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Attitude of Youth Immigrants towards the Mental Health HUB of the Finnish Health Village (virtual hospital)

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Abstract

Mental health disorders are a major public health concern which has been estimated to constitute 10,4% of the global burden of diseases. Immigrants and their descendants make up between 11 and 17% of the population of Scandinavian countries. About 15–25% of asylum seekers and refugees in Finland have diagnosable mental health disorders, while a significantly larger percentage have some kinds of clinically significant symptoms which are not yet diagnosed. Among immigrants, non-western immigrant and second-generation immigrants are at the highest risk of a mental disorder. A staggering 76% of mental health cases remain untreated worldwide. The mental health HUB provides a digital space and environment to support youth immigrants' mental health problems.

To examine youth immigrants' attitude towards the Mental Health HUB of the Finnish Health Village, by identifying the problems they face with the HUB, and what will encourage them to use the HUB.

The study includes a literature review of published journals, articles, and books about mental health not earlier than 2005. Materials from trusted online resources like the World Health Organization (WHO), Finnish Institute for Health and Welfare (THL), Statistics Finland, and the Health Village (Finnish eHospital) were used. An empirical study using a predetermined question list and interviews to gain a broader knowledge about youth immigrants experience with the mental health HUB was conducted. Snowball sampling method was used to select participants in Finland across Helsinki, Turku, and Seinäjoki. Inductive content analysis was used to analyse the data.

All the participants found the information in the mental health HUB useful. However, they were not aware of the HUB before this study. Most of them preferred materials in English language while others were more concerned about discrimination, trust issues, and mental health services that suits their culture. Majority of the participants preferred an app to a webpage, while it did not matter to the rest. Participants were more supportive of providing mental healthcare through digital games.

Creation of awareness, availability of information in appropriate language, exciting technology, consideration of cultural background, transparency, and trust, can motivate youth immigrants to use the mental health HUB. This study is limited to only the

information available to the public in the mental health HUB. A further study with actual users of the HUB is thus recommended. The creation of a mental health HUB app with built-in games, and tasks to complete as a form of self-assessment are highly recommended.

Key words: mental health, youth immigrants, eHealth, Health Village, mental health HUB, Finland.

Definition of Key Concepts

Mental Health comprises our emotional, psychological, and social well-being. It affects the way we think, feel, and act. It also helps to determine how we handle stress, the way we relate to others, and make healthy choices. However, poor mental health does not mean mental illness. Nearly one-in-five adults live with some kind of mental illness (SAMHSA, 2023). The common causes of mental illness according to SAMHSA (2023) are:

- Biological factors, such as genes or brain chemistry
- Life experience, such as trauma or abuse
- Family history of mental health problems

Youth immigrants in this study means all persons of foreign origin either born in Finland or in a foreign country from the ages of 18 to 25 years old living in Finland at the time of this study, either temporarily or permanently. According to the World Health Organization (WHO), youth is an individual within the ages of 15 to 24 year. In this study youth has been categorized as persons from 18 to 25 years old.

Youth is a period in which an individual undergoes enormous physical and psychological changes. In addition, the youth experiences changes in social expectations and perceptions WHO, 2021).

Of the youths born in Finland, only the first generation born to immigrant families in Finland will be included. Study shows a generally higher risk of mental illness in first-generation migrants as compared to the settled population (Close et. Al. 2016).

Electronic Health (eHealth) as defined by the World Health Organisation, WHO (2024) is ''the cost-effective and secure use of information and communications technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge, and research''.

Health Village is an eHealth service platform developed together with users and healthcare professionals to support the traditional care path with digital services. Health Village offers three distinct services:

1. health services for the public,
2. digital care pathways for individuals with specific diagnoses and care relationships, and
3. digital services for healthcare professionals to improve their knowledge. The service complements the expertise of professionals and encourages them to use new operating methods in their own work (Terveyskylä, 2024).

The mental health HUB is an online resource of mental health information for the public as well as for social welfare and health care professionals. It is a collection of mental health resources, including symptom scales and self-help programs that anyone can access (Mielenterveystalo, 2024). The mental health HUB is one of the 33 HUBs in the Health Village. It focuses on providing accurate and up-to-date mental health information and resources for users.

Finland is a country located in northern Europe. Finland is one of the world's most northern and geographically remote countries and is subject to a severe climate. The population of Finland as of December 2022 was 5,563,970.

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1   Background

Youth immigrants having to leave their native home, adjusting to a new environment and culture, language barrier to freely express themselves; and for refugees, the loss of a loved one (parent, sibling, or friend), sadness of losing their home, all present mental health challenges. Numerous studies have demonstrated that, immigrant adolescents are at a higher risk for mental health problems than native adolescents. Among immigrants, Non-western immigrant adolescents were at a higher risk for conduct problems and peer relationship problems (Duinhof et al., 2020). Also, there is an increased burden of mental health disorders among refugees and asylum seekers when compared to non-refugee immigrants (Fazel et al., 2005; Lindert et al., 2009; Bogic et al., 2015; Straiton et al., 2017, Ekeberg and Abebe, 2020). According to the Finnish Institute of Health and Welfare (THL, 2021), around half of the youth refugees have mental (health) symptoms. However, A wider range of psychiatric diagnoses has been reported to be higher in the second generation migrant in comparison to the native children, such as depression, anxiety, anorexia nervosa, somatic symptoms, conduct and behavioural problems, low self-esteem, academic difficulties, ADHD and pervasive developmental disorders (Dwairy and Dor 2003 (clinic sample); Wong, Chang and He 2001, Sagatun et al. 2007; Leavey et al. 2004; Skokauskas 2010; Masaud et al., 2014).

Mental health disorders are a major public health concern which has been estimated to constitute 10,4 % of the global burden of diseases (Wittchen et al., 2011; Castaneda et al., 2020). It is estimated that about 38,2 % (approximately 165 million) of the European Union population suffers from a mental disorder each year (Wittchen et al., 2011). This number includes both children, youths, and old people. The most frequent disorders are anxiety disorders (14.0 %), insomnia (7.0 %), major depression (6.9 %), somatoform (6.3 %), alcohol and drug dependence (4 %), ADHD (5 %) in the young, and dementia (1– 30 %, depending on age). Evidence suggests that mental health and brain disorders have become much more frequent than previously thought and have also contributed to a greater burden of disease than previously thought, and they should be considered as a top global health challenge of the 21st century (Castaneda et al., 2020). About 15–25 % of asylum seekers and refugees in Finland (including youths) have diagnosable mental health disorders, while a significantly larger

percentage have some kinds of clinically significant symptoms (Castaneda et al., 2020) but are not diagnosed yet.

Youth immigrants end up in their host countries due to different reasons. Some of the reasons include family, adoption, education, work, natural disaster, and war. No matter where these youth immigrants may find themselves, the medical cultures of their country of origin, or that of their parents, shapes their perception of how health care should be provided and how healthcare providers are expected to act (Sekercan et al., 2015). Thus, immigrants with the same ethnic/cultural background tend to influence new arrivals' decision and choice of health care because of their exposure to both host country and mother country's health care systems. According to Nichole and Michelle, a new immigrants' initial utilisation of health service is directly influenced by the presence of communities of the same ethnic origin (Leduc & Proulx, 2004). The information from such communities provides new immigrants sufficient reassurance putting them at ease with administrative and organisational details.

Immigrant populations are growing in European countries (Adebayo et al., 2017) as well as Finland. As of December 2019, there were a total of 423,494 people with foreign backgrounds living in Finland (Statistics Finland, 2021). 351,721 (approximately 6.4 % of the total population) out of the population, with foreign background were born in a foreign country. Immigrants do not form a homogeneous race in Finnish society. There are significant health disparities between various immigrant communities and genders. Many factors influence immigrants' health and well-being, including their country of birth, age at the time of migration, justification for immigration, and duration of stay in Finland (FIHW,). In the case of asylum seekers, being denied permission to work, unemployment, discrimination, and social isolation (Hocking, 2017; Neil, 2014; Werkuyten & Nekuee, 1999) can cause mental health problems.

Immigrants and their descendants make up between 11 and 17 % of the population of Scandinavian countries. Of the immigrants in Scandinavia, about 17 to 37 % are children and young people aged 0-24 (Mock-Munoz et al., 2019). The association between immigration background and youth mental health problems in Europe generally supports a risk perspective, with immigrant youths being at a higher risk of mental health problems than their native peers (Duinhof et al., 2020). A family's socioeconomic status and educational level may explain the association between

immigration background and youth mental problems (Duinhof et al., 2020). However, overall poorer health outcomes in non-Western immigrants compared with majority children in Scandinavia cannot be fully explained by health problems (Mock-Munoz et al., 2019). In view of this, the Finnish Health Village plays a significant role in addressing the mental health challenges of youth immigrants.

The Health Village is an eHealth service platform (virtual hospital) operated in Finland by five university hospitals. The services provided in the Health Village are designed to help the traditional healthcare path with digital services. The Health Village offers a complete concept for fast and extensive digitization of healthcare operations. The services provided are enabled by a custom-made cloud-based IT platform. This platform has been designed and built together with users, healthcare professionals and patient organisations using the process, tools, and templates of the Health Village eHealth Development Program. IT specialists are part of the team who developed the Health Village (HUS, 2021). This platform has up-to-date information and guidelines on various healthcare problems under various HUBs.

The Health Village offers three distinctive types of services. The first service is the public health service for the public. Under this service, information is readily available for the public, and registration is not required before the information provided can be accessed. The second service is the digital care pathway for individuals with specific chronic conditions and care relationships. Registration is required for this service, and a professional to assist in making a care plan. This service supports self-care and has rehabilitation programs. The digital care pathway requires a referral or a patient care relationship with a healthcare unit where the digital care pathway is in use (Digital Health Village, 2020). The third service is a digital service for healthcare professionals (Health Village PRO). This service is designed for professionals in the social welfare and healthcare sectors. It supplements the expertise of social welfare and healthcare professionals and encourages them to see through to the end of operational changes associated with digital services.

