# A novel application of the Lego® Serious Play® methodology in mental health research: Understanding service users' experiences of the 0-19 mental health model in the UK

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## Abstract

**Aim**: The 0-19 model is an example of a service that has been retransformed in line with UK's recent policies. However, there is limited qualitative research exploring young people's experiences with the accessibility and acceptability of retransformed models through more participatory qualitative approaches. This study aimed to understand service users' experiences of accessibility and acceptability with the 0-19 model and its service provision. In addition, we also aim to outline the process and application of the Lego® Serious Play® methodology to the context of children and young people's mental health research and reflect on the usefulness of this novel approach and its potential for further research use.

**Methods**: A qualitative methodology based on the Lego® Serious Play® approach was used to investigate service users' perceptions of the accessibility and acceptability of the 0-19 model. This novel approach is viewed as a facilitator of engagement, which also stimulates critical thinking and reflective practice. All interviews were thematically analysed.

**Results**: Seven participants constructed 14 models and provided metaphorical narratives for them besides engaging in group discussions. Thematic analysis of the participants' models and narratives resulted in six identified themes: accessibility, doors into the unknown, let it out, overcoming obstacles, less is sometimes better, and satisfaction with the 0-19 model and its provision.

**Conclusion**: Participants in this study perceived the 0-19 model as acceptable and, to a degree, accessible. Participants identified a range of barriers to accessibility, such as inconvenient locations, long waiting and inflexible working times.

**Keywords**: child and adolescent mental health, Lego Serious Play, qualitative research, service users' experiences, young people.

## 1| Introduction

A survey in 2017 showed that the prevalence of mental health disorders in children and young people (CYP) aged 5-19 in England is 12.8% (NHS Digital, 2018). However, despite high prevalence of CYP mental health disorders, help-seeking rates and engagement with Children and Adolescent Mental Health Services (CAMHS) are declining due to wider treatment gaps (Knapp et al., 2015), barriers to access (Mitchell, McMillan, & Hagan, 2017), lack of CYP engagement with CAMHS (Salaheddin & Mason, 2016), unattractive service provision (Mitchell et al., 2017), and fears of stigma (Plaistow et al., 2014). A House of Commons (2014) report also highlighted weaknesses of CAMHS, such as long waiting times, poor experiences of transitions and gaps between CAMHS to Adult Mental Health Services, and the lack of early intervention and prevention.

To improve and retransform CAMHS, the UK government launched a series of policies between 2014 and 2019. For example, the 'Future in Mind' policy set out recommendations aimed at improving CAMHS, early intervention, prevention, CYP resilience, and access to these services (Department of Health, 2015). Similarly, the 'Five-Year Forwards View for Mental Health' aimed to create new service models for CYP mental health and retransform existing services into integrated and stigma-free mental health models that can provide early intervention and prevention in partnership with statutory and voluntary sectors and improve accessibility (Mental Health Taskforce, 2016). These two policies were crucial for the retransformation of existing services into new models of care that follow the well-established examples of the Australian 'Headspace' and Irish 'Jigsaw' models that have shown that young people's (YP) mental health models can be both attractive and effective (McGorry, Bates, & Birchwood, 2013).

### 1.1 Solar service and their mental health service provision

Guided by the recent UK policy context, in 2015, Solihull's 0-19 model was one of the first mental health services to be retransformed from the previous 0-17 model into a new integrated[1] and partnership model between statutory and voluntary sectors. The model offered extended provision for CYP up to 19 years of age, and where necessary, to extend this to 21 (Vusio, Thompson, Laughton, & Birchwood, 2020). The model's main aim was to create an all-encompassing system that would provide a compassionate and stigma-free environment for their service users and improve CYP transition experiences based on their needs rather than their age (Vusio et al., 2020). The model also structured their service provision around early intervention and preventive approaches, while emphasising the development of resilience and co-production with their service users (Vusio et al., 2020). Service users have been involved in the evolution of this model since the service was commissioned. Attempts to understand YP's experiences with this model are therefore paramount.

