they are easy to disinfect.

After concluding the first design stage with prototyping, the design team was approached by the Hungarian Red Cross. In close cooperation and mutual knowledge-sharing, a first batch of 100 packages of the physical version were manufactured, prepared, and distributed among disadvantaged families during the second and third wave of the pandemic (late 2020-early 2021). A further 250 packages were also distributed later during the fourth wave (late 2021).

[Insight]

This research and design process can be interpreted as an example of a classic participatory design approach; however, for the involved parties, the nature of the topic and shared experiences added a significant personal dimension to the process. Considering that in general perinatal care many mothers feel pressured, suppressed or even infantilized by medical care workers, the act of granting the role of expert to mothers and patient-centered Health Visitors was quite unique. This project and design process had a significant impact on current research in the sense that participants without professional qualifications were positioned in the research process in line with the constructivist view of knowledge, introducing their personal experience and thus stepping into the role of an expert, participating in decision-making throughout the design process.

Bura Babybed

Location	Tiszabura, Budapest
Target group	Disadvantaged mothers
Number of participants	n/a
Age group of participants	n/a
Contact person/ organization	Hungarian Charity Service of the Order of Malta
Goal	To enter the refined product into production and distribution

The insights of the two previous research and design projects were implemented and further developed in partnership with the Hungarian Charity Service of the Order of Malta (Magyar Máltai Szeretetszolgálat, hereafter “Malta”). The key characteristics of both projects were merged into the Bura Babybed, developed and prototyped in cooperation with the teams of Malta, relying on the production of their social enterprise in Tiszabura and the distribution line of the charity service team.

The previously designed bed from the BódvaPack remained structurally similar, however, a few changes were made to improve safety, manufacturability, and compliance with TÜV-authorization requirements. The beds were optimized for fire safety, tested in a product engineering laboratory, and partially redesigned for a more user-friendly configuration. The bed also included an inner mattress, adapted from the sleeping nest of the MOME BabyPack, but several changes were applied for mass-productibility.

[Insight]

This project was significant because a several-year long project had finally reached the potential to be materialized for production on a mass scale (1000 pieces) to be distributed to families all around Hungary. For this reason, wider cultural usability factors had to be taken into account, and this design embodied the epitome of user's voices (the user being disadvantaged communities), manufactured on a larger scale for wide access. However, due to financial issues, the partnership was paused, and production has not resumed to this day.

[Summary]

In this section, I highlighted the main methodological frameworks that were applied throughout this doctoral research, which are a hybrid of qualitative and quantitative approaches. The classificatory scheme presented in a recent, in-depth study by Kaszynska and Kimbell (2022), provided the groundwork for this methodology. Based on this scheme, the notions of being situational, situated and situating were described in relation to current doctoral research. Furthermore, I introduced the main theoretical flagpoles and methods which guided me through the process, such as PAR, Grounded Theory, critical feminist epistemology and constructivism. The case studies described above were included for the sake of including personal experience as a designer, earmarking the main theoretical background for the Masterpiece. This overall methodological framework distills down to a few key takeaways, namely:

∅ Difficult life experiences of young, disadvantaged women result in lack of **AGENCY**, therefore a method that genuinely addresses the target group needs to focus on these, while granting space to address these interconnected phenomena.

∅ Individual knowledge as expertise is crucial in the **EMPOWERMENT** of disadvantaged communities, considering the type of knowledge that is activated rather than taught. Consequently, the role of the designer in such cases is to facilitate and hold the space.

∅ While working with communities, the community's features, needs or the timeframe available might call for different levels of participation. The main role of participation in the cases highlighted here is to include stakeholders in the processes of agenda-setting, and **DECISION-MAKING**, and, ultimately, to create space for vulnerable groups to experience these processes.

III.3. Summary; preface to the masterpiece

As elaborated above, key concepts of this research in the context of gender equity and design are

a) empowerment,
b) agency, and
c) decision-making.

