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User Perception on an Artificial Intelligence Counseling App

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Abstract. Mental health is a serious issue amongst college students in the Republic of Korea. The stigma related to mental health issues renders college students to be reluctant when it comes to seeking help regarding it. Moreover, college students often seek alternative means to rely on rather than in-person counseling sessions due to shortage of time, money, and lack of access to resources. Existing research has revealed that the utilization of technology can be conducive when it comes to alleviating mental health concerns. The development of a mobile application that provides its users with a counseling session via Artificial Intelligence (AI) could be a helpful resource for college students as it could be accessed regardless of the time and location of the students that wish to access the service. This research aims to conduct user research on college students to learn the stigma related to mental health, and to derive implications from the user research to develop a counseling app prototype to serve as a guideline for the development of a counseling app for college students in the Republic of Korea that could potentially be widely used.

Keywords: Artificial Intelligence, Counseling, Mental Health, Multimedia Human Communication, Intelligent mobile interfaces.

1. Introduction

Despite substantial attention to the problem of suicide amongst college students over the past several decades, suicide remains as a leading cause of death amongst college and university students in a numerous OECD countries, such as the Republic of Korea and the United States [1, 2]. In particular, according to data from the Korea Suicide Prevention Center, from 2011 to 2018, the major cause of death at juveniles in the Republic of Korea is death due to deliberate self-harm caused by mental health issues such as depression [3]. 2,017 youth committed suicide in 2018 alone.

College administrations have acknowledged the struggle of college students regarding this matter and have deployed counseling centers and mental health professionals within college campuses; nonetheless, a majority of students have not been able to reap the benefits of this system. Unfortunately, students distressed by these illnesses often do not seek out services or choose to fully engage in them. One factor that impedes care seeking and undermines the service system is stigma related to mental health issues [4].

This study was conducted to develop a prototype that could serve as a guideline for the creation of a mobile environment in which students can receive more help if there is a case where it is difficult for students to benefit from the services provided by the institution for any reason

2. Previous Work and Existing Studies

2.1. Existing Studies of Suicide Prevention

The World Health Organization(WHO) reported that national suicide prevention strategies has brought numerous benefits, such as public recognition of mental health as a necessity, provision of guidance from authorities with evidence-based methodology, and identifying the significant issues with existing legislation, data collection, and service provision. It also recommends that governments should implement such strategies in a cultural and historical context; effective solutions for those who go under mental health problems should not be universal, as such problems are subjective [5]. Barriers such as scarcity of specialized health workers, guardians' reluctance to discuss mental health issues, and inadequate data collection hinders individuals from receiving psychological assistance. The WHO further suggests that to overcome these issues, governments should train and assess health workers with rigorous criterion, work closely with teachers and educational institutes, and strengthen surveillance systems for suicide attempts [6]. On the other hand, mental health workers of the Ministry of Health and Welfare of the Republic of Korea reported their occupation as “the sewer of emotions” and “the front most line of cannon folders,” reflecting their stressful work conditions [7]. Additionally, installing surveillance systems are imperfect as despite the current systems of Korea, suicide rates per 100,000 population is 20.2 percent, which is twice the global average of 10.2 percent as reported by the WHO [8].

2.2. Existing Products for Suicide Prevention

Following up with the technology being feasible to get integrated with the mobile phone application for suicide prevention, there already exist about 27 applications related to it. However, there are only a limited number of services available to adolescents or young adults who are attending educational institutions [9]. For instance, in the Republic of Korea, the application called “Trost” was invented in 2015 with a goal of lowering the bar that exists as a stigma towards psychological treatment. With the record of being downloaded 200,000 times and having approximately 70 percent of them as the official user, it proves to be the one of the most influential mobile applications in Korea in the department of healthcare [10]. However, its target group is the general public who is seeking psychological assistance which can seem broad. According to the 2019 Statistics on the Death Cause published by Statistics Korea, it is shown that in the age group of 20-29, self-harm is listed as the most prominent factor comprising 51 percent of mortality causes [11]. Therefore, the mental issues which often lead individuals to render radical decisions can be better tackled with the application that specializes at empathizing with the college or university students.

3. Methods

This study investigates users' demand and perception of psychological comfort via two methods: the implementation of a survey and a focus group interview (FGI). In order to comprehend the pain points and set our design goals which users have, we gathered both quantitative and qualitative data through a survey, and a FGI.