The Health Village has a cluster of HUBs (houses) where each HUB is dedicated to a particular health condition or a specific group. As of September 2021, the Health Village had 33 HUBs (Terveyskyla, 2021). These HUBs are operated by clinics from the 5 Finnish university hospitals. These clinics are responsible for providing up-to-date

materials, as well as how the HUB should operate. The clinic in charge of a HUB, determines whether to include online appointments, chatting with a professional through the HUB, etc. Various professionals come together to develop a HUB, with health professionals providing up-to-date information about the health condition, symptoms, and sometimes even self-care options (not every HUB). Other HUBs have short videos by peers, success stories, challenges, and encouraging messages to equip the new user.

The mental health HUB is operated by the Helsinki University Hospital (HUS). This HUB is among the first HUBs that started operating from the onset of the Health Village in 2009 even before the launching of the Health Village by HUS in 2014. A nationwide project financed by the Ministry of Social Affairs and Health was then started from 2016 and ended in 2018. The mental health HUB provide assistance and information on numerous mental health conditions. Information on various diagnoses, symptoms, guidelines, what kind of help could be sought, experience from peers (Mielenterveystalo, 2021), etc, are provided in the mental health HUB. As the number of immigrants continues to increase in Europe (Adebayo, 2017) and Finland, the need for healthcare also increases. Social and cultural causal factors, including fear, past trauma, isolation, being denied permission to work, unemployment, discrimination, and social isolation, racism and the stress of the asylum process coupled with negative cultural beliefs about mental health problems stems from stigmatisation (Hocking, 2017; Neil, 2014; Werkuyten & Nekuee, 1999; CDC,2021).

Being able to access mental health information, seeking professional help, and planning one's own care, if it can happen in one's own home, will motivate people to seek help with confidence. However, the mode of giving information to patients, language, educational background, and one's culture will influence what is accessed and what is accepted. Yang and Hwan's analytical framework for immigrant health service utilisation which is based on Andersen's health behaviour model of health service utilisation is used as the theoretical framework for this study. This framework establishes that, contextual factors (healthcare system, government policy, etc.), predisposing factors (health beliefs, demographic factors, etc.), resources, and the need for healthcare, all directly affects healthcare utilisation, while some factors within each category may have an indirect effect on healthcare utilisation via one or more mediating variables (FIHW, 2022).

1.1 Purpose

The purpose of this study was to examine youth immigrants' attitude towards the Mental Health HUB of the Finnish Health Village after their initial trial.

1. What factors will encourage youth immigrants to use the mental health HUB (virtual hospital)?
2. What are the problems youth immigrant's face when using the Mental Health HUB of the Finnish Health Village (expectations versus reality)?

1.2 Organisation of the research.

The research is done in two chapters. Chapter one deals with the literature review. Chapter two is an empirical study using a predetermined question list and interviews to gain a broader knowledge about usability of the mental health HUB. The study was expected to be completed by October 2022, but it was completed by April 2024 and submitted by May 2024.

2 Data search and Literature review

2.1 Data search

The literature search was conducted in the databases of CINAHL and PUBMED. In CINAHL, the search phrase included such keywords as ''mental health'', ''youth immigrant'', ''digital health'' (including all kinds of digital health and models). The search string did not include ''Finland'' as it limits the amount of information gained. In PUBMED, mesh terms were created from these keywords ''mental health'', ''youth immigrant'', ''digital health'' (including all kinds of digital health and models). Again, ''Finland'' was omitted due to the limitation it gives to the search. All articles that were cited in others which was deemed relevant to this study were later searched through google documents, CINAHL, or PUBMED, and included in the study.

2.2 Inclusion and exclusion criteria

Every material had to meet a certain criterion before it could be allowed to go through the screening stages. All materials had to be in English language (written or translated), journals and articles must be published between 2010 to 2022, except for those that were cited in other studies. Articles and journals cited in other studies must be published after 2005. Books that were published between 2004 to 2022 about the subject matter fitted the criteria for screening. Internet pages that were used had to be less than five years after the sites last update. Newspaper articles and reports, as well as Wikipedia definitions did not meet the criteria for inclusion.

All materials deemed relevant to the research went through three stages of screening before being included or excluded. All published articles that had studied children and/or youth mental health, mental health of immigrants, mental health service for immigrants, and eHealth or digital health were considered. In stage one, the title of all the articles that were achieved from the search were read. Suitable articles and books were then selected to stage two. The abstracts of articles were read in stage two. With regards to articles with no abstracts, the introduction was read instead. In stage three, the whole article was read. All articles that were found to be useful after the stage three were included in the research. Reports and web pages of other trusted online resources like the World Health Organization (WHO), Finnish Institute for Health and

Welfare (THL), Statistics Finland, and the Health Village (virtual hospital) were included.

All articles that did not meet the inclusion criteria were excluded. Articles that were found to be useful after stage three of the screening process but did not fit into the structure of the research were excluded.

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│ Data search results  │
│ n=612                │
└──────────────────────┘                    ┌────────────────────────┐
            │                    ──────────▶ │ Excluded after         │
            │                                │ reading title n= 519   │
            ▼                                └────────────────────────┘
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│ Articles considered  │
│ for the study n= 93  │
└──────────────────────┘                    ┌────────────────────────┐
            │                    ──────────▶ │ Excluded after reading │
            │                                │ abstract n = 56        │
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┌──────────────────────┐
│ Full text articles   │
│ read n= 37           │
└──────────────────────┘                    ┌────────────────────────┐
            │                    ──────────▶ │ Excluded after         │
            │                                │ reading of full text   │
            │                                │ n=9                    │
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│ Included in the      │
│ study n=28           │
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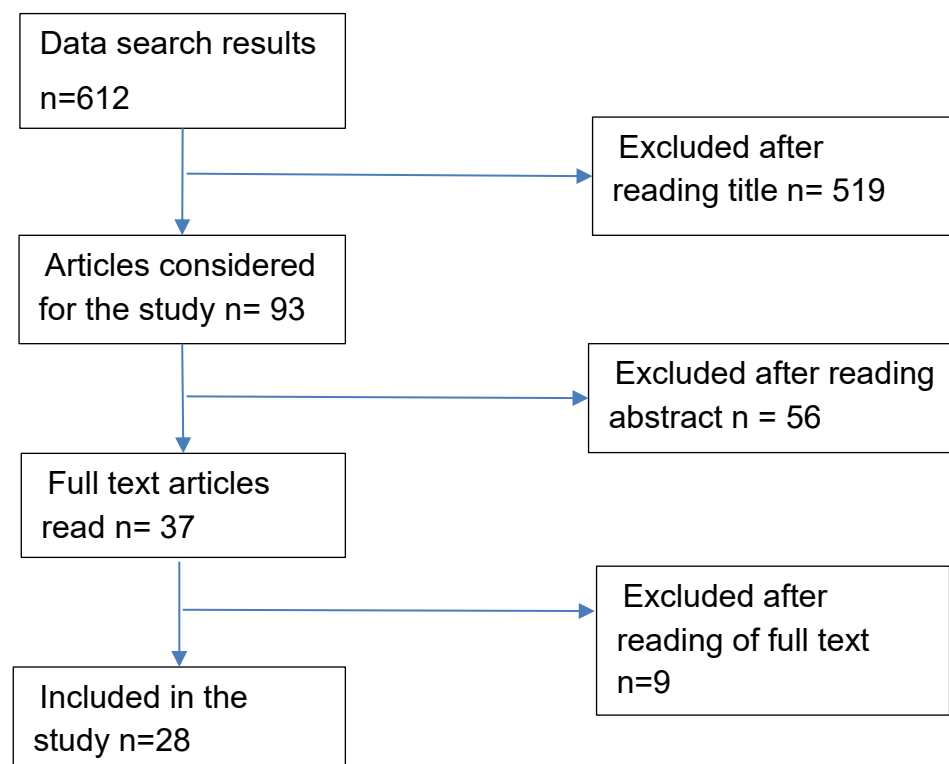
Figure 1. Screening process for articles to be included in the literature review.

Figure1 summarises the procedure for selecting materials which were included in the literature review. Each box indicates the stage, and the number of articles and journals were screened. Straight arrows downward indicate the number of articles and journals that were considered in the next phase, until the final 28 that were selected to be used in the study. The arrows to the right indicate the number of articles and journals excluded after each phase. Out of the 28 selected articles and journals, 22 were used in the study.

2.3 Conceptual pre-understanding

Other studies had investigated ways digitalization or technology has been used in the delivery of healthcare. The introduction of technology into healthcare as well as the improvements brought about by these technologies in various healthcare fields has been studied extensively. The introduction of the smart phone for example, has greatly impacted healthcare delivery (Baillie et al., 2012) and brought about different levels of co-operation and convenience to both healthcare professionals and users. There are various internet-based and app-based health programs easily accessible to the user of smart phones. The main concepts of the study in relation to the use of technology is presented in the table below.

Table 1. Pre-conceptual understanding of main concepts of study.