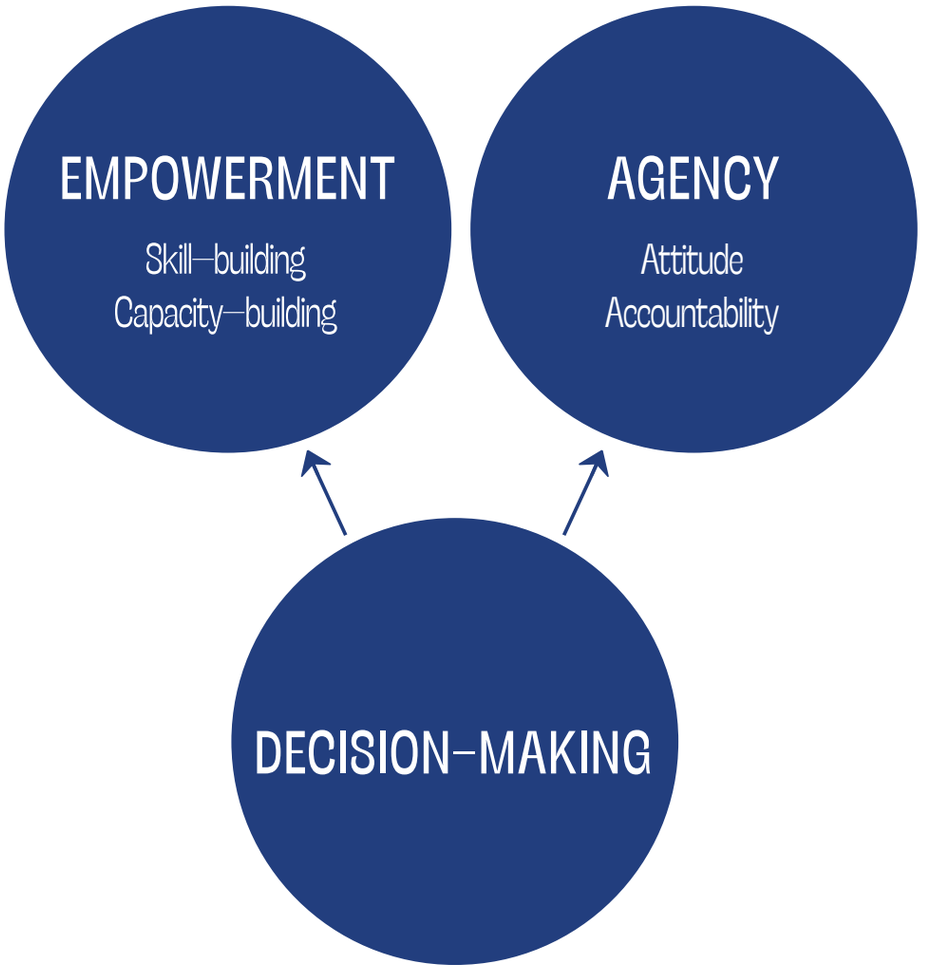
As a summary of the previous sections and a preface to the Masterpiece presented below, these core concepts are outlined in an attempt to contextualize them within (social) design.

As mentioned previously, Empowerment, as Kabeer defines it *"is about the process by which those who have been denied the ability to make strategic life choices acquire such an ability"* (Kabeer, 1999). Kabeer's framework points at three interconnected elements which lead to women's empowerment: Agency, resources and achievement. In this framework, the three concepts shine light on the necessity of change: exercising agency, acquiring or accessing resources, and performing achievements only lead to empowerment if the person or community have previously been out of reach to these notions.

Even though the Empowerment Framework holds true for the target groups of the current study, a slight shift of structure is applied for the sake of accountability in the context of design. Since design in the current case is concerned with the envisioning, making, and using of solutions, within the context of improving disenfranchised communities' realities, I will only be taking into account the factors that are approachable from a design perspective. Consequently, empowerment will remain a core notion in the framework adopted for the thesis, as design does have the means to contribute to a shift of power in the case of disenfranchised individuals. On the other hand, resources and achievements are highly dependent on factors that fall outside of the domain of design and rather belong to the domain of politics, economics, and cultural beliefs, as I will

elaborate below. Therefore, they are substituted in the current model with agency (as it relates to the individual's attitude, which they do hold power over) and decision-making (a process that relates to an individual's setting and their executing goals in accordance with their best interest and desires). This triad of notions, Empowerment, Agency and Decision-making, constitutes what I will call the EAD Framework.

Empowerment is defined here in the context of design, as skill-building and capacity-building. Skill-building includes gaining technical, motoric, and coordinated physical skills as well as communication, cooperation or linguistic skills. On the other hand, capacity-building at the individual level "refers to the process of changing attitudes and behaviors-imparting knowledge and developing skills while maximizing the benefits of participation, knowledge exchange and ownership" (UNDP, 1999; also see Lafontaine 2000). Here, I refer to capacity-building as the ability to assess and adapt to surroundings while aiming at a beneficial outcome. Agency, on the other hand, consists of attitude and ownership in this framework. Attitude refers to the individual's position in an active relation to her environment and events, assuming that this relation is something that she can claim ownership over. The concept of ownership, which also plays a key role in the framework, draws our attention to the importance of the active position one has to take in order to influence outcomes in accordance with their preferences and needs.