### 1.2| A need for participatory research with young people using the LSP approach

There is little published evidence of how accessible and acceptable these retransformed mental health service models are in the UK. However, a breadth of research evidence highlights that

[1] Integrated mental health service can be defined as coordinated patient-centred and evidence-based mental health service provision, which use a measurement-based electronic patient record to achieve an accountable and effective mental health care (Brophy & Morris, 2014).

the involvement of service users in mental health service planning and evaluation can contribute to new knowledge (Gallagher & Schlösser, 2015; Thornicroft & Tansella, 2005).

Most mental health research with YP relies on traditional data collection and methodological approaches to obtain data. However, there is a lack of participatory, creative, and inclusive methodological approaches capable of facilitating self-expression, empowerment and improving participant engagement with researchers (Veale, 2005a; Worthen, Veale, McKay, & Wessells, 2019). Consequently, most non-participatory research often fails to fully understand YP realities and their experiences (Clark & Richards, 2017; Cuevas-Parra, 2020; Veale, 2005a). However, recent research methodologies have shifted their attention from considering YP as passive participants to having more active co-participatory roles of generating research knowledge (Purdy & Spears, 2020). Therefore, the research process should be considered as a transformational process that facilitates knowledge generation and reciprocal learning through interaction between researchers and YP (Clark & Richards, 2017; Veale, 2005b). Moreover, most participatory research with YP today gravitates around the use of alternative research methods such as drawings (McTague, Froyum, & Risman, 2017), focus groups (Zonio, 2017), and stories (McNamee & Frankel, 2017).

Meanwhile, most research involving YP in active participation state that research that is accessible, engaging and robust should also be fun for YP participants, and as such is a "serious undertaking" (Carter & Ford, 2013). Therefore, the Lego® Serious Play® (LSP) approach may help introduce 'serious play' into the YP research domain.

Lego bricks represent a creative approach to problem-solving and are the LSP methodology's key elements (Gauntlett, 2013). The LSP method's main benefit is its ability to foster and encourage the reflection process, thus enabling greater dialogue and engagement between the participants involved in this process (Wouters & van Hoof, 2017). LSP also has the potential to stimulate critical thinking, reflective practice and interaction between participants (Hinthorne & Schneider, 2012), while it is also able to generate new knowledge creatively and interactively (Wouters & van Hoof, 2017). LSP has also been used as a medium for generating feedback across different research fields (Barton & James, 2017; Sheard et al., 2019), industry domains (Swann, 2011a), and education (Lotts, 2016) and healthcare settings (Murphy, Jordan, Hunter, Cooney, & Casey, 2015). By contrast, the use of LSP methodology is seldom seen in social and health sciences research. However, multiple studies have successfully demonstrated the value of LSP in healthcare settings, especially in service design and evaluations (Dixon, 2016; Swann, 2011a; Wouters & van Hoof, 2017).

The LSP method's main advantage is through constructing metaphors that form the participant's narratives. This "hands-on"[2] approach, alongside a participant's narrative behind their model, provides a better insight into their lived experiences and perceptions (Dixon, 2009; Swann, 2011). This allows YP to participate actively and engage in a more personal and inclusive way. Despite the LSP method's potential to "express everything", this approach to qualitative research has received little attention from the wider research community (Swann, 2011). In this study, we aimed to explore YP's experiences of the acceptability and accessibility of the 0-19 model by using the LSP methodology.

[2] A 'Hands-on' approach enables the participants to have a 'hand-mind' (thinking through their fingers) coordination that allows them to reflect on the posed question while building their models, to aid them in creating a rich narrative behind the constructed models (Ackermann, Gauntlett, & Weckstrom, 2009; Gauntlett, 2007).

