REVEAL BUSINESS MODEL DESIGN:
MENTAL HEALTH PLATFORM FOR COLLEGE STUDENTS

Haafizh Hibban, Ani Nuraisyah[1], Nimmi Zulbainarni

School of Business, IPB University
Jl. Raya Padjajaran, Bogor 16151, Indonesia

ABSTRACT

Background: Mental health is a condition in which an individual can realize his potential, can work productively, and be able to contribute to his community. Disruption of mental health can reduce physical condition and affect academic performance. The number of students experiencing mental health disorders is increasing every year. Those with mental health disorders face difficulties in coping with their problems.

Purpose: This study aims to identify the problems that students face when their mental health is impaired, design a business model that represents the value of the solutions to be offered, and create a prototype display that contains the features to be offered in the form of an application.

Design/Method/Approach: The method used in this research is design thinking. It was found that the most problems faced when students experienced mental health disorders were the existence of bad stigma related to mental health disorders and the fear of getting a negative response when telling stories.

Findings/Result: The main feature that we want to offer is online mentoring with psychology students. Solution testing found that the product design had met the needs of the respondent's problems.

Conclusion: Based on the problems and assistance desired by the respondents, a business model of reveal created that illustrates the values that will be offered. Reveal is a mental health platform for college students that contains several features, namely mentoring (facilitating users to confiding with peer counselor), narasi (a feature for users to share and discuss related to their mental health problems), mood tracker (feature that records condition of user's mental health), as well as webinars and articles (a feature that displays information related to mental health).

Originality/value (State of the art): This platform is conducted by the audience's needs and offers so many features that would be a successful implication for helping the student form mental health's issues.

Keywords: business models, design thinking, mentoring, mental health, prototype

[1] Corresponding author:
Email: anynuraisyah@apps.ipb.ac.id

INTRODUCTION

From year to year, the number of college students around the world has a tendency to continue to increase. As in America, from 2004 to 2014 experienced an increase in the number of college students by 3.380.000 students (Statista, 2023), while according to the Federal Statistical Office, Germany experienced an increase by 700.000 students. Meanwhile in Indonesia, in the last ten years it has increased by 3.600.000 students (BPS, 2022). This increase is also accompanied by an increase in mental disorders faced by students.

Mental health is defined by the World Health Organization (WHO) as a condition in which an individual can realize his or her potential, cope with reasonable life pressures, can work productively, and contribute to their community (WHO, 2014). Decreased mental health can lead to mental illness, especially in students as it can be associated with a negative impact on student health and academic performance (Khan et al. 2018).

The mental health of college students is considered a critical issue and a significant concern for universities and society, driven by the rapid advancement of education and intense competitive pressures (Schislyaeva and Saychenko, 2023). Emerging adult students, typically aged 18–25, are particularly vulnerable as they navigate a developmental stage associated with an increased risk of mental health disorders (Lattie et al. 2022).

The increasing numbers in mental health disorders faced by students is caused by several factors, including in this period is considered as the time for growth and preparing for the future, the transition from adolescence to young adulthood, cultural differences in the campus environment, as well as the pressure to adapt and demands for success (Krishnan and Sequeira, 2012).

In a survey of 274 institutions, 88% of counseling directors reported an increase in "severe" psychological problems over the past five years including learning disabilities, incidents of self-harm, eating disorders, drug use, and sexual violence (Gallagher, 2013). Meanwhile in Indonesia, more than 19 million people older than 15 years old experienced emotional mental disorders and more than 12 million people experienced depression in the same age range based on the 2018 Baseline Health Research conducted by the Indonesian (KEMENKES RI, 2018).

A study conducted by the WHO on first-year students at 19 universities spread across eight countries yielded that 35% of first-year students had experienced at least one mental disorder in their lives, and 31% of them had experienced a mental disorder in the last 12 months (Auerbach et al. 2018). A study that held in the universities in Jakarta also showed that mental health disorders experience by 12,7% of first-year students (Vidiawati et al. 2017).