Concepts	Explanation	Some research works
Mobile phones and Mental health care	The onset of a boom of smartphones has significantly impacted mental health care. Apps and other internet-based health programmes are being administered through mobile phones due to its convenience. Many users have found it best to use this kind of health delivery compared to the traditional one due to the ability to use the service at the clients own time .Among the many benefits of health delivery through mobile phones are easy documentation, reducing pressure on traditional	(Baillie et al., 2012) (Institute of Medicine, 2012). (Fiordelli, Diviani & Schulz, 2013)

	treatment centre, easy prevention and treatment strategies and offer of psychological support	
Partnership between Professionals and health users	The Effective collaboration between healthcare profess-ionals and healthcare users is indispensable to the delivery of effective care. The collaboration and partnership ensures that healthcare users are made integral part of their care plan and in terms of mental health, this partnership implies the inclusion of service users in the development of apps that will be very helpful in their care. They are thus involved from the design stage to the validation stage	(Ben-Zeev et al., 2013; Ennis et al., 2014)
Technology in Mental Health	The technology incorporated in mental health aims to reduce cost, ensure efficiency in health delivery, reduce waiting lists and to make the service users feel convenient in using the technology.	(Pignatiello et al., 2010) (Bauer et al., 2012).

youth Immigrants Mental Health	The context of youth immigrants' mental health is premised on the various challenges that youths who are of foreign national identity go through as they integrate in the new country. These challenges such as culture identity crisis, disrupted social ties, social exclusion among peers, problems of unemployment of parents, discrimination have enormous impact on the mental health of these youths.	(Quinn, 2014) (Webb et al., 2015)
Health Village	The Health Village is an e health system whose operations is to supplement the regular / traditional treatment with digital services. It is highly digitalised and custom-made services that aims to deliver effective health care to people. It includes mental health services as part of its operations, and it is initiated by the Helsinki university hospital in Finland offering a wide range of mental health related services.	(terveyskyla, 2021) (Digital Health Village, 2020). (HUS 2021).

2.4   Literature review

2.4.1   Prevalence of mental health disorders

According to a 2005 report by Kessler and Üstün, there is a tremendous size and range of associated psychosocial impairments and disabilities due to mental disorders. However, there is a very low treatment rate. Despite the huge number of mental disorders, only 26 % of all the cases with mental disorders had any consultation with professional health care services, leaving 74 % untreated. Among the few treated cases with mental disorders there was a long delay between onset and first treatment contact. That notwithstanding, only a small number of patients received minimally adequate interventions (Gustavsson et al., 2011). Authors (Gulliver et al., 2010; Donker et al., 2013; Clement et al., 215) have argued that issues bothering on stigma and confidentiality, shame or embarrassment in discussing personal issues, financial costs, and/or limited access to services have been major reasons why people are unable to access mental health service. People are impeded by these factors in seeking mental health care leading to worsening situations.

2.4.2   Interventions to youth mental health challenges

2.4.2.1 Online health delivery

There are various terms used to describe medical services and consultations administered through the internet for clients for example, teleconsultation (Deldar et al., 2011), e-Visit (Handler, 2013, Adamson & Bachman, 2010; Albert et al., 2011), e-Consultation (Liddy et al.,2013; Drop et al., 2012). According to Albert et al.,(2011), online health service enhances access, convenience, and speed in receiving health care without the challenge of incomplete health care however, other studies have raised concerns regarding safety and quality of the health delivery. For some young people, issues such as sexual health and mental health are not comfortable to be addressed online (Garrett et al.,2011). Another challenge is the difficulty in diagnosing without proper physical examination (RACGP, 2012).

Despite the questions raised about quality and safety of online health delivery, it has become a critical factor in health care delivery especially with the onset of the covid 19 pandemic which has resulted in increased mental health problems (Dawel et al., 2020;

Gray et al., 2020) but unmatched with the existing healthcare infrastructure (Patel et al., 2018). With physical distancing becoming a normal practice during the pandemic, online based mental health care services and intervention provide physical access to customers (Pierce et al., 2021; Wind et al., 2020) and this has greatly changed peoples interest in seeking for mental health care online and there is a likelihood that it will continue in the future (Titov et al., 2020) leading to governments in different countries investing more in online mental health care (Marshall et al., 2020).

The most used medium through which online health service is carried out are mobile phones. In the current times, technology through online internet-based health delivery systems have been incorporated in all areas of healthcare especially in mental health. The reason is that online health services help to reduce cost, ensure efficiency in health delivery, reduce waiting lists, and make the service users feel convenient. The online platform has become part of the everyday life of clients (Bauer et al., 2012).

2.4.2.2 Mobile Phones and Health Care Delivery.

Numerous research has demonstrated the effectiveness of mobile phones in helping in delivering effective health care in especially mental health (Fiordelli, Diviani & Schulz, 2013). Combination of Internet based apps and programmes through mobile phones with the traditional treatment has shown to contribute effectively to counselling and for monitoring support services in health care (Hilty et al., 2013; Mundt et al., 2010). The studies on the effectiveness of mobile apps and phones on health indicates the contribution that they are making. This information has been presented in a form of a diagram shown in figure 2 below.
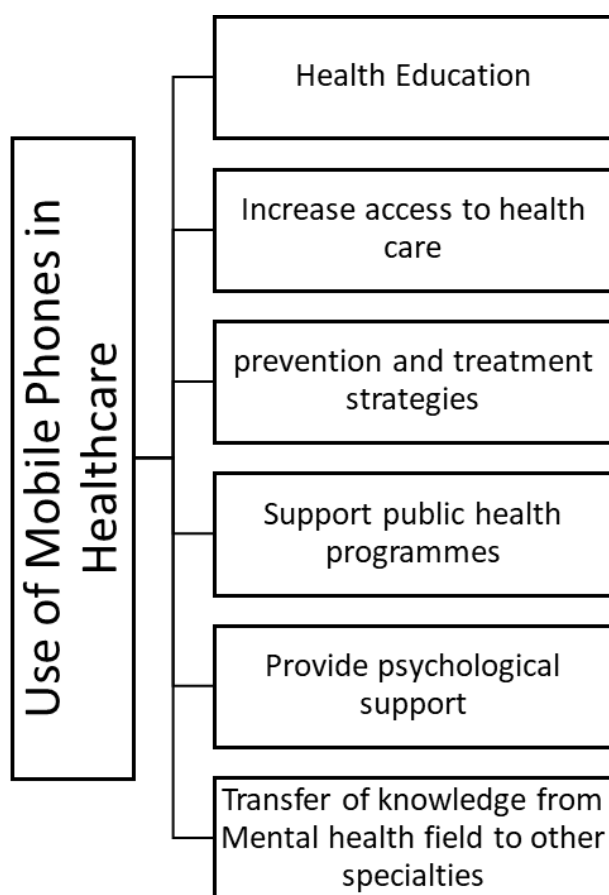
Figure 1. Role of mobile apps on health delivery.

The above diagram indicates that mobile phones and apps are continuously changing the dynamics of effective eHealth delivery especially on health due to its numerous contributions. These benefits are also true for mental health care delivery. Easy access to phones and internet translates directly to increased access to health care information, education and support, as indicated int the diagram above. Health technology helps to improve performance and good communication leading to efficient care (Institute of Medicine, 2012).

The convenience of use of mobile phones, apps or smart phones applications is fundamental to its effectiveness in mental health delivery. Considering a surge in the global sales of smartphones which was estimated to be about 1.89 billion units in 2018 (CSS Insight, 2014), and the fact that a greater percentage of youth immigrants in Finland's use Mobile Phones for their everyday activities has paved the way for the promotion of mental health delivery through an effective eHealth system . Health

delivery through an app on a mobile phone or device, or other forms of online, electronic medium is termed as eHealth. This has become necessary as an alternative means of providing a cheaper and effective mental health service for clients compared with other systems that require huge investment and training. It is not only about the surge in the use of mobile/smart phones, but the increase in digital literacy and internet use among young people (Ofcom, 2018) has opened the door to use digital technological means to give mental health assistance to them (Pennant et al., 2015; Richardson, Stallard & Velleman, 2010)

2.4.2.3 Partnership between mental health professionals and service users.

For the development of the right tool for mental health care, collaborative relationships between the professionals and services are critical to the success of the tool developed. This important partnership has been highlighted by (Department of Health & Children, 2006; Office of the Nursing and Midwifery Services Director, 2012). The purpose of the partnership is to ensure that the service users become part of their care and one main approach is the inclusion of service users in the development of technologies which are useful for their care and this according to (Ben-Zeev et al., 2013; Ennis et al., 2014) has become a successful approach towards this partnership. In this regard, service users are included in the different levels of the development of mental health apps including physical health.

Such inclusion brings about an authentic and robust technological system that serves the needs of the service users effectively and efficiently. The partnership has also involved the inclusion of the ideas and recommendations of the service users towards the development of similar health related apps in the future. This approach has been the evaluation of the app at its early stage by the service users , to come out with what is good and what needs to be improved. Thus, some professionals find it pertinent to involve users in the design stage of the app based on the purpose that it is going to serve. Contents and functionality are largely examined and communicated by the users (Dennison et al., 2013).

In some instances, interviews are conducted to get the views of the actual users so that the app will meet their needs. Professionals involve users in the critical stages of the development of mental health apps and that apply to the validation stage. Example

Ly et al. (2012), examines how users validated an acceptance and commitment therapy-based smartphone app after experiencing its usage. Again, Ben-Zeev et al., (2013) proposed that, to find the effective functionality of a mental health-based app in view of building a user-friendly interface encouraged service user validation.

2.5   Theory of immigrant health service utilisation

In understanding immigrants' health utilisation, the Andersen health behaviour model is used. The model is the most common framework used in the study of health service access and utilisation (Akresh, 2009; Cabassa, Zayas, & Hansen, 2006; Derose et al., 2011). Although the model came up in 1968, it has undergone several revisions to keep up with the changing dynamics in health care. The model (Andersen, 1968) outlines three major factors which influences people's utilisation of health service which are;

 a. "*The predisposition to use health service including demographics , social structure and health belief'.*
 b. *Enabling factors, including personal or family resources i.e. income, health insurance , regular source of care , community resources- availability of health facilities and personnel*
 c. *Need for care including perceived needs and clinically evaluated needs*".

Despite the numerous modifications of the model, Authors (e.g., Akresh, 2009; Choi, 2006; Lee, Choi, & Jung, 2014) have indicated that the model as used for immigrants is limited to the application of the first phase without any modifications and for the purpose of this study, the model is applied in its simplest phase one form without taking into consideration the various modifications. The premise of the research is based on a good predisposition to use health service and the availability of resources both personal and material in the health sector in Finland. The social and health care structure of Finland ensures that youths get access to effective health care services by provides health and medical services, including early detection of mental health problems and substance abuse problems, care and follow-up guidance, sexual health services and oral health services (Ministry of Social Affairs and Health).