## 2| Methodology

The LSP approach consists of a six-step process (**figure 1**). In the first step, we defined a set of objectives for running LSP workshops. In the second step we developed a set of research questions that formed the foundation for the building activities to ensure that participants knew what to build and reflect on (Gauntlett, 2010). We structured all questions to participants based on the evaluation findings from semi-structured interviews with CYP population in Solar and adapted these questions so their models could be built in a limited timeframe and to enable participants' engagement. The participants were not involved in the first two stages. In the third step, we used the developed research questions to build directions for participants without influencing their creative freedom and narratives. In other words, the researcher posed a challenge to participants upon which participants built their models. In the fourth step, based on the researcher's question, participants engaged in their building process to provide a model that addresses the question. During the building process, participants engaged in reflective practice to provide unique narratives behind their models. During this process, participants created metaphors with physical representation in their models that formed a narrative and gave meaning to their abstract models. Once the models were built, in step five, each participant openly shared their narrative behind their constructed models. In stage six, the overall group engaged in discussions to achieve more in-depth insight and reflection. Once all participants had explored the researcher's first posed question, the researcher introduced the second research question and repeated steps 3-6.

### 2.2| Study participants

#### Eligibility criteria

Participants were eligible to participate in the study if they had a recent experience of mild to moderate mental health difficulties (such as anxiety or low mood), were ready to be discharged from Solar, were aged 10-19, and could provide informed consent for participation. For participants who were younger than 16, parental consent for participation was sought alongside their own assent.

#### Recruitment process

Purposive sampling was used to capture broader YP experiences with the 0-19 model. All participants were recruited in cooperation with Solar's staff. This study only had ethical approval to include patients with mild to moderate mental health difficulties. The eligibility of prospective study participants under this criterion was determined by clinicians in the service. This reduced the research study's interference with the YP's therapeutic process and the potential of creating a negative impact on YP's mental health.

### 2.3| Data Collection

Participants were given full control over the building process, their narratives, and the following discussion. All participants had up to 120 minutes[3] to build, provide a narrative and

[3] Although usually LSP workshops expose participants to engagement and participation between three and six hours in duration (Dixon, 2016; Swann, 2011), we felt this timeframe would not be appropriate for YP who experienced mental health difficulties and were younger than 16. The minimum length of an LSP session is 90 minutes, however, longer sessions are recommended (Wouters et al.,2017).

discuss these two questions: (1) Describe your experience with the Solar service; and (2) How would you like to see the future Solar service?

A modified version of the LSP approach was used based on the approach by Wouters et al (2017), which allowed participants to build their models over the given period. The first round of building activities lasted 40 minutes, allowing YP to build their models and respond openly to the first challenge (15 min) in a group setting, followed by a short break. A 10-minute group discussion then took place where YP reflected on all the constructed models. This process was then repeated for the second question. During the building period, all participants were asked to only interact with staff and the researcher, while during the discussion, YP were encouraged to interact with other participants. All sessions were audio-recorded and transcribed verbatim by a professional transcription service[4]. The main researcher also kept a research diary with reflexive field notes. All transcripts and reflexive notes were stored securely for audit purposes.

### 2.4| Data Analysis

The analysis of transcripts was based on reflexive thematic analysis by Braun et.al (2018) and was implemented in a similar manner as in Busted, Nielsen, & Birkelund (2020). This data-driven approach towards analysis followed an inductive approach[5] (Braun et.al., 2018). The overall analysis process was conducted as an iterative and reflexive process between all three authors. Initially, FV familiarised himself with the transcription content obtained from the LSP sessions. All transcripts were read, preliminary ideas and patterns noted and re-read (Braun et.al.,2018). Subsequently, all transcripts were run through NVivo v12, and coded broadly. MB and AT independently analysed two transcripts using the same approach as FV to develop the separate coding framework. All coding frameworks were compared between researchers to produce the final framework from which the themes were identified and moulded to give them meaning (Busted et.al., 2020). In addition, a set of subthemes was produced. In the next step all themes and subthemes were reviewed to understand how they related to each other and to the overall data set (Busted et al., 2020). In the same step, the initial thematic map was constructed. Themes were then defined according to what they represent (Busted et.al., 2020). All authors collaboratively participated in decision making to identify and refine themes and produce the final thematic map (**figure 2**). In the last step, all themes and subthemes were narratively defined. The thematic analysis resulted in six themes, consisting of eight subthemes. All identified themes were strongly linked to the data obtained from the participants and are supported by the participant's exact quotes (Supplementary section).