Biddle et al. (2007) stated that although university students have high levels of stress and mental health disorders, they do not immediately seek formal help for their mental health problems. Several barriers to seeking for help that faced by students have been identified, including fear of bad stigma of mental illness, bad thoughts about seeking help, a preference for independence, and poor realization of declining mental health (Rickwood et al. 2005; Gulliver et al. 2010).

Despite the growing prevalence of mental health issues, there are significant gaps in the provision of mental health services for college students. Many students are unaware of the mental health resources available on their campuses, and even among those who are aware, a substantial proportion do not utilize these services. This underutilization is often due to factors such as stigma, lack of awareness and literacy, and insufficient availability of services.

Therefore, this research is focused on creating a mental health platform for students and has supporting features to improve students' mental health literacy. Improving mental health literacy will provide awareness and concern about mental health itself, so that students do not hesitate and ignore the barriers to do online counseling.

Additionally, promoting mental health literacy among students offers significant benefits not only for their immediate well-being but also for their long-term academic success and broader societal contributions. By fostering a proactive and supportive culture, mental health literacy ensures that mental health challenges are addressed in an effective and compassionate manner. When educational institutions invest in enhancing mental health literacy, they empower students to navigate academic pressures, cultivate personal resilience, and ultimately thrive in all aspects of life.

METHODS

This research was carried out online in the Bekasi Regency area, West Java, where questionnaires were distributed online and in-depth interviews with expert sources using zoom meeting media. Data collection and processing will be carried out from March to July 2023.

The data sources used in this research are divided into two, namely primary data and secondary data. Primary data is data obtained by researchers by conducting interviews with active students who are and/or have experienced mental health disorders, and expert respondents consisting of professional psychologists and mentors from peer counselors and student peer counselors, while secondary data is obtained from various sources. literature that suits the needs of researchers.

The method for determining respondents in this research uses purposive sampling, which means selecting samples based on considerations or criteria that suit the researcher's needs. The criteria required by researchers are active students who are currently and/or have experienced mental health disorders. It is felt that researchers need students who have at least experienced or known about mental health disorders because that way researchers can know their intentions to use the products that will be offered later. The samples taken were 51 student samples, and 4 samples with expert sources. To fill out the questionnaire, respondents were asked whether they had ever experienced mental health problems or not. If not, then filling out the questionnaire will not continue. Meanwhile, for the sample of mentors and peer counselors, the researchers contacted the Department of Family and Consumer

Sciences which is responsible for administering the peer counselor program at IPB. Sampling was carried out using a questionnaire based on Rahmawati (2019), and modified according to this research.

This research is based on the design thinking method. Design thinking becomes a framework for individuals or organizations to take a strategic innovative approach to value creation in a dynamic business world. The design thinking method is divided into five stages, namely Empathize, Define, Ideate, Prototype, and Test (Taryana et al. 2024) (Table 1).

The research began with empathize, which in this research questionnaires are distributed to respondents and conduct in-depth interviews with experts. The result of this step is a customer journey map conducted on consumers who have experienced mental health that is projected onto the *reveal* platform. Customer journey map is a diagram that maps the steps that a user goes through when engaging with a product, either in the form of direct product use experience, purchase experience, online experience, user service, or other experiences. The define stage is carried out to underline the results obtained at the empathize stage. In this stage, it will define what problems are faced by the respondents. Ideate is a stage that is conducted to create a solution to solve problems experienced by consumers. This research will use the business model canvas to illustrate the values of the solution that will be offered. Test is the stage to test the solution that will be offered in the form of a prototype that has previously been made to get feedback from the respondents. This feedback will be used as a basis for whether the solution offered has been able to overcome the problems faced by consumers, and also to evaluate other elements of the business model.