3.1. Survey

An online survey was conducted on 124 college students in the Republic of Korea to learn more about their experiences and perceptions of utilizing counseling sessions. With the goal of alleviating mental health concerns along with perceptions, the survey mainly focused on whether the students would be willing to utilize a mobile application for counseling.

3.2. Focus Group Interview

A FGI session was carried out on August 9th, 2020 to observe prospective user's viewpoints on the design goals and the corresponding functional and nonfunctional requirements at a more accurate level. There were a total of 7 participants recruited to participate in the FGI; they were 3 males and 4 females in their 20s. All participants attend a college in Seoul, the Republic of Korea, and students of diverse grade levels and majors were recruited.

4. Results

The 7 participants shared the sentiment that the main reason a student would not go to therapy nor seek psychological counseling is the inaccessibility of services for the average college student in the Republic of Korea. The problem of inaccessibility can be further specified into: the social stigma attached, the constraint of time, the cost of therapy sessions, and the lack of awareness of where these services are located or how these services are to be reached.

4.1. Difficult to utilize school counseling services because of stigma: Survey

According to 124 responses gathered from the survey, more than 77% student participants were aware of the college's counseling center. This indicates that the students acknowledged that they could attain help from the institution if they needed psychological assistance. However, when asked about the intention to use the college provided counseling service, more than 90% of students answered they would not use the counseling service provided by the college. Most of the students (76%) stated that they are afraid of people around them finding out that they used therapy.

"I went to the counseling office for an appointment, and there I met a student that I kind of know. I was immediately scared that the person might spread rumors. It was a very uncomfortable memory and I never want to feel it again." P4

"I am worried that my counseling records and usage details will remain at the school and negatively affect me in the future." P1

Students [P1, P2, P4, P5, P6] were reluctant to use the school's counseling program because of stigma. They also voiced concerns over leaving a counseling record as they stated that the societal perception is still generally negative towards those who receive counseling.

4.2. Restraint of time as a factor of discouraged counseling usage

Among the students who participated in the survey, 62% answered that they would not use college counseling services because they find it difficult sparing time to register for counseling services. Participants [P2, P3, P6] stated that college counseling service centers are usually booked, and that it is difficult to carve out time to allocate to counseling services.

“If it is not a service that is available at night, I cannot make time for counseling. There is no time for counseling at the end of the school day due to school hours, time for group work and assignments, and part-time jobs.” P2

“External counseling agencies take a long time and are expensive. For example, 20 sessions of 1 hour each Wednesday night is not that feasible as I have exams, immediate assignments, and a part-time job.” P3

“I wanted to get counseling at night, but most of the counseling services for students in the college were in office hours, where all the students and faculty were around the campus.” P6

Participants thought that the counseling services provided by the college did not meet their own time needs. Particularly, during interviews, responses there were repeating comments on the need for evening counseling sessions which are not provided by the colleges.

4.3. Desire for calm and solitary experience

While providing distinct insights to the research topic, one of the counseling elements that participants [P1, P2, P7] concurred was that they would prefer a serene counseling session conducted by a counseling entity that is not judgmental.

P1 stated that receiving service at the counseling center requires in-person meeting and time arrangement, which is often challenging for students. Therefore, friends and acquaintances at college often resort to negative coping methods such as smoking or drinking. Since they could resort to such methods at a time of their convenience, which is in-between classes and commitments and at night, students would further avoid visiting the counseling center.

Participants [P2, P7] further expressed the preference for a counseling service mobile application as it would not make them appear as if they are receiving counseling which allows them to utilize the service regardless of the situation that they are in.

“It would be nice if I could quietly concentrate on myself at the end of the day.” P2

“In case someone looks over at my screen, I want it to appear that I’m just using a cool and interesting app rather than receiving counseling because I am having a difficult time.” P7

5. Implications

Via the research, a prototype was developed that would be apt to fulfill student needs regarding counseling. The design was developed based on the results from the user research conducted. The “Moon” theme was derived based on the FGI results as keywords such as “quietness,” “calm,” “solitary,” “light,” “darkness,” “night,” “the time they preferred,” “the time they are able to use,” and more. The moon phase has also been the key concept of Microsoft’s social media facilitated tool for emotional reflection and wellness: Moon Phrases [12].