### 2.5| Research Governance and Ethics

Ethics approval was obtained from the Biomedical and Scientific Research Ethics Committee (BSREC) before data collection (Ref: *REGO-2018-2294*).

[4] All transcripts were double-checked for accuracy, and any personal identifiers in the transcripts were removed before data analysis.

[5] Codes were derived from the data (i.e data driven approach)

## 3| Results

Seven participants across two LSP workshops were recruited. Only one participant was older than 16 and consented independently, while the remaining six participants were younger than 16, and therefore parental consent was sought in addition to YP assent. The first LSP workshop lasted 80 minutes and consisted of two participants, while the second lasted 115 minutes. The ethics committee recommended demographic data be kept to a minimum (**table 1**).

Six main themes were identified from the 14 YP's models and their narratives and group discussions (**figure 2)**. **All models (supplementary figures S1-S9) and quotes in support of themes and subthemes can be seen in the supplementary information**.

### 3.1| Theme 1: Accessibility

The first theme focused on factors related to accessibility and perceived barriers to access. The following sub-themes were identified: long waiting times for access; inconvenient locations and the need for more flexibility.

#### *Long waiting times for access*

Participants used a range of metaphorical representations (e.g., clocks, hills and cogs), which represented a need for waiting (Supplementary Figures S1, S9A & S9E). Similarly, other participants perceived waiting times as a barrier to accessibility (Supplementary Figures S3 & S7). However, all participants reported that once they had gained access to treatment, they were happy for getting the help they needed. All participants agreed there should be no waiting times to receive mental health support and treatment. Therefore, the need for timely access to mental health service provision was identified as crucial for them.

#### *Inconvenient locations*

Most participants had metaphorical references highlighting the inaccessibility of the current mental health service locations. Most YP narratives expressed a desire for more locally available mental health services. However, all participants agreed that the service should "*be more present*" (locally) in Solihull. All participants agreed that the service should be more locally available and accessible in future (Supplementary Figures S5-S9).

#### *Need for more flexibility*

The inflexibility of the service in terms of working hours and a lack of weekend service provision was evident in most models. All participants felt that the service "*should stay open for longer*" and "*not interfere with school time*" (Supplementary Figure S7).

### 3.2| Theme 2: Doors into the unknown

The second theme focused on YP's initial emotional reactions, changes in their mood and their gradual opening to staff members.

### *Initial emotional reactions*

Some participants described their initial experiences of accessing the Solar service as "*going into the unknown"*. Some participants also felt shy, scared, nervous and awkward (Supplementary Figures S1,S2&S7).

### *Moving between being sad, okay and happy*

Most YP participants reported their initial sadness was the main reason they needed help. All YP agreed that they had experienced a positive and gradual change from being sad, to okay and ultimately happy. Conversely, some YP felt they sometimes felt sad when they went to Solar but felt better after talking with the staff (Supplementary Figure S4). YP often described another door in their models that represented the end of their Solar journey, leading YP participants to brand-new beginnings (Supplementary Figure S9A and S9C).

### *Gradual process of opening-up*

Most YP described that it was initially difficult to build a rapport with staff and other service users though their models. For example, FGCYP111 used isolated colourful bricks in their model (Supplementary Figure S7) to represent their feelings of being "*a bit shy and still a bit awkward"*. However, all participants agreed there is a gradual process of opening to the rest of the YP and the service. All participants agreed that some time was needed to build the initial rapport. Once this was created, participants felt more comfortable.