2.6   Summary of literature review.

Many studies have indicated a higher risk of mental health challenges among youth immigrants caused by various factors such as differences in culture, discrimination ,

experiences in the migration process and socio-economic factors . These factors result in psychological distress, emotional difficulties, peer problems, hyperactivity / inattentiveness and in serious cases suicidal thoughts (Quinn, 2014; Webb et al., 2015; Chavez, 2012). The mental health of youth immigrants has therefore become an important health issue in every nation (Bergmark, Barr, & Garcia, 2010; Bustamante et al., 2012). eHealth services and programmes designed to handle mental health of youths play a significant role in ensuring a good mental health as they are tailor made to meet the specific needs of the users.

eHealth systems are mainly technology based making smartphones play a critical role in the health delivery due to the large number of users of smartphones including immigrant youths (Institute of Medicine, 2012; Fiordelli, Diviani & Schulz, 2013). The nature of the eHealth technology for mental health comes in diverse forms of cognitive behaviour therapy, email assistance, text messaging and video conferencing (Pignatiello et al., 2010).

In this regard, lots of mental health apps are being developed as an eHealth technology which has a major advantage of giving convenience to users in terms of being able to choose the time, going through the treatment at one's own pace and actively being part of the care plan or procedure.

3 Methodology

3.1 Qualitative approach

This is a qualitative study that seeks to answer the research questions using a qualitative approach to explore the factors that will encourage youth immigrants to use the Mental Health HUB. The problems youth immigrants face while using the Mental Health HUB from the Health Village or other eHealth platforms will also be examined. It also explores the youth immigrant's assessment of their own mental health and their choice of care. Qualitative research is very complex and for this reason context sensitivity is significant in understanding the knowledge produced and how reliable it is (Piekkari & Welch, 2017). By this, the sensitivity of the method used in gathering data from the participants in this study.

The type of qualitative study being undertaken is phenomenological. This is because the study aims to explore and understand attitude of the participants towards the mental health HUB the after using it for 2-3 weeks. Their attitude is directly influenced by the experiences and perceptions they gained while using the HUB. The focus is on the outcome of the lived experiences of youth immigrants, aiming to understand their unique perspectives and how they interpret their interactions with the Mental Health HUB.

The main objective is to understand how the subjective experiences and perspectives of youth immigrants in Finland affects their attitude towards the use of the Mental Health HUB. Will their attitude change positively or negatively, and will they hope for changes in some aspects of the HUB to make it more useful to them, or just use it as it is. Through interviews, detailed narratives of respondents' experiences and feelings are collected. Their attitudes are determined answers, narratives, and suggestions. Empirical study with Interviews involves using a predetermined question lists and conducting interviews to gather in-depth information from participants about their experiences, challenges and perceptions with focus on their attitudes regarding usability, accessibility, and effectiveness of the mental health HUB.

The literature review was contextualized with respect to existing research on immigrant youth's mental health, eHealth services and the Finnish health care. A user-Centred Inquiry is carried out to know the factors encouraging usage of eHealth services

provided by the health village and understanding the gaps between the expectations and the reality in the use of the Mental Health HUB.

This qualitative research employs a phenomenological approach to investigate the attitudes of youth immigrants towards the Mental Health HUB of the Finnish Health Village. By conducting interviews and reviewing literature, the study aims to identify factors that attributes to change in attitudes, encourage usage, as well as the problems faced by youth immigrants, thereby providing insights into improving eHealth services for this population.

3.2 Research setting.

The research was conducted mainly among youth immigrants in Turku. However, to get a diverse understanding of the immigrant population, data collection will be done in Helsinki and Seinäjoki. Health Village is the Finnish virtual hospital used by university hospitals. Youth Immigrants who live in bigger cities like Turku and Helsinki where there are university hospitals are more likely to know about Health Village, while those who live in smaller cities might not know its existence. In this regard, the researcher wants to know how youth immigrants who live in smaller cities also use the Health Village, or if they use different eHealth platforms.

Data collection was done in immigrant populated places in Turku, Helsinki and Seinäjoki. In such places, it was easier to find participants who qualify to participate in the study. Snowball sampling was used to get the sample population, once the first participant was found. There was no pre-identified office or room where the interviews were done. Interviews were done in a place of convenience for the participant. Most participants preferred to have the interview in their homes, or recreational parks, or children's playground. Others preferred to answer the pre-determined questions by themselves.

3.3 Population

Youth immigrants residing in Finland, including asylum seekers and refugees experience mental health challenges in one way or the other, which influence their access and use of health services. Leaving friends, families, and home countries, disrupted social ties and sense of belonging, separation from kin and other social

networks, being a target of violence, prejudicial attacks and harassment, homelessness, and unemployment (for those in working life) all have an impact on the mental health of youth immigrants (THL, 2021).

Having a sense of disempowerment, being deprived of choice and the ability to decide about one's own life, treated as worthless with little chance to contribute anything to their new country lowers the self-esteem of youth immigrants, and negatively affects their mental health (Quinn, 2014). This leads to adverse mental health challenges such as emotional difficulty, psychological problems, and peer problems (Webb et al., 2015).

Effective good and accessible healthcare has therefore become indispensable to the wellbeing of immigrants in the new Country without which can cause complications in the health of these groups with regards to longer stay in hospitals and more serious health problems (Chavez, 2012). In the case of countries that have free access to emergency services, the cost becomes higher for the overall health care system due to underutilisation and the wellbeing of the immigrants has an impact on the totality of the entire population.

Factors such as easy integration, immigration status, context of emigration, the nature of health service in the home country, reception in the host country, transnational health access, and cultural factors plays critical role in accessing health care among immigrants (Bergmark, Barr, & Garcia, 2010; Bustamante et al., 2012; Kao, 2009; Ransford, Carrillo, & Rivera, 2010). Thus, these factors determine to an extent how immigrants get effective health care service.

3.4 Sampling

Snowball sampling was used to pick the sample population for interviews. There is no predetermined sample size for the study. The sample size was decided based on the saturation of the results from the interviews. The sample size was small because the data was similar across immigrant populations from the three cities. Another reason for the smaller sample size was the unwillingness to be interviewed. Many eligible participants were not willing to take part in the study for reasons not known to the researcher. Others refused to take part after they heard there would be an interview and thus, they were not included in the study.

3.5 Method of gaining trust and validity

Validity of the data collected was ensured by gaining the trust of the participants before interview sessions. The researcher opened the mental Health HUB on his computer and showed it to the participants and explained to them what the HUB is about, what it does, how it works, and that, it does not secretly trace or monitor users, or visitors to the site, it does not require registration or personal data (unless one wants to register by themselves, or there is a referral from a professional). The contents of the HUB and how to search for information about various mental health issues were also shown to the participants. They were also assured there is no malware or spam associated with the site before a link to the site was sent to them.

Adequate time (2 to 3 weeks) was given to the participants to use, understand and gain experience with the mental health HUB before interviews were conducted. Participants were informed that they can opt out of the study at any time right from when they were first contacted until the interview was conducted. Participants were informed about their rights, data collection, storage, and destruction process (Appendix 2) during first contact, before interviews, and after interviews. Participants could not withdraw after the interview data has been added to the already collected data because it was not possible to locate their answered form since there was no personal data.

Interviews were conducted only after the participants had confirmed with the researcher that they were ready to be interviewed, and that that they felt confident and trusted did not have any hidden agenda. Interviews were done at a place of choice of the participant, or a public place easily accessible by the participant to ensure participants were not under any duress. The interviewer confirmed all the answers provided with the interviewee to make sure recorded data was accurate. For the sake of privacy, the participant's name or anything that could be traced to a particular individual did not appear on the predetermined question list. There was complete anonymity guaranteed to participants.

4 Data collection and Analysis

4.1 Data collection

Data collection began upon approval of the research design. An integration of open ended and closed ended questions in the form of a predetermined question list, in English was used for collecting data (Appendix 1). Participants answered questions from the predetermined question list while the interviewer (researcher) recorded the data. Participants who wished to write themselves were allowed to do so. Participants signed a consent form before the beginning of each interview. Participants were allowed to stop the interview if they did not wish to continue. For the sake of privacy, the participant's name or anything that could be traced to a particular individual did not appear on the predetermined question list.

This research was carried out in Finland on the Mental health of youth immigrants through Health Village. The importance of the mental health of this group and the role that technology plays in developing an effective Health Village has led the researcher to undertake this research. All participants of the interview were first contacted personally after which the Health Village website link was sent to them to be studied. The interviews were done after one to two weeks after the participant received the link, depending on their schedule. Those who opted to answer the predetermined question by themselves also receive a link to the questions. The collected data from both the interviews and the questions answered by the participants were then analysed.

4.1.1 The Interview processes.

The interview was structured into three parts, first there was a general description of the interviewees on basic personal characteristics such as age, length of stay in the country and ownership of mobile phone. This was done through interviews with a predetermined question list; thus, the interviewees could fill the predetermined question list form directly if they preferred. The second part of the interview was diagnostic in nature to find out the interviewees' use of a Health Village. This was a straightforward question demanding specific answers (Yes/No).

The Third part of the interview was open ended semi-structured question that were based on effective use of the mental health HUB of the Health Village. Some of the questions included motivation for using eHealth, problems in using eHealth, ways of improving eHealth and upgrading eHealth platforms. The open-ended questions were followed by more specific questions about the mental health HUB, to give the respondent the opportunity to talk extensively and clarify issues and make comments they did not have the chance to make due to the format of the pre-determined questions. This part of the interview was a dialogue. Interviews were conducted in the time frame of one month.