Empowerment and agency are further supported by decision-making, a practice applied by the individual which needs to be exercised regularly, especially if one has not learned to decide for one's own from a young age. The lack of tools for decision-making stems from the individual's marginalized position, where one's not accustomed to the experience of having power over factors that determine one's life. In case of disadvantaged youth, Green's perspective proves fitting, as he argues for a multidimensional understanding of poverty that takes into account the sense of "powerlessness, frustration, exhaustion, and exclusion from decision–making" experienced by people living in poverty (Green, 2008, p. 7). Poverty is described as a "symptom of deeply rooted inequities and unequal power relationships, institutionalized through policies and practices at the levels of state, society, and household" (Green, p. 27).

It is worthy to emphasize here that I strongly believe that while design holds the capacity to facilitate positive social change, it certainly cannot be the sole generator of it; most social struggles are embedded in the complex structure of ecological, economical, geographical and cultural phenomena. Thorpe and Gamman argue that while design (especially social design) can thrive to be responsive, it certainly cannot pose as responsible for the entirety of design processes (Thorpe & Gamman, 2011): Design's being solely responsible would mean denying agency to other stakeholders, especially in the case of underserved social groups. The authors propose that tackling complex design challenges *"requires a socially responsive design and innovation approach, as it is not clear which ethical design drivers, or stakeholder agendas, the design should be responsible to. This complexity requires designers and other actors in the (co-) design process to be responsive to the context in which the design activity takes place."* (Thorpe & Gamman, 2011, p. 219)
In a similar manner, Milic states that *"responsible designers are responsive to the needs of the community"*, also emphasizing that treating people during a participatory or social design process as equals allows the community to address its own challenges actively (Milic, 2021). These constitute some of the reasons for pushing Kabeer's notions of resources and achievements to the background in the context of this research, as they are factors strongly influenced by larger powers, and focus on Empowerment, Agency and Decision-making, the EAD Framework.

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Janka Csernák: Page 37, 74, 84, 89, 92, 106, 115, 118, 122, 162, 164, 166, 180, 188, 196, 202, 211

Dorina Bencsics: Page 18, 31, 160, 161, 170, 176, 178-179, 183

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Márton Petrekovits: Page 158

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Bio

Janka Csernák is a social designer and researcher. Her track record as a market-based product and concept designer and curator for diverse audiences has informed her years of working in social design since 2015. Her research focuses on social design in the context disadvantaged groups, gender equity, participatory design, design ethics, and speculative design.
In addition to teaching multidisciplinary social design courses in Zagreb (ALU), Gent (KASK), Tallinn (EKA), workshops during hackathons and summer universities, she is a co- founder of the Social Design Network. She received the Hungarian Design Award for several projects in 2014 and 2015, and the Fondation Jacques Rougerie Award in 2013.

Studies

2017 –	Applied Art DLA, Doctoral School, *Moholy-Nagy University of Art and Design (HU)*
2010 – 2012	Metal design MA, *Moholy-Nagy University of Art and Design (HU)*
2011	Metal design, *ESAD Porto (PT)*
2007 – 2010	Metal design BA, *Moholy-Nagy University of Art and Design (HU)*

Work

2019 –	Researcher at *Social Design Hub, Innovation Center, Moholy-Nagy University of Art and Design (HU)*
2019 – 2020	Art director at *SuperChannel*
2015 – 018	Art director at *MAXCity Design Center*
2012 – 2015	Designer and project lead at *S'39 Hybrid Design Manufacture design studio*

Awards / Recognition

2015 *Hungarian Design Award* – 'LUMINARI Glass' project, Budapest (HU)

2014 *Hungarian Design Award*– 'CALTROPe' projekt, Budapest (HU)

2013 *Award of Jacques Rougerie Foundation,* Category 'Architecture and sea level rise', 1st prize,– 'CALTROPe' project, Paris (FR)

Publications

2023 Málovics, Gy., Bajmóczy, Z., Csernák, J., Fehér, B., Frigyik, M., Juhász, A., Matolay, R., Müllner, A., Szerencsés, R. (2023) *Az egyetemi közösségi szerepvállalás lehetséges szerepe a társadalmi innovációk létrehozásában magyarországi egyetemi városi kontextusban,* Tér és Társadalom, 37 /3., in edit

Templates of Agency: Objects of a Social Design Program for Disadvantaged Girls (2023) Disegno Journal 2023/1, in edit

A safe space of creativity: designing with vulnerable communities (2023) Cumulus Antwerp Conference paper, in edit

Csernák, J., Szerencsés, R., Horváth, L., Dés, F. (2023), *FRUSKA Handbook / FRUSKA Kézikönyv,* MOME, Budapest, ISBN 978-615-5134-42-5

2020 *Hátrányos helyzetű női közösségek fejlesztése a design eszközeivel* (2020) IX. Interdisciplinary Doctorate Conference Proceedings. ISBN978-963-429-583-9 Design (HU)