## 3.3| Theme 3: Let it out

This theme reflects the participants' needs to be listened to, voice their concerns, and overcome their problems. All participants' models reflected the need to speak out about their negative emotions and be listened to by staff. For example, while discussing their model (Supplementary Figure S4), FGCYP114 stated the need for externalising their inner worries and problems to their therapist by "*letting them* (problems) *out*", while highlighting these should not be kept "*trapped inside*".

## 3.4| Theme 4: Overcoming obstacles

This theme related to YP's reflection on the Solar staff's support, which helped them overcome their mental health difficulties. Two sub-themes were identified: ladders to climb over; and barriers.

### *Ladders to climb over*

Most participant's models depicted ladders or stairs as metaphors to overcome their mental health difficulties. Similarly, for some other participants, ladders represented the direction or goal to achieve recovery (Supplementary Figures S4, S8, S9C & S9E).

### *Challenges*

The overall journey to get better was dotted with different obstacles. For example, some YP used grey lines or white cubes to represent their challenges during the recovery process. However, FGCYP116 used a dragon in their model (Supplementary Figure S6), which represented their determination to get well and overcome their difficulties. All participants felt that the support provided to them by the Solar staff acted as encouragement and facilitated their recovery.

### 3.5| Theme 5: Less is sometimes better

This theme explored participants' perceptions of the overall treatments in the Solar service. All participants reported positive treatment outcomes and improved mental health due to Solar's support. However, most participants stated their desire for smaller group therapy sessions and more one-to-one treatment work, as therapists cannot devote equal attention to all individuals in larger groups. However, from the participants' discussion, it was felt a balance was needed, as if the group is too small this may put individuals in the spotlight, which could increase their anxieties. However, some participants stated a preference for one-to-one treatment over group treatment settings (Supplementary Figures S3, S9C &S9D).

### 3.6| Theme 6: Young People's satisfaction with the Solar service

The last theme investigated the overall satisfaction of participants with their experiences of the service. Most participants acknowledged that all treatment and support provided helped turn their negative thoughts to more positive ones. In addition, all participants stated satisfaction with their overall treatment experiences and the service itself (Supplementary Figures S9B & S9F).

### 3.7| Satisfaction with the LSP workshop

At the end of the session, all participants were also asked for their feedback regarding the LSP research workshop (**Table 2**). All participants reported positive experiences with the LSP. For example, participants FGCYP113 and FGCYP114 felt that research was "*fun*", while participant FGCYP111 reported that they "*enjoyed making these models*". Participant FGCYP115 stated that they expected this to be a "*boring task*", but for them it was an "*interesting experience*", while participant FGCYP116 stated that the LSP session was "*cool*".

## 4| Discussion

The findings of this study suggested that the 0-19 model is acceptable to its service users. However, the accessibility of the model has been identified as an area where additional improvements are needed. This study also found that the LSP methodology was possible to conduct in a mental health service environment. From the pariticipants' feedback it was evident that the LSP session was perceived as a fun and enjoyable experience.

In terms of the model's accessibility, a range of barriers were identified, such as long waiting times and inaccessibile service locations, which were issues identified in other service models (Anderson, Howarth, Vainre, Jones, & Humphrey, 2017; O'Brien, Harvey, Howse, Reardon, & Creswell, 2016). Concerningly, the findings of a systematic review have shown that mental health services' lack of accessibility can affect CYP and their help-seeking behaviours (Gulliver, Griffiths, & Christensen, 2010).

Other studies have also highlighted that CYP have a preference for locally available mental health services (Fusar-Poli, 2019; Plaistow et al., 2014). Similar to our findings here, YP's dissatisfaction with the inflexibility of mental health services and inconvenient appointment times has been noted in other service models (Persson, Hagquist, & Michelson, 2017).

Most YP in our study reported a range of positive and negative emotional reactions associated with acceptance to the Solar service. A previous systematic review has shown that CYP often experienced complex emotional reactions associated with initial access to mental health services due to barriers to access, lack of information and engagement with service providers (Vusio, Thompson, Birchwood, & Clarke, 2019). Similarly, anticipatory anxiety is often associated with CYP attending the mental health service for the first time (Bone, O'reilly, Karim, & Vostanis, 2015). However, this study's findings demonstrated these initial negative emotional reactions often dissipate as YP gradually open up to staff and other service users.