Almost all the interviews were conducted in a face-to-face manner as it enabled the researcher to maintain proper interaction with the respondents and be able to clarify some things in the predetermined question list. Below is a model of the interview process.
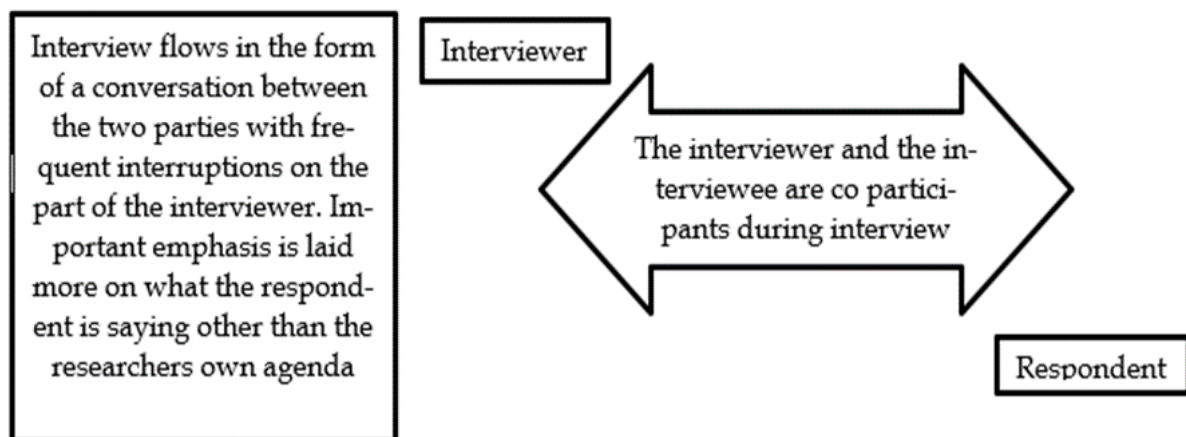
Figure 3. Model of the interview process. (Hesse - Biber & Leavy, 2011)

The time frame for the interview was between 17-30 minutes across all the respondents. Below is the summary of the interview data.

4.2   Ethical Consideration

This study deals with information pertaining to private individuals and patients. In view of this, ethical principles and data protection regulations were adhered to. Ample time was given to participants to discuss whether they want to be part of the study or not. Respondents signed a consent form (appendix 2) before data was collected. The

consent form explained how, why, and where the respondent's information was to be used. Data collected from respondents was always protected. Respondent's name or social security number did not appear in any document or during the data collection process. After the data collection and analysis, all data collected on paper were destroyed in the University of Turku's library**.** All digital versions of data were deleted after completion of the study.

The respondent's privacy was always respected during the study. The secrecy and confidentiality of respondents were not compromised in any way during the study. No third party got access to raw data directly from the participants except for the few quotes presented in this study. The data collected was used solely for academic purposes.

4.3 Methodological Limitations

Snowball was a very good method, and it suited the study very well. However, it was very difficult to always located the first participant. The researcher had this problem in both Turku, Helsinki, and Seinäjoki. Sometimes too, the line would break because the next person refused to take part in the study. The researcher would not know if someone does not want to participate in the study until he had approached them. The study halted many times because of lack of participants.

The participants did not always answer all the questions because they thought it was too many. Participants also gave too many short answers, which affected data analysis.

4.4 Results

The results of the interviews and the responses from participants are presented below. The data has been sub-categorized for a clearer understanding.

Table 2. is a summary of the responses and preferences of respondents with regards information seeking about mental health, language of the materials, and the form of online healthcare delivery.

Table 2. Interview data.

Respondents	Age	years in Finland	One platform for mental health information	Previous usage of mental health hub	interest in use Use of digital mental health	Language preference	Prefered Form of online health delivery
A	21-22	1-5 years	yes	No	yes	English	Mobile app
B	21-22	1-5 years	yes	No	yes	English	website
C	18-20	1-5 years	yes	No	No	English	website
D	23-24	1-5 years	yes	No	yes	English	website
E	23-24	Above 15 years	yes	No	No	Finnish	website
F	21-22	5-10 years	yes	No	yes	English	Mobile app
G	21-22	1-5 years	No	No	No	English	Mobile app
H	21-22	10-15 years	yes	No	yes	English	Mobile app
I	23-24	Above 15 years	No	No	yes	Finnish	Mobile app
J	21-22	5-10 years	yes	No	yes	English	website
K	18-20	1-5 years	yes	No	No	English	Mobile app
L	18-20	10-15 years	yes	No	yes	English	Mobile app
M	21-22	5-10 years	Yes	No	Yes	English	Mobile app

The browsing attitude of respondents is also presented in table 3.

Table 3: Browsing attitude of respondents.

Interest in internet based games	Frequency of play	Frequency of browsing
Yes	Very often	Always
Yes	Sometimes	Very often
No	Rarely	Rarely
Yes	Rarely	Always
No	Rarely	Always
Yes	Rarely	Very often
No	Never	Always
Yes	Very often	Very often
No	Rarely	Very often
Yes	Sometimes	Very often
Yes	Sometimes	Always
No	Rarely	Very often
Yes	Very Often	Always

Respondents had various experiences when browsing the mental health HUB of the Health Village. These experiences are present in table 4.

Table 4. Experience in the browsing of the mental health HUB

experiences in using the mental health HUB	Difficulty in using health care services both normally or internet based?	How would you like the mental health HUB of the Health Village to be upgraded?	Challenges
Nice and easy to browse	No	I think that many more features are needed such as language options	I do not know about the existence of such an app so maybe if there is some advertisement, I might check it out.
Nice	No	Maybe with the more information	
Easy and understandable	No	I want an app that has English as one of the languages because it is easier for me.	When it is about my mental health, I prefer someone who knows much about my background so that I can trust.
Easy to use and find	Not really	Information should be very simplified.	
Very efficient	No, I have not	I want to be able to do everything on my own using the app with little assistance	I think that discrimination is a big issue when thinking of seeking mental health service
	Haven't had any need for them	I think that if I am to use a Health Village website or app, I would prefer one that has lots of visuals alongside audio	It's not easy to discuss my mental health issues.
Nothing much to say, but I know all the info regarding mental health	No	It's important for me to be able to monitor my own progress as I am using the app	I think that the programme should be physical rather than virtual because it helps my cultural background.
Good	No	Frequently available help when using the app is needed as it will help me to progress	

4.5   Validity and reliability of the collected information.

Researchers (Kvale and Brinkman, 2009; Maxwell, 2005 & Silverman, 2010) have argued the essence of the use of Validity and reliability in the context of a qualitative

research as they help in evaluating the quality of the research. In qualitative studies, validity talks about how sound and thorough the study or research was.

Daymon and Holloway (2011), account for three ways that validity can be done. Internal, external and relevance and plausibility. In this thesis, the internal one was primarily used and that is presenting the findings to the participants of the research (interviewees) and seeking for their thoughts on the findings and comparing it with your own thoughts. After compiling all results and findings an interaction is made with the respondents to give a comment on the findings and the comments, they gave confirmed the rigorous nature of the study.

Reliability means whether the same results or conclusion will be reached after replicating the study by other researchers (Silverman, 2007). Although reliability in qualitative research face a lot of criticisms because of the subjective nature of the research, a clearer explanation is the one given by Marshall and Rossman (2006), who explains that findings from the use of semi structured interviews are not purposefully to be repeated in another study because of the actuality of the study at a particular time and therefore subject to change.

The most important is the research design spelling out the reason for choosing a strategy and method and findings that the method produced. The steps followed in all the aspects of the thesis and arriving at the results and the accompanying themes developed indicates its reliability .

4.6   Data Analysis

The approach to Data analysis for this study is qualitative inductive content analysis for the open-ended type questions and the method of Daymon and Halloway (2011) was adopted. They explained that the method is used for analysing and interpreting qualitative data. It involves transcribing and listening, organising, coding and categorising, interpreting the data and evaluating the interpretation. According to Elo & Kyngäs (2008), this method is useful for analysing data that is fragmented.

The results from the interviews conducted had been organised individually in a text format verbatim in word document after which proof reading was done by two researchers to get a deeper meaning of the text after which coding was assigned to

some elements in the text. Morse (2002), explains coding as a very essential part in the qualitative analysis process whereby words that denote the main ideas and themes, appearing many times from the various texts. codes form the basis for building themes and thus help organise the large data into a simplified and coherent format.

Coding was done by identifying main ideas related to the topic from the texts of the interview results after thoroughly going through the results of the interview. The code guidebook by Roberts, Dowell and Nie (2019), was used to develop the codes which led to 60 codes generated from the six interviews conducted. Themes are developed by grouping codes of the same characteristics and giving a single name that describes the group. Themes make the data more organised for analysing and answering the research questions.

4.7 Themes generated from the data.

Based on the qualitative inductive content analysis of the open-ended questions, four major themes have been developed so far regarding the responses from the interview. The diagram below illustrates the Themes. The themes are analysed and discussed based on the headings and subheadings.
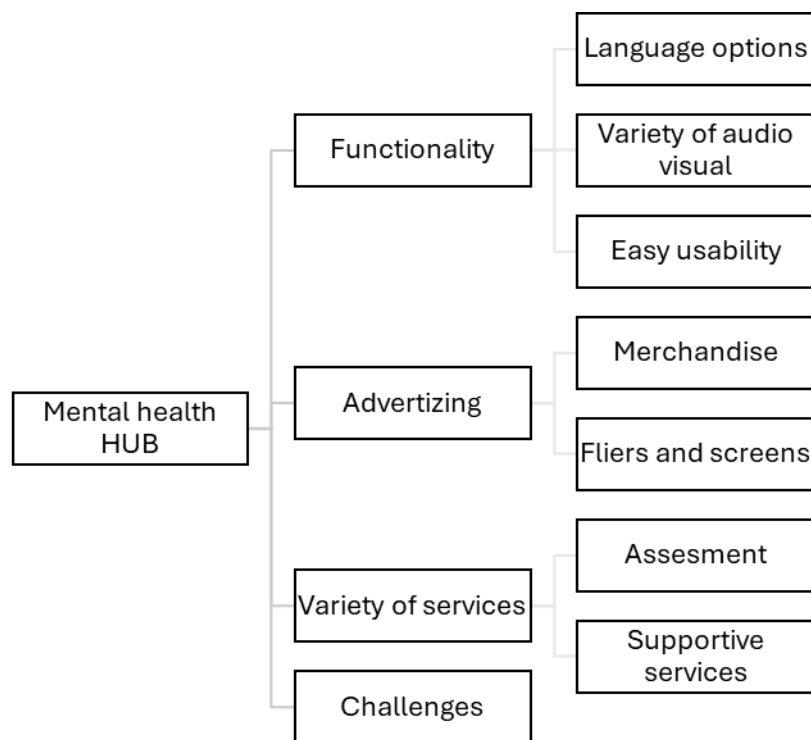
Figure 4. Themes developed from the Interviews.