Tabel 1. Data collection and analysis methods

Steps	Data Collection Methods	Data Analysis Methods	Outputs
Emphatize	In-dept interview and questionnaire online	Qualitative	Customer journey map
Define	Questionnaire online	Qualitative	Problem list
Ideate	Questionnaire online and literature review	Qualitative	Business model canvas 0
Prototype	Questionnaire online and literature review	Qualitative	Prototype 0
Test	Questionnaire online	Qualitative	Prototype 1

RESULTS

Empathize

The first stage of design thinking was conducted to understand what consumers see, feel, and experience when facing mental health disorders and how to deal with it. In this stage, a customer journey map is created based on respondents who have experienced mental health disorder that was projected onto the *reveal* platform (Figure 1).

Define

A total of 88% respondents have experienced mental health disorder, the most common disorder experienced by respondents was stress at 48%, followed by excessive anxiety at 36%, depression at 6%, and insomnia at 10%. Not all respondents realized that they experienced mental health disorders, on 19.6% of respondents were aware of mental health disorders and immediately sought counseling with a psychologist. As many as 17.6% of respondents were aware of it through feedback from friends and 62.7% respondents needed to find out what they are feeling through online articles. This is in accordance with stated by Escoffery

et al. (2005) that students often seek mental health information through the internet.

A total of 74.5% of respondents having difficulties when facing mental health disorders. In line with research by Findlay and Sunderland (2014), the results of this study shows that 26 respondents chose to suppress, and adequate rest was chosen by 28 respondents. Entertaining oneself by doing things one likes was also chosen by 35 respondents. A total of 23 respondents told their problems to their closest person. Confiding with the closest person was considered by 82.4% respondents to be able to reduce the burden of the problem, they feel more relieved after sharing their problems. Although they don't always get a solution, they get support and realize that they are not the only ones who experience these problems. Respondents also considered that prayer can help them deal with problems, with 26 respondents using prayer as a means to calm themselves down. Then as many as 23 respondents chose to distance themselves from the things that made them stressed, and only 9 respondents chose to do counseling with a psychologist. This is supported by research conducted by Wang et al. (2007), he found that informal help can also resolve mental health disorders.