Similar to previous studies (Hart & O'Reilly, 2018; Montreuil, Butler, Stachura, & Pugnaire Gros, 2015), YP voiced their desire to be listened to. Furthermore, other research has also reported that CYP value environments where staff actively validate, listen to, and take their concerns seriously (Claveirole, 2004). Moreover, respecting service users, properly engaging with them and providing adequate support, is associated with positive patient experiences and improved treatment outcomes (Bombard et al., 2018). Likewise, this study's findings demonstrated through metaphorical examples of ladders and arches how appropriate support is crucial for YP during their treatment journeys. Additionally, ladders, and for one service user, a dragon, were used to represent their recovery process. These metaphorical representations were used to describe making progress towards one's goals, emotions or attitudes, which may lead service users to become more hopeful (Lavik, Veseth, Frøysa, Binder, & Moltu, 2018). All participants described their forward-looking processes of creating new beginnings and journeys through their models.

### 4.1| Reflection on the utilisation of the LSP methodology in mental health research

To our knowledge, this paper is the first attempt of using the LSP methodology in a mental health research setting. We found the LSP approach simple to conduct, and that it has potential to be applied in other YP mental health settings. Besides, the LSP methodology appears to be inclusive, democratic, empowering and a fun way of understanding YP experiences. Similar conclusions were also reported in other studies that utilised the LSP approach in healthcare settings with adults (Dixon, 2016; Wouters & van Hoof, 2017).

The LSP method's main observed advantage was creating dynamic group environments that gave YP an equal opportunity to reflect, analyse and present their experiences and opinions. Subsequently, this led to a range of metaphors that were narratively explained by YP in their own words, which allowed us to better understand YP realities and their experiences, as demonstrated in other research (Dixon, 2016; Swann, 2011b; Wouters & van Hoof, 2017). These richer narratives may be linked with the possibility that YP had more time for self-reflection, which may contribute to better narratives than more traditional approaches that often require YP to think on the spot and are exposed to more time pressures to provide an answer. An additional advantage of the LSP approach over more standard qualitative research approaches is connecting the researchers with YP and speaking a language that YP tend to understand – through play.

However, a limitation of this study was the limited number of recruited participants. As this study was conducted at the end of 2019, the further recruitment of CYP participants was impacted by the outbreak of COVID-19, which prevented us from recruiting a larger sample. This study used a narrow sample within one treatment setting, instead of broader samples of YP from other parts of the service to achieve a more representative sample. Therefore, the main findings cannot be generalised to a broader population over a wider context. However, we hope this study's findings will encourage other researchers to replicate the methodology in different mental health settings.

We also acknowledge that it remains unclear whether the same results would be gained by running focus groups. Consequently, we cannot judge whether the LSP method produced richer narratives or experiences than more traditional approaches. Future research should therefore aim to address this gap and demonstrate the feasilibility of the LSP approach to mental health research. It is also important to highlight that in this study all YP had previous exposure to Lego bricks. However, not every YP will have that opportunity. Therefore, researchers should be ready to provide a short training to their participants in case they have never had an opportunity to use them. In addition, it is also important to caution other researchers that some participants who may have difficulties with verbal expression or who consider themselves as not creative may require additional support and encouragement.

Overall, the findings of this study suggest that the 0-19 model is acceptable to its service users. However, the accessibility of the service has been identified as an area where improvement is needed. This study highlighted the benefits of the LSP approach when utilised in mental health research. However, more studies are needed to confirm the LSP approach's feasibility and whether this approach can act as a stand-alone qualitative tool or complement other established qualitative approaches.