4.7.1 Functionality of the Health Village

Based on the interviews, majority of the immigrant youth prefers to use an app for their mental health and other health services. However, the mental health HUB does not have an operational app now. The responses indicated that a functional mental health HUB app would very likely be critical to generating people's interest in using the Health Village. Three main features which are language options, varieties of audiovisuals and easy usability would be significant elements in the functionality of the app.

4.7.1.1 Language options

Effective communication is an important element in healthcare that ensures that provision and receiving of better and safer patient centred service or care is enhanced. When there is language barrier between the health provider and the client , it can lead to serious ramifications such as spending much time in the hospital or health care centre (Ali & Watson, 2018; Beagley et al., 2020), Higher rates of going back to an intervention program again (Karliner et al., 2010) and the ability of care providers to provide effective care due to language barriers will be impeded (Richardson et al.,

2006). For face-to-face health care delivery, the use of interpreters is highly recommended as an important tool that enhances the outcome of the clients (Beagley et al., 2020; Flores, 2005).

There have been numerous translation apps for health care to aid in better service delivery. A typical example is google translate which according to Kapoor et al. (2020), and Moberly (2018), is effective in improving communication of monolingual patients. However, google translate is not seen as effective especially in terms of the context of the translated text. Language options are seen as an imperative factor to the interest and successful use of the mental health HUB.

''I want an app that has English as one of the languages because it is easier for me to use it''.

Most immigrants in Finland use English in communicating as such, it is easy to navigate through different websites and apps that have English as an option. Moreover, a significant number of immigrants are studying / have studied in English at various levels of education in Finland, therefore a Health Village app with an English language option is very important to get these group of persons to use the Health Village service. Looking at the numerous benefits of using language that clients understand, it is appropriate that there are varied language options with the same amount of information as the native language.

Language option in mental health apps has become a very critical especially with regards to the use of personal data by the relevant authority and almost all cases consumers are asked to disclose personal data and to consent or assent to use these data (Razaghpanah et al., 2018). More importantly, the privacy policy is often displayed before the download section and customers must assent to it before they can download it. In Europe especially, the (European Parliament and Council of European Union, 2016). Which is a body in charge of governing privacy issues states that privacy policies should be written "in a concise, transparent, intelligible and easily accessible form, using clear and plain language" (Article 12 of the GDPR (EU 2016/679)). Due to this, the clarity of language is indispensable to the effective use of mental health apps and with majority of immigrants having English as their official language and having used the language for a longer period, it is imperative that every information regarding privacy issues and declaration is easy to be read and understood. According to (Wykes

and Schueller, 2019), When privacy policies are hard to read and understand, the ethics regarding the data sharing process is questionable especially for individuals with mental health problems who are often excluded from using digital services (Wykes et al., 2019). An extensive work would have to be done on the available mental health HUB in English so that youth immigrants can use it. An effectiveness studies should be conduct with English speaking immigrants to help improve it.

4.7.1.2 Varieties of Audio Visuals

Varieties of audio visuals in a Health Village app is seen as a captivating factor in the use of the service by immigrants as one interviewer puts it .

> *"I think that if I am to use a Health Village website or app, I would prefer one that has lots of visuals alongside audio".*

The use of numerous audio visuals makes the service self-usable and thus helps clients to get a deeper understanding of the service. The services are thus seen as self-help programmes that can be used alone by the client. The other important argument for lots of audio visuals is being able to use the service at any time thus ensuring flexibility and reducing nervousness and anxiousness when one is dealing with a face-to-face treatment or sessions.

4.7.1.3 Easy usability

The respondents argued that the Health Village app should be user friendly. The ability to freely navigate through the app or website without any complications is significant in the use of a Health Village especially for young people. interventions being administered can be in the form of games (Merry et al., 2012) which is very captivating and generates much interest. Easy usability removes boredom and reduces time in figuring out where to perform specific functions in the app or the website. Another important aspect of ease of use is the structure of the intervention. Ideally, a linear progressively oriented intervention that leads client's step by step in the intervention procedure is very helpful as they make meaning of each process and therefore, they can assess their improvement at each step.

" For me, the app should be very easy to use, if I am looking for any information it should be easy to find and direct ."

In ensuring easy usability of mental health apps, the design itself must be User-centered as this can help address major aspects of translation and cultural adaptation that is to be made during the development phase. This implies that there will be a need for significant investment in data collection, recruitment, and usability testing. With regards to cultural adaptation the utilization of cultural brokers to culturally adapt apps are imperative towards easy usability and adoption of the app by consumers and that calls for effective community collaboration and building of societal trust to access and work with cultural brokers within the community. In ensuring easy usability, the technical support should be effective and efficient for the customers and that means recruitment should take into consideration cultural sensitiveness as well as the medium of communication. The possession of the skills needed to operate e mental health tools greatly affect customers adoption and usage. And as indicated by the interviews, most respondents preferred apps and cited ease of usage of the app as the main reason they would try or opt for it. In the event that there is limited instruction, technological issues, inexperience with mobile Internet browsing, and a lack of motivation , it leads to discontinuation (Harrison et al., 201).

4.7.2 Advertising

Using an eHealth app requires advertisement on the app that can appeal to the would-be users. The advertisement takes different forms such as flyers or on school magazines and at important public places will generate their interest to use the app. One interviewee put it this way.

"If they can give short information about the app on flyers in common places and tell some useful information about it, I think it will help a lot".

Advertisement of new health apps is very important as it creates awareness on the existence of such health systems that young youths may not be aware of . Another form that advertisements take is the involvement of the users in the whole process of the app development . This means from the design stage to the validation stage . This is the easiest form of advertising a new health app as it integrates the views and the ideas of the users into the whole product development. It makes the users part of their own care system through evaluation of the app (Ly et al., 2012; Ben-Zeev et al., 2013)

4.7.3 Varieties of services

Most of the respondents expressed a great need for varieties of services in the mental health HUB. In this view there should be a holistic approach in the intervention administered in terms of assessment and support services. The mental health HUB has self-help programs for anxiety, insomnia, sexual interest in children, and protection from the use of child sexual abuse materials (CSAM). Ther is also the possibility of internet therapy which is provided in only Finnish and Swedish. Youth immigrants however feel these are not enough and does not meet (all) their needs.

4.7.3.1 Assessment .

Knowing how successful an intervention, procedure or service has been, is very critical for the client and the provider of the support service. The assessment should however be in a digitalised form attached to the app which will make it easy for the client to check his/her progress in the process of the intervention. A digitalised assessment predetermined question list enables automatic scoring and interpretation based on established rules and upon which the results or scores can be transmitted directly to the client's clinical records as well as that of the clinical administrative body. The ability to monitor one's own progress while using a Health Village service helps in making revisions and providing feedback that can improve the delivery of the service. The clients can then make informed decisions regarding the status of their health.

Additionally, digitised assessment can take different forms like virtual reality procedures which deal with sensitivity to different environments (Freeman, 2008) and the tracking of everyday endeavours such as eating, sleeping, exercising, using a device. This is made possible through sensors in smartphones (Abdullah et al., 2016; Saeb et al., 2015).

4.7.3.2 Support services

Additional individually directed support services during treatment is helpful especially with issues on privacy, nervousness, shame associated with some diagnosis. The ability to complete the intervention successfully is very low without any support service. Clients with emotional disorders particularly may not be motivated at some point to continue the intervention process or they may rush through the process so that they

can be done with it. Abdullah et al. (2016) & Saeb et al. (2015), have argued that there is effective adherence to digital treatment in the presence of supportive service. Other research has reached the same conclusion on the effectiveness of digital treatment through supportive service which is similar to face-to-face treatment (Andersson et al., 2014; Cuijpers, Donker, Van Straten, Li, & Andersson, 2010). The forms of the support service range from mediums like live chat, video conferencing, emailing, and messaging. Support services also serve as an extrinsic motivation to clients as it ensures some level of accountability on their part and that strengthens the active participation in the whole intervention process. For young clients in particular, supportive service may mean monitoring which is good for them to attain full concentration and not losing focus along the way.

The support services is not only limited to the technical support in the usage of the app but also the environmental characteristics that encourages the uptake of this kind of service and that includes the roles of family members and friends and health facilitators. The roles that these individuals play are highly visible in a community setting. For immigrants, the introduction of e mental health tools in a structured environment like schools and in some cases therapist support enhances adherence (AGDHA, 2012). Thus, the school is seen as having a good environmental characteristic to promote the uptake of e mental health. By this, the motive of e-mental health tools is not to totally replace face-to-face services, rather to complement or offer other treatment options for people who are in need and want to access mental health care . This means that customers have different pathways to access mental health care (Cavanagh, 2010).

4.7.4 Challenges of using a mental health HUB.

From the interviews conducted, most of the respondents are not aware of the existence of a mental health HUB that provides mental health services. Almost all the respondents have not used the service before, again they were not aware of the existence of the service. There is also a stigmatisation attitude towards mental health among immigrants and this plays a significant reason why they don't access this service. The thought of how their peers may see them or how the community in general will view their condition put them off. Also, there is the issue of fear of discrimination with respect to service providers .