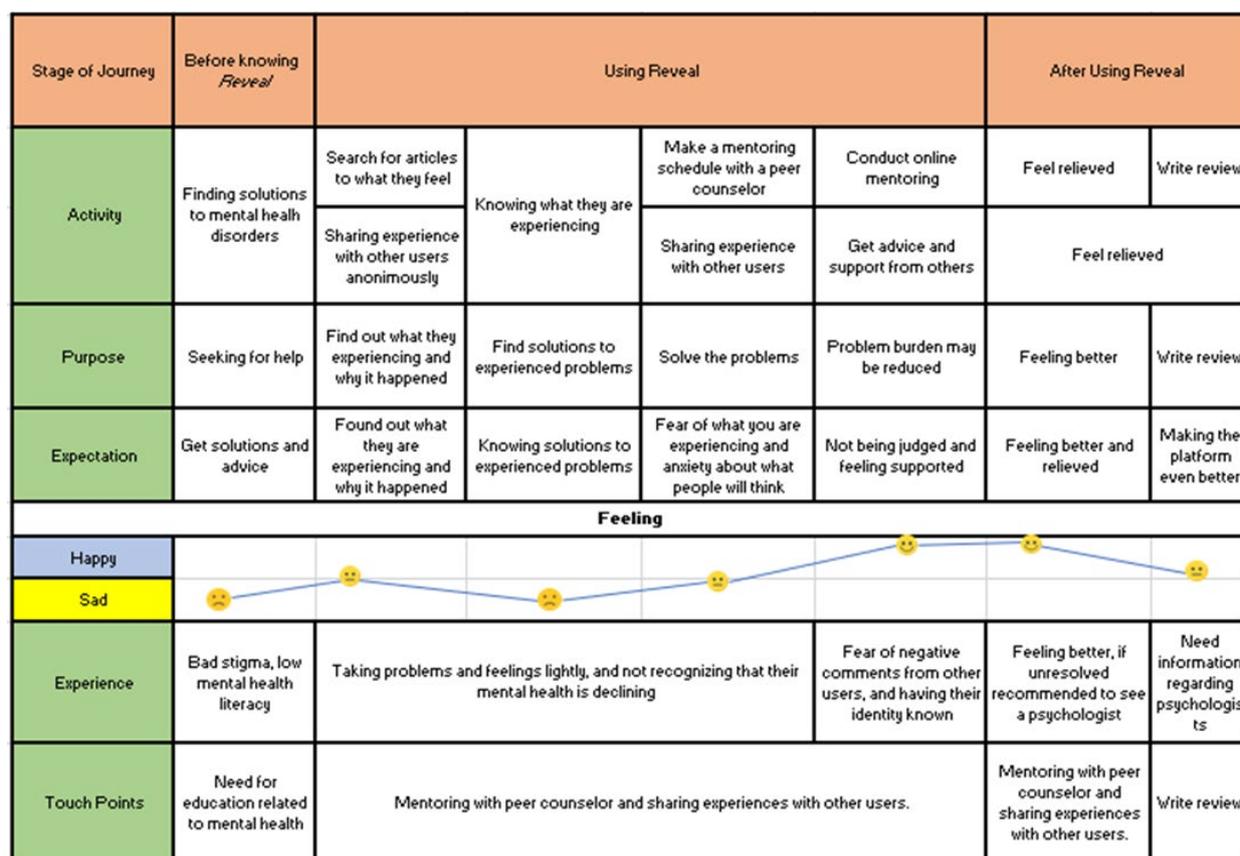| Stage of Journey	Before knowing *Reveal*	Using Reveal				After Using Reveal	
Activity	Finding solutions to mental health disorders	Search for articles to what they feel	Knowing what they are experiencing	Make a mentoring schedule with a peer counselor	Conduct online mentoring	Feel relieved	Write review
		Sharing experience with other users anonimously		Sharing experience with other users	Get advice and support from others	Feel relieved	
Purpose	Seeking for help	Find out what they experiencing and why it happened	Find solutions to experienced problems	Solve the problems	Problem burden may be reduced	Feeling better	Write review
Expectation	Get solutions and advice	Found out what they are experiencing and why it happened	Knowing solutions to experienced problems	Fear of what you are experiencing and anxiety about what people will think	Not being judged and feeling supported	Feeling better and relieved	Making the platform even better
Feeling							
Happy							
Sad							
Experience	Bad stigma, low mental health literacy	Taking problems and feelings lightly, and not recognizing that their mental health is declining			Fear of negative comments from other users, and having their identity known	Feeling better, if unresolved recommended to see a psychologist	Need information regarding psychologists
Touch Points	Need for education related to mental health	Mentoring with peer counselor and sharing experiences with other users.				Mentoring with peer counselor and sharing experiences with other users.	Write review

Figure 1. Customer journey map

The choice of method taken by the respondents was based on the difficulties they faced, there are obstacles that cause them to discourage help-seeking behavior. As stated by Clement et al. (2015), the influence of bad stigma about mental health disorders can reduce the desire for help-seeking behavior, as many as 15 respondents made this statement as the reason why they undo their intention to seek help. Respondents who were not aware of a decline in mental health as many as 19 respondents and 18 respondents took the problem lightly. This is in line with the statement by Pedrelli et al. (2015) that the lack of identification and knowledge of mental health and denial to admit that students facing mental health disorders is a common problem. The most common difficulty chosen by respondents is fear of getting a negative response when confiding, as much as 36 respondents. Similarly found by Jorm et al. (2012), that students get an unfavorable response when telling about their problems. It takes empathy, knowledge, and ability to be a good listener.

As much as 92.1% respondents needed help in overcoming mental health disorders. As for the help respondent's need, such as seeking formal help in example counseling with a psychologist, it's still not their main choice, only 26% of respondents who felt the need for counseling with a psychologist. Meanwhile, 38 respondents feel that a friend to tell stories is enough to help them cope with their problems but indeed the person needed is a person who can be a good listener and can empathize with their problems. Jorm et al. (2012) suggested that having family and friends who provide positive social support can heal mental health disorders. Then as many as 20 respondents needed the help of a spiritual mentor. Information related to mental health was chosen by 19 respondents.