**Disclaimer:** LEGO® SERIOUS PLAY® is a trademark of the LEGO Group, which did not sponsor, authorise or endorse this research study. The main author undertook LSP training prior to the administration of the LSP sessions; however, they are not an officially licenced LSP facilitator. This study was conducted in 2019 and therefore may not reflect any developments or changes to the service provision that have been implemented since then.

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**Supporting Information** (Supplementary information - S)**:** In the supporting section of this paper, the authors added examples of the LSP built models, coupled with the interpretation supported by the original participant's extracts of narratives (i.e. explanation of models) and more through explanation of themes and subthemes.

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*Figure 1: The overview of the LSP process*

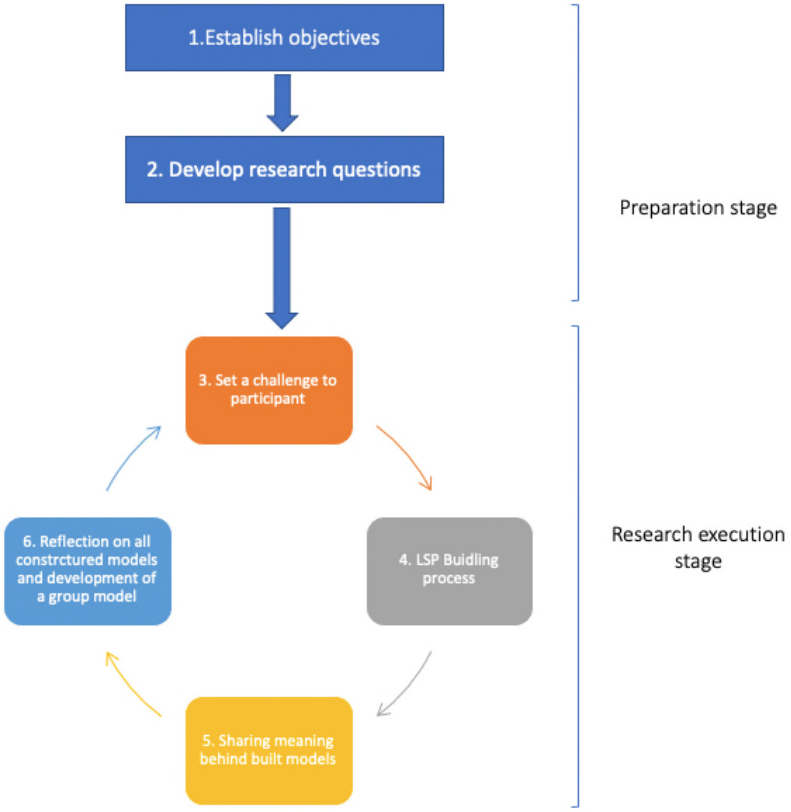

*Table 1: Participants demographics*

| | Demographic questioner | Number of participants |
|---|---|---|
| ❑ | Gender | |
| | Male | 3 |
| | Female | 4 |
| ❑ | Ethnicity: | |
| | White British | 6 |
| | Black British-Caribbean | 1 |
| ❑ | Age: | |
| | 10-12 | 2 |
| | 13-14 | 3 |
| | 15-16 | 2 |
| | 16-19 | 0 |
| ❑ | Treated in the 0-19 model: | |
| | Yes | 7 |
| ❑ | Previously treated in the 0-19 crisis service: | |
| | Yes | 2 |
| | No | 5 |