Not being sure of how health care professionals will treat them is an imperative factor that impedes usage of mental health HUBs. How deeply health professionals understand client's socio-cultural background to provide effective health care is an issue that the latter critically analyse before opting for the health care. In cases where the mental health HUB resources cannot be tailored to the specific needs of the youth immigrants in terms of being culture sensitive and offering immigration support, it hinders them from using the service. For youth immigrants who feel lonely and isolated due to separation from their parents and family, a mental health HUB may not adequately meet their need for culturally competent and community-based support. There are many online mental health platforms that have more hours per weekly participation and in some cases, these apps may require high literacy- high level of computer and internet usage to be able to effectively use the app. This result in unsatisfaction and difficulty in the usage for these apps (Harrison et al 2011).

4.8   Post conceptual understanding

Table 5 Post conceptual understanding.

Concepts	Explanation
Mobile phones and Mental health care	They offer convenience, accessibility, and the ability to suit health interventions to individual times, which is particularly beneficial for youth immigrants who may face barriers in accessing traditional healthcare services due to factors like language, cultural differences, or logistical challenges.
	The study indicates that mobile health applications can bring about better documentation, reduced pressure on healthcare systems, and provide

	immediate psychological support. For youth immigrants, it implies potentially overcoming barriers to care and receiving timely interventions.
Partnership between professionals and health users.	Effective mental health care for youth immigrants involves collaborative partnerships where service users are actively engaged in the design and implementation of digital health tools. This approach ensures that the e health tools are culturally relevant and meet the specific needs of this population. By involving youth immigrants in the development process of the e health platforms, they become more empowered and engaged in their own care, leading to better adherence to treatment plans and improved mental health outcomes.
Technology in Mental Health	Incorporating technology in mental health care not only reduces costs and waiting times but also enhances the accessibility of services. For youth immigrants, who might face financial and social barriers, this can significantly improve their access to necessary mental health support. The convenience of digital platforms goes well with the lifestyles of young people, making them more likely to

	utilize these services. This is significant for youth immigrants who might be engaged in multiple responsibilities, such as education and part-time work or hobbies. Thus, they will be able to spare time for their mental health care in a convenient manner
Youth Immigrants health	It has become critical to Understand the unique challenges faced by youth immigrants, such as cultural identity crises, social exclusion, and discrimination as these factors significantly affect their mental health and which needs to be addressed through targeted interventions. The use of mental health services with other broader support systems, such as educational and community services, can provide a more comprehensive and important approach to addressing the mental health needs of youth immigrants.
Health village	The Health Village is a comprehensive digital health platform that supports the traditional healthcare with eHealth services. Its focus on mental health, facilitated through the Mental Health HUB, provides a relevant resource for youth immigrants with respect to their mental wellness.

	The Health Village can be adjusted to offer tailored services that cater to the specific needs of different user groups, particularly youth immigrants. This customization can help in addressing unique challenges and providing culturally sensitive care.

5 Discussion, conclusion and recommendation

The mental health HUB is one of the most successful HUBs in the Health Village. The HUB which was launched in 2009 has operated and gone through many reforms over the years. Prior to this study, there was the assumption that the mental health HUB is very popular and used by a lot of people including youth immigrants, at least for seeking information. The study therefore aimed to examine how the youth immigrants experience in the usage of the HUB could help to improve the services it provides in future.

5.1 Awareness

In general, the mental health HUB is a near perfect online mental health service platform. The information and mental health materials it provides are up-to-date and accurate. However, despite all the information and materials provided, people are not aware of its existence. The mental health HUB has been in operation for over a decade. One would assume that it would be quite popular after this long operation period. However, it is barely known to the public as well as most of the healthcare personnel. It was almost a shock to the researcher to realize that people had no idea what the mental health HUB was, neither did they know the Health Village which is the bigger platform.

None of the participants had used or heard about the mental health HUB or the Health Village prior to the first meeting and receiving the link to the HUB. To find out whether this lack of awareness was only among youth immigrants, the researcher asked some Finnish youth if they were aware of the HUB and got no as an answer. Primary healthcare workers especially nurses who were asked the same question also answered no. Thus, even though there is good and reliable information and trustworthy materials in the HUB, it is not being used extensively as the awareness of its existence is very low. It may not be easy for immigrants to obtain information on how mental health services are organised in Finland, and it may be difficult for them to use an unfamiliar service system (THL, 2023).

5.2 Availability of information

Availability of information in this regard does not necessarily mean non-existence of information but rather information in appropriate and suitable information to the youth immigrants. Majority of the participants preferred information and materials in English language to Finnish and Swedish. Even though there is adequate information and materials in Finnish and Swedish, the same cannot be found in English. There is some English translation of materials and English sub-titles for videos made in Finnish, but it is not enough. More materials could still be translated, and the website could also be updated. The Finnish and Swedish sites are more complete as compared to the English version. Other types of online services like internet therapy are provided in only Finnish and Swedish currently. As such, youth immigrants who cannot speak good Finnish or Swedish cannot use those services.

5.3 Bureaucracy

Services such as internet therapy provided by the mental health HUB is very helpful and convenient to the users. However, to get into these programs/services, there must be a referral from the users ''health centre, occupational health, or student health services. Any doctor in Finland can make a referral to internet therapy'' (Mielenterveystalo, 2024). Due to this bureaucracy, the care is not completely online based even if all the various therapies and follow-up happen online with professionals. The bureaucratic procedure also means that it takes a longer time before any treatment or therapy can commence. For example, internet therapy can start at the earliest a week after referral. It does not state the maximum waiting time.

5.4 Technology

Various forms of technology have been incorporated successfully into healthcare for example visual reality, and different mobile phone applications. The use of mobile phone apps has become a commonplace in healthcare. Mobile devices and apps provide many benefits for both users and healthcare personnel, perhaps most significantly increased access to point-of-care tools, which has been shown to support better clinical decision making and improved patient outcomes (Ventola, 2014). Developers could make an app for the users of the mental health HUB, to increase convenience. There could be in-built language options, care pathways, and follow-up

options for monitoring treatment progress. Such technology could greatly influence youth immigrants to use the mental health HUB as also indicated by the participants of this study.

5.5 Cultural background

The culture of youth immigrants can also influence how they perceive the mental health HUB and their willingness to use it in the first place. It is important to understand that youth immigrants are not a uniform group. Among other things, youth immigrants' health can be influenced by cultural ideas of health, illnesses, and the prevention, treatment, and symptoms of illnesses (THL, 2023). Culture and language are major barriers to receiving appropriate mental healthcare, including e-mental healthcare (Yellowlees et. Al., 2008). The mental health HUB just like other eHealth platforms is faced with cultural barrier among youth immigrants. The diverse nature of youth immigrants in Finland means that their needs are equally divers. Even though some youth immigrants will happily agree to use the mental health HUB, others will not be interested.

In dealing with youth immigrant's cultural barriers, attention should be paid to their country of origin, age of immigration, reason for immigrating and the length of time spent in Finland (THL, 2023), as well as their religious background.

'' I think that the programme should be physical rather than virtual because it helps my cultural background''.

To some youth immigrants, their culture (back in their home country) is strictly adhered to, even if they now live in Finland. Such youth will not just accept the mental health HUB on the face value just because it can help to improve their mental health. They will only give it a thought if it addresses their cultural believes as well. This was noticed during the sampling phase as well as the interviews. '' We approach mental health from our own cultural and professional perspectives and experiences, and it may therefore be more difficult to identify mental health problems if they are expressed differently than we are used to'' (THL, 2023).

5.6   Transparency and trust

Trust and transparency issues may also affect the use of the mental health HUB by youth immigrants. Even though support personnel may work professionally, youth immigrants may feel they are not being understood or trusted when fail to see the problem the exact way the users see it or feel. This makes youth immigrants feel they are being discriminated against, which may not be the case.

''I think that discrimination is a big issue when thinking of seeking mental health service''.

The THL acknowledges that cultural sensitivity of services, both at the professional and organisational level, is important to prevent the development of prejudice and experiences of not being treated appropriately. It further encourages that, by developing and maintaining a service system that considers and respects different cultural, linguistic, and individual backgrounds, it is also possible to ensure that the treatment received by customers is carried out appropriately (THL, 2023). This means that, some kinds of treatment can be inappropriate for the customer (youth immigrant) which will in turn make them feel discriminated against.

The trust generally grows over a period. When there is some kind of connection between the youth immigrant and the care giver, or there is continuity of care for a period, they both get to know each other better and thus, the customer will trust the care giver more because they feel that the care giver knows them and knows their needs.

''When it is about my mental health, I prefer someone who knows much about my background so that I can trust''.

Thus, continuity of care is a very important factor to consider when addressing the needs of youth immigrants in the mental health HUB. Youth immigrants prefer someone they know or who knows them and their background. Each individual youth immigrant prefers to be identified as such and not to be categorized as immigrants which easily hides or make their individual needs being overlooked.

5.7 Under use of healthcare

Research shows that immigrants are underrepresented in the use of mental health services in Finland. According to THL (2023), mental strain is on average, higher among migrant-origin adults, children, and young people, and this must be considered in both the planning and implementation of services. Mental health challenges of youth immigrants can stem from factors such as loneliness, experiences of bullying, among others. With a higher amount of mental health issues, there is usually a corresponding higher usage of the mental health services and the mental health HUB. This is not the case among youth immigrants in Finland.

Even though youth immigrants acknowledged that they have not had any difficulty in using any health care service both conventional and eHealth, including their trial phase of the mental health HUB, they also pointed out that they have not had the need to use these facilities. Youth immigrants make too little use of mental health services given the scale of their needs, and that the duration of specialised psychiatric care received by migrants is shorter than that received by the Finnish-born population (THL, 2023).