Ideate

Ideate aims to produce ideas as a foundation for making prototypes (Nuraisyah et al. 2022). Based on the results of the previous stage, the solution that will be offered in this research is a mental health platform for college students called *Reveal*. *Reveal* is a mental health platform where students can do mentoring with peer counselors to share their problems. In this research, a business model canvas was chosen as a tool to describe the ideas for problem solutions to make it easier for researchers in the prototyping stage. The elements of *Reveal*'s business model are described using business model canvas 0 (BMC) as follows:

Customer Segments

The targeted customer segment is college students. The criteria for who are targeted are students who are or have experienced health problems and mental health disorders. In addition, psychology students are also categorized as the target customer segment, because it is possible that they also need help.

Value Proposition

Students are having difficulties in dealing with their problems because they are in the young adult stage, this is a period of self-discovery. This can cause student's mental health disrupted. Many students are unaware that their mental health is declining. This is in accordance with what was said by Gulliver et al. (2010) due to low mental health literacy. Those whose with mental health disorders tend to be more uncommunicative because they don't find the right person to talk, especially with the negative stigma exists in the community if people have mental health disorders is a problematic person. Which leads to reluctance to seek professional help to help them deal with their problems. Students prefer to seek informal help such as talking to friends or family (Rickwood et al. 2005). This is because they feel an emotional closeness and they think their friends and family can understand their condition better. Peer counselors were the initial hypothetical value proposition to be offered. Students can be more open to friends who are not much different in age, so they can tell what they are facing to the peer counselors. This has been confirmed to expert respondents who are peer counselors themselves and professional psychologists. Those who will be used as peer counselors here are psychology students who already have an educational background regarding mental health. These psychology students do not require counseling certification, because it is only limited to mentoring only. According to expert respondents, mentoring is not required to dictate solutions, but focuses more on active listening and elaborating the problems. The mentor only provide options for solutions that can be taken, and the decision is still made by the mentee. Although not requiring counseling certification, but still need proof of competency as a peer counselor. In addition, there will be a feature to interact between users, so they can share their stories and support each other. Therefore, a healthy and supportive environment can be created that alleviates students in dealing with their problems. This feature will be equipped with restriction of destructive

words and sentences, in order to protect the user from negative responses so that the user can be more open and free from the fear of unwanted responses. Then there are feature that present information related to mental health which aims to increase mental health literacy and can be a self-healing program for students, especially to prevent more severe mental health disorders and allow students to get treatment as early as possible as stated by Beiter et al. (2015) that timely and effective treatment is crucial.

Channel

Channel is used to deliver products or services to the customer segment. Thus, the value proposition can be received by the customer segment. *Reveal* uses online-based channels in the form of applications that can be downloaded on Play Store and Appstore.

Customer Relationship

Customer relationships are used to build relationships between companies and consumers. The customer relationships used by *Reveal* are: (1) forming community that is supportive and cares about mental health so that students will feel safe to share about their problems and become more open, (2) the existence of personal assistance that provides mood-tracker to record mental health conditions, (3) customer satisfaction surveys as a form of the company's desire to continue developing its value proposition according to the needs of customers.

Revenue Stream

Reveal's revenue stream is sourced from commission fees from every mentoring transaction made. Revenue is derived from a percentage of 25%. Mentoring costs IDR30.000 per session, where one session runs for 30 minutes. There will be revenue derived from advertisements in the *Reveal* application.

Key Resources

Reveal requires various resources, including intellectual property resources, human resources, and physical resources. Intellectual property resources include logos and copyrights for applications so that they cannot be copied and stolen by other parties. Human resources include financial, IT, customer service, managerial, and

marketing human resources. The physical resources required are offices and supporting equipment, as well as the intellectual property of the patent rights of the *Reveal* brand.

Key Activities

Reveal's key activities include creating applications followed by app promotion, and app maintenance.

Key Partners

Reveal needs psychology students who are required to write articles related to mental health which aim to increase consumer mental health literacy.