2015 Baróthy, A., Csernák, J. (2015) *„It's like a... (Thoughts on some kind of sustainably-shaped thing)"* In: Sustainable Identities. Editor: German Kinga, Okwui Enwezor, Venezia: Marsilio, p. 100. La Biennale di Venezia. ISBN: 9788831721288

Projects

2023 *TELCO 2023 – Future of Telecommunication*
speculative design course in cooperation with Telekom HU, content development, lead lecturer

2022 – *Fields of Presence*
research project with the Hungarian Charity of the Order of Malta, methodological and content development, workshop lead and professional support

FRUSKA
research project on the creative development of disadvantaged girl communities, research lead

2021 – *Social Design Network Conference, 'Social Futures' exhibition,*
content developer and curator

Creative development of Compack Industrial area in cooperation with the Hungarian Charity of the Order of Malta,
content development, workshop lead and professional support

2020 – *Launch of the Social Design Network*
content development and professional support

MOME Care Packs- Baby Pack, Comfort Pack and Creative Pack for various vulnerable groups during COVID-19,
research and content development, project lead

2019 – *Social design and social enterprise development projects in Tomor (HU),*
research and content development, co-lecturer

2018 – *Bodvapack Sleep Package development and prototyping,*
research and content development

Presentations

2023	Presentation and workshop at *Summer School of Community Organizers Association* , Kunbábony (HU)
	’Future of telecommunication’ speculative design lecture and workshop for *Telekom HU* (HU)
	Social Design- participatory methods in creative work, *ALU Summer School,* Istria, (HR)
	‘Connectivity and Creativity in Times of Crisis’ *Cumulus Antwerp* - Conference presentation / PhD track (BE)
2022	Presentation and workshop, *ELIA* Helsinki (FI)
	Workshop and presentation for *ALU,* Zagreb (HR)
	’Learning and doing’ keynote speech on social design for joint course at *KASK and EKA*
	Lecture at ’Designing for Social Innovation’, *Service Design College* (ES)
2017 – 2018	‘Common denominator’ roundtable talks (HU) at *social design exhibition in MAXCity Design Center*
2014	Urban Series, workshop and lecture on *Urban Art*, Istanbul (TR)
	Bratislava Design Week - Workshop and lecture on public and participatory art
2013	VÁR A TÉR, urban planning workshop on Batthyányi square, *FUGA,* Budapest (HU)

Teaching

2023	*Social Design Hackathon* in Zalakomár (HU)
	TELCO 2023- Future of Telecommunication- speculative design course in cooperation with Telekom HU, lead lecturer (HU)
	Lecture on *social design methodologies and creative community engagement* at Summer School of ALU (Istria, HR), lead lecturer
	’Future selves’- three-way international interdisciplinary design course in cooperation with MOME, KASK and EKA, lead lecturer
2022	*Social Design Summer University* in Zalakomár
	’Design in times of crises’ Lecture on social design methodologies and creative community engagement at ALU (Zagreb, HR)
	Social Design Hackathon in Zalakomár during MOME Course Week (HU)
2021	*Social Design Hackathon* in Tiszaroff during MOME Course Week (HU)
	’Design Research’ Interdisciplinary artistic and design research method during MOME Course Week
2019 – 2023	*Various design courses in social design* (MOME)
2018	*Social Design Summer University* in Tomor (HU)

Declaration of authenticity

I, the undersigned Janka Csernák ((place of birth, date of birth: Pécs, 3 June 1988, Mother's name: ID number: 054840UA, a doctoral candidate at the Doctoral School of the Moholy-Nagy University of the Art and Design Budapest, declare that my doctoral thesis 'Working With Disadvantaged Female Communities Through Design Tools' is my own work, and I have used the sources given in it. All parts of this thesis, which I have taken verbatim or with the same content, but paraphrased from other sources, are clearly marked with the source.

I further declare that I am submitting this dissertation as my own intellectual work, exclusively to the above-mentioned university.

Budapest, 30 August 2023.

Signature

Eredetiségi nyilatkozat

Alulírott Csernák Janka (szül. hely, idő: Pécs, 1988, június 3., anyja neve: Bartók Gyöngyi, szem. ig. szám: 054840UA), a Moholy-Nagy Művészeti Egyetem Doktori Iskola doktorjelöltje kijelentem, hogy a 'Working With Disadvantaged Female Communities Through Design Tools' (Hátrányos helyzetű női közösségek fejlesztése a design eszközrendszerén keresztül) című doktori értekezésem saját művem, abban a megadott forrásokat használtam fel. Minden olyan részt, amelyet szó szerint vagy azonos tartalommal, de átfogalmazva más forrásból átvettem, egyértelműen, a forrás megadásával megjelöltem.

Kijelentem továbbá, hogy a disszertációt saját szellemi alkotásomként, kizárólag a fenti egyetemhez nyújtom be.

Budapest, 2023 augusztus 30.

Aláírás