5.8 Challenges of the research

There were several challenges during this study, ranging from ethical approval, timeline of the research, and finding the right sample population. However, the main challenge was data collection. The researcher had planned to collect data from only youth immigrants who were either active users or had used the mental health HUB and had prior knowledge about it. After a long search in three cities (Helsinki, Turku, and Seinäjoki), the researcher could not find anyone who was within the right age and had used the HUB before. The researcher decided to send the link to the expected participants to study before the interview, but only thirteen were keen about the study and willing to participate in the interview, limiting the outcome of the study.

Data collection proved difficult as the respondents preferred ''yes'' or ''no'' answers to long answers. This could also stem from lack of prior experience with the HUB. Majority of the participants also preferred to answer the pre-determined questions by themselves rather than face-to-face interviews. Also, some participants did not answer all the questions that were asked.

5.9 Summary

The use of mental health HUBs among immigrant youth will be enhanced when the functionality of the mental health HUB deals with the problem of language barrier, has varieties of audio visuals and is easy to use. The user friendliness of the HUB is very significant towards generating interest among immigrant use. With respect to the language for instance, most of the immigrants prefer English as the medium of communication and this is premise on the fact that it's the medium of communication that is widely used both at home and in the school and for that reason it is imperative that the mental health HUB has English as a language option with all the relevant information. The simplicity and ease to use of the service coupled with the relevant audio visuals is seen as a very important motivating factor for use of the service. Other enhanced services like assessment and supportive services should form an integral part of the mental health HUB.

This study reveals a very important issue with regards to mental health service to many foreign nationals or immigrants in the youth age group. Most of the respondents are not aware of the existence of the service and that implies that there should be lots of efforts on effective advertising campaigns such as flyers, advertisement in school magazines as they can greatly promote youth immigrants' access to mental health HUB services. As noted earlier, youth immigrants already face several issues that affect their mental health and there is the need for them to seek care from mental health services therefore it is imperative that the health care system makes it easier for them to access.

Furthermore, the mental health HUB as well as any other services tailored towards youth immigrants cannot undermine the importance of their cultural (and religious) background. Thus, it should never be assumed that youth immigrants in Finland have similar needs to their Finnish counterparts. The needs among youth immigrants themselves differ from one person to another. However, people from same ethnic group, geographical location, or religious background might have similar needs. It is paramount for the providers of the mental health HUB to create a safe place for these youth immigrants, have some kind of connection with them, and to gain their trust over time. When they feel connected, and they trust the system as well as the professional, they might be more motivated to use the mental health HUB.

5.10 Conclusion

Due to the challenges that youth immigrants face which impacts on their mental health, it is important to encourage them to seek mental health care through advertisement and mental health campaigns. As the mental health HUB has become an important eHealth platform for rendering mental health care, the tool should be geared towards the needs of youth immigrants by making English as a major language option in using the service since most youth immigrants use English as their medium of instruction. Other features should include ease of use, varieties of services such as assessment and supportive services and other important features like audio visuals which makes the HUB interactive and lively.

Apart from the stated functions of the mental health HUB, it is important to consider the diverse cultural background of youth immigrants when planning for their care. It is also worth to acknowledge that these people have moved to Finland from different parts of the world, under different circumstances, and different purposes. As such, their needs may not be the same even if they are from the same cultural and ethnic background. Most of these youth immigrants, especially those who have moved to Finland as asylum seekers may have been discriminated against (THL, 2023) which leads to having trust issues. Thus, it is crucial to create an environment which is welcoming to them, safe, and allows them to be heard. If the mental health HUB can create these spaces for youth immigrants, they may not feel discriminated against but rather accepted. This will in turn create trust and encourage them to use the HUB.

5.11 Limitations

This research has taken the researcher about 2.5years to complete. As such, some of the things that were present in the beginning of the study might have changed due to the changing nature of the present digital world. The mental health HUB and the Health Village has been updated during the period of this study. Some of the initial findings have changed, new functions have been included. The main findings however remain the same.

None of the participants were active users of the mental health HUB, neither did the researcher have access to all aspects of the HUB. Thus, the entirety of the mental health HUB could not be studied, including the care pathways. Participants answers

were very limited because of this. The second research question could not be properly answered due to this reason.

This study focuses on all youth immigrants thereby not capturing the different experiences of youth immigrants from different ethnic, cultural and linguistic backgrounds. This affects the generalization of the findings. Future research should therefore take into consideration a more diverse study in other to understand the nuances of different immigrant groups. Again, the study is cross sectional-giving the experiences of immigrants at a single point in time. It will be appropriate to do a longitudinal study to check how immigrants' experiences with the mental health HUB have evolved over time. Finally incorporating quantitative data could offer a more comprehensive view of the subject matter regarding the experiences and perception of using the mental Health HUB.

5.12 Recommendation

Due to the extended time of this this study coupled with the rapid changing nature of the digital world, a new study into the mental health HUB is recommended.

A further study of the mental health HUB that includes youth immigrants who uses the HUB is recommended, so that an extensive study of all the functions as well as an in-depth examination of the HUB could be done.

An update of the English of the Health Village is recommended. The update could comprise of translating material from Finnish and Swedish into English. There could also be short videos and audios in English. Currently, there are English subtitles to videos. This could be improved.

Increased awareness creation is recommended. Awareness creation targeting youth immigrants could be done through different forms of advertising. Fliers and posts with information about the mental health HUB could be placed on notices, counsellor's offices, and public places especially immigrant populated places. Catch phrases like *''check your health'', ''my health'', ''check me out'', ''what's UP'',* together with a link to the mental health HUB, or the Health Village could draw the attention of youth immigrants to visit the site.

Simpler and fun ways of using the mental health HUB is recommended. Simpler ways like the creation of a mental health application (App) which could be downloaded easily can greatly affect its usage. Fun ways like the creation of a mental health digital games could also have a positive impact on the usage of the mental health HUB by youth immigrants. Therefore, it is highly recommended to create a mental health HUB app with built-in games, and tasks to complete as a form of self-assessment.

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Appendix 1

Immigrant eHealth Experience Question List

1. Age …………. Years old.

2. Length of stay in Finland ………………………… years.

3. Any chronic or long-term diseases? (Yes, No).

4. Do you have a smart phone? (Yes, No).

5. Do you like gaming? (Yes, No).

6. How often do you play games (mobile phone games, online games) ………………………………………………

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7. How often do you browse the internet? ……………………………………………………………………………………

8. Have you looked for other health related information from the internet (diet, exercise, disease)?

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9. If yes, why, and how often do you search from the internet? …………………………………………………

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………

10. Would you prefer to get reliable mental health and other health related information from one source? (Yes, No).

11. Are you willing to use a digital mental health service? (Yes, No).

12. Which language would you prefer? (Finnish, English).

13. Would you prefer a mobile app to an internet/website? (Yes, No). Why? …………………………………..

………

………

………

15. Had you used the Mental Health HUB of the Health Village before the link was sent to you? (Yes, No)

16. If yes, was it easy to use? (Yes, No).

17. Did you encounter any problems with the Mental Health HUB Health Village? What?....................

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18. Describe your experience using the Mental Health HUB. ………………………………………………………………

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19. Have you had any difficulty in using healthcare services both normal and/or eHealth? ………………..

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20. How would you like the Mental Health HUB of the Health Village to be upgraded (application, additional HUBs)?...

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21. What will motivate you to use the Health Village?...

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22. Recommendations for improving usability of the Mental Health HUB …………………………………………..

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Appendix 2

Participant Consent Form

Study: Master's Thesis

Title: **Experience of Youth Immigrants with The Mental Health HUB of The Finnish Health Village (virtual hospital)**

Programme: MDP in Future Health & Technology

Location of participants: Turku, Seinäjoki, and Helsinki.

Interviewer: Agyei Brenyah

This study is part of the requirements for the master's degree in the Future Health and Technology organized by the University of Turku, Finland, and Fudan University, China. The purpose of this study is to examine youth immigrants experience using the Mental Health HUB of the Finnish Health Village, by identifying problems they face when using the Mental Health HUB. The study will seek to find ways to encourage youth immigrants to use the Mental Health HUB.

This study is fully voluntary, you have the right to decide whether to participate or not. You can also decide to stop at any time during the interview or stop answering the questionnaire and that will not affect you in any way.

The study is an interview study that lasts between 20minutes to 30minutes. You can choose to write down the answer yourself or just say them for the interviewer to write them, after which you will cross-check to make sure that what has been written is exactly what you said.

All information gathered through this interview/questionnaire will be handled by the interviewer (Agyei Brenyah). Answers cannot be traced to a participant. Names of participants will not be recorded in data collection documents, to ensure anonymity. There will be neither video nor audio recordings of the interview.

All the answered questionnaires will be destroyed by the researcher at the University of Turku after the study. Digital version of answered questionnaires will be accessed on the interviewer's laptop computer and deleted right after the research and reporting.

There are no right or wrong answers to the interview, but you can tell your opinions about the Mental Health HUB.

By signing these consent forms (one for you and one for the researcher), I voluntarily accept to participate in the study called Experience of Youth Immigrants with The Mental Health HUB of The Finnish Health Village (virtual hospital).

I have acquired enough information regarding the purpose of the study and have had sufficient time to consider my participation in the study, hence I give my full permission to use the interview document for the purpose of the study.

Date and place: ……………………………………………………………

Name and signature: …………………………………………………

Statement of originality of dissertation

I solemnly declare that the dissertation submitted is the result of my independent research work under the guidance of my supervisor. Except for the specially marked content, the paper does not contain any research results that have been published or written by other individuals or institutions. Individuals and collectives who have made important contributions to this research have made clear statements in the paper and expressed their gratitude. Legal consequences of this statement shall be borne by myself.

Author signature： Date : 31.5. 2024

Acknowledgement

Dedication

I dedicate this work to my beloved wife Heini Maria Brenyah and my lovely children; Ohene Asael Brenyah, Sarfo Elior Brenyah, and Aimi Adwubi Brenyah. I also dedicate this writing to Nana Agyei Brenyah and Leticia Adwubi, my parents, for their sacrifice and immense contribution in my life for which I am very grateful.