Cost Structure

The costs required by *Reveal* to deliver value to consumers, including the cost of creation, development and maintenance of applications, marketing costs, and operational costs.

Prototype

The prototype 0 will showcase features that represent the value proposition offered, which is mentoring with peer counselors, and features to share and discuss the user's problem called *Narasi*. The display and features can be seen in Figure 2.

Test

Respondents will try out the *Reveal* prototype, then they will fill out a solution test questionnaire. As many as 60.8% of respondents felt that *Reveal* had offered the right solution to their problems, so they were more open and more comfortable. As for the features offered, the mentoring feature is satisfied 72.5% of respondents, the Narasi feature makes 74.5% respondents easier in sharing their problems, the presentation of information related to mental health raises awareness for 62.7% respondents, and the mood tracker feature helps 58.8% in monitoring mental health conditions. The shortcomings of the prototype 0 *reveal* were improved based on the assessments and responses given. The aspects that were improved from the solution testing stage of using prototype 0 *reveal* are summarized in Table 2.
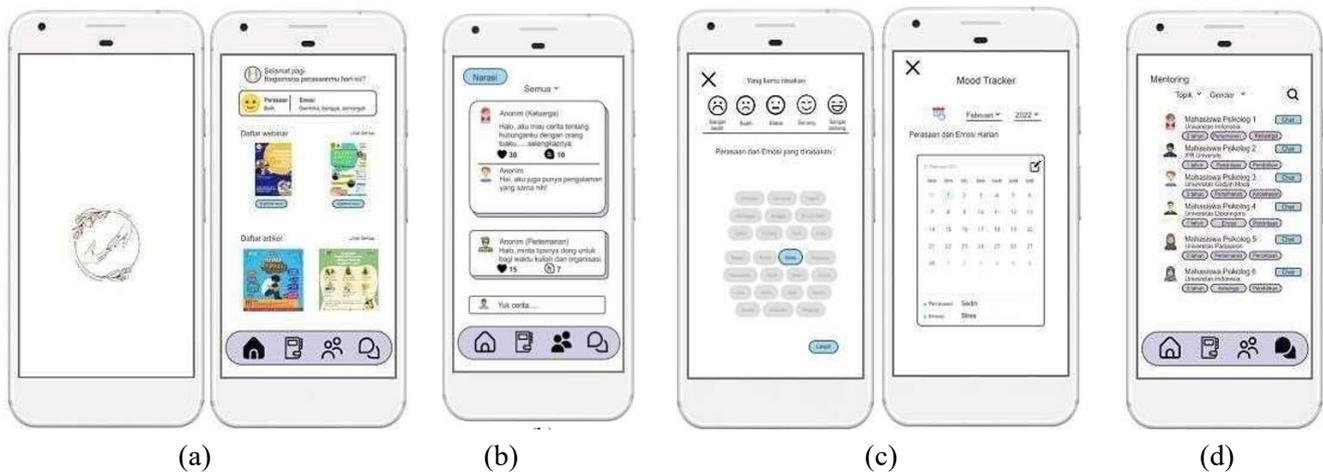
Figure 2. Prototype 0 (a) Home display; (b) Narration display; (c) Mood tracker display; (d) Mentoring display

Table 2. Improved Aspects

Display	Improved aspects
Text and buttons	The use of the word "psychologist student" was changed to "psychology student". The size of buttons and text is minimized in some parts
Color	Selection of brighter colors to attracts and enhance the user's mood
Article	Added presentation of mental health information in the form of infographics
Content	Content placement is given more spacious spacing so it looks neat and not crowded
Mentoring	Added display of reviews from other users, fees required, and mentoring duration when selecting schedule and peer counselor
Mood tracker	Added diary feature, and displayed articles related to feelings after filling in the mood tracker
Narasi	Added categorization feature, and report button for negative content and comments.