*Figure 2: Overview of all identified themes and subthemes*

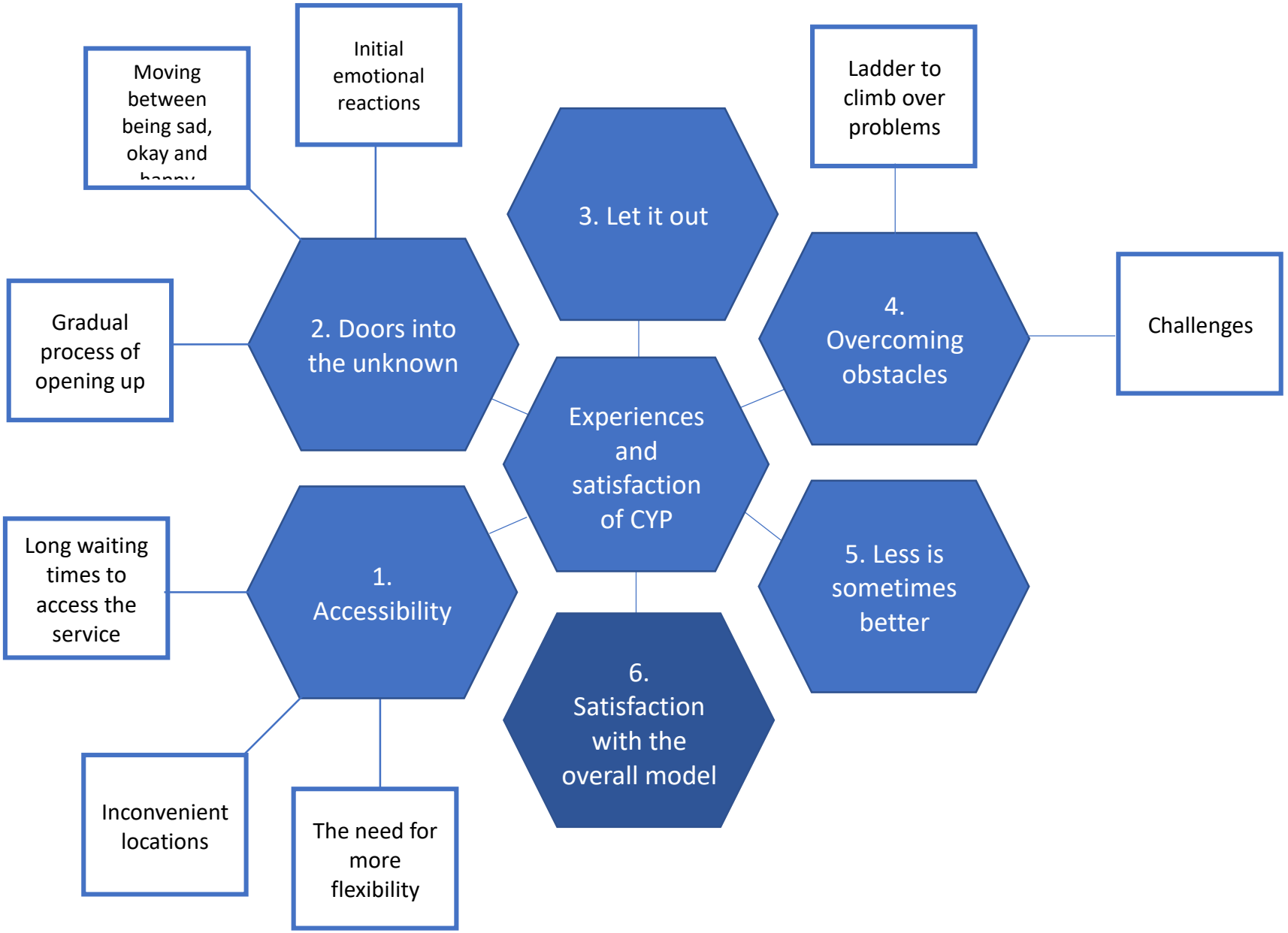

*Table 2 - Participants satisfaction with the LSP session*

| Participant | Feedback on the LSP session |
|---|---|
| **FGCYP110** | "I found it ok" |
| **FGCYP111** | "I've enjoyed making these models" |
| **FGCYP112** | "I liked this *inaudible*" |
| **FGCYP113** | "It was fun" |
| **FGCYP114** | "It was real fun. I liked it" |
| **FGCYP115** | "I've expected this to be boring session, but this was an interesting experience. Not what I expected. I liked it" |
| **FGCYP116** | "This was cool. I love Legos. Can I do it again?" |