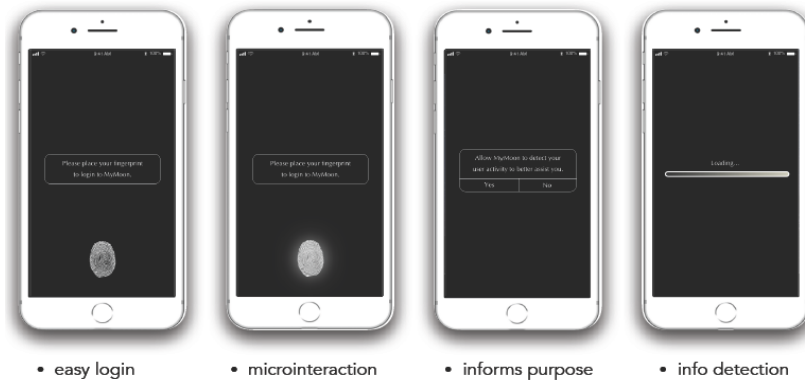


Fig. 1. Prototype screen for a secure login and user consent collection

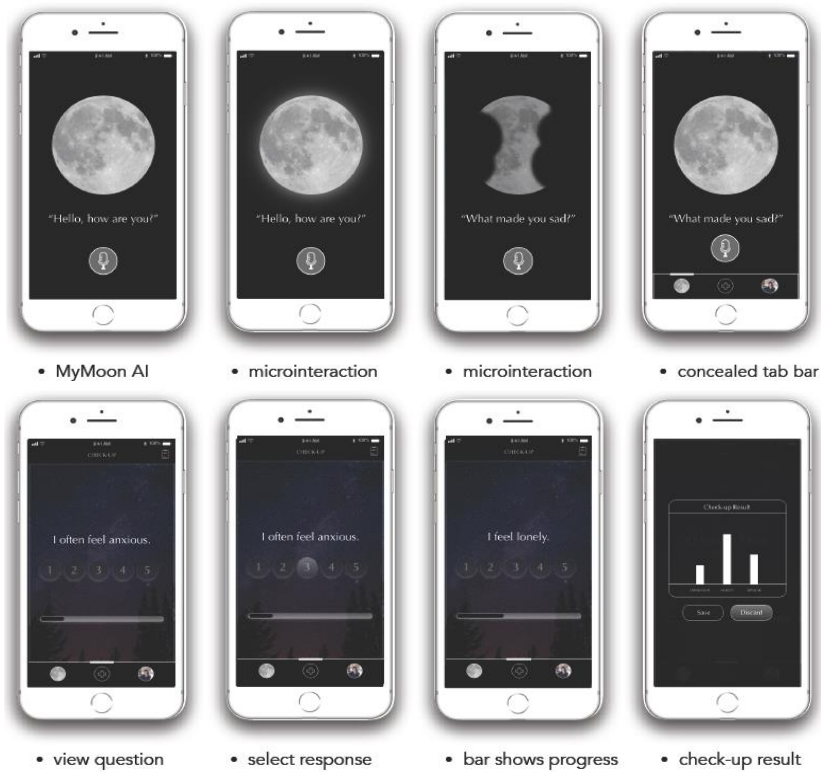


Fig. 2. Prototype for counseling and check-up post-counseling

6. Conclusion

The conducted survey and FGI revealed that college students in the Republic of Korea have mental health concerns that they find it difficult to alleviate due to the lack of access to resources and time or monetary concerns. Research also figured that college students are often reluctant to seek

professional in-person counseling services because of the social stigma against those with mental health issues. Regardless of a general understanding that such social stigma exists, participants were highly interested in receiving counseling for wellness purposes if it could resolve the concerns that they have regarding conventional counseling methods.

We were able to learn that a mobile application that is powered by Artificial Intelligence could be conducive in mitigating mental health concerns of students since such an application could be accessed by college students regardless of time and location. The application prototype reflects the interest of the college students in the Republic of Korea regarding psychological wellness. The application would foment the sense of security, create an environment where the user would be comfortable to discuss concerns, and become an interface that does not stigmatize the user.

We invite further research to be done in the area as mental health amongst college students is an issue that should be addressed. There are high hopes that further research in this field could enable more college students to obtain access to resources that are needed for them to achieve mental well-being.

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