Business Model Canvas 1

Several elements on the business model canvas with reference to Table 2. These elements require additional improvements, especially in customer segments, value propositions, channels and key partnerships. In terms of customer segments, it is felt that it needs to be changed so that not only students who have or are experiencing mental health disorders are the target customers, but those who care about and understand mental health are also the target customers because they have great potential to use this platform. Because they only increase insight regarding mental health, and can also provide support to users who experience mental health disorders. Psychology students are deleted in this block, because psychology students are also included in the student category. Then a category of students was added, namely for the upper middle economic class, who did not agree to spend money on mentoring sessions. In the value proposition element, it is also necessary to add a diary where the user can express everything he feels which will later be recorded and become a picture of what he feels in a certain period

of time. In the channel and key partnership elements, higher education institutions will also be included in these two elements. If it is on the channel, higher education institutions will be a means of marketing and introducing the *Reveal* platform. Meanwhile, in the key partner element, higher education institutions act as parties that provide webinars and training related to mental health.

Prototype 1

Based on Table 2, improvements were made to the features displayed in *reveal* application and additional features were needed to complement the value offered by *reveal*. In general, all displays have been improved in terms of choosing brighter colors to make the display more attractive and can improve the mood of users, the size of the text and buttons to make it look neater and more concise, and content placement is given more spacious spacing so it looks neat and not crowded. Prototype 1 *reveal* can be accessed in its entirety on the marvelapp website (Figure 3) which can be accessed by scanning the QR code in Figure 4.
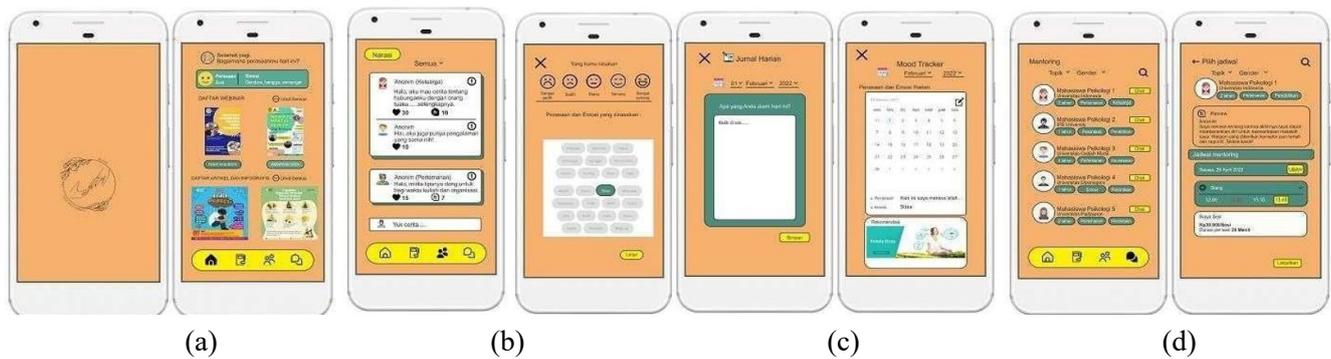
Figure 3. Prototype 1 (a) Home display; (b) Narration display; (c) Mood tracker display; (d) Mentoring display

Figure 4. QR Code Prototype 1

Managerial Implications

The managerial implications of this study emphasize the need for higher education institutions, application developers, and related stakeholders to prioritize the development of accessible mental health platforms for students. A platform like *Reveal* can serve as a strategic tool to enhance mental health literacy, foster a supportive environment, and provide technology-based counseling services. The implementation of features such as mentoring with trained peer counselors, narrative sharing for experiences, mood tracking, and educational articles and webinars should be integrated with effective marketing approaches to reach a broader student audience. Additionally, partnerships with universities and psychology professionals can strengthen the platform's credibility while ensuring its long-term benefits for users. Educational institutions can also leverage this platform as a strategic tool to improve students' well-being, which will ultimately have a positive impact on their academic performance and social contributions.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The results of this study showed that the majority of respondents had experienced mental health disorders. Respondents had difficulty finding help when experiencing mental health problems due to several reasons, namely the existence of a bad stigma about mental health disorders, fear of negative responses when confiding their story, taking the problem lightly, and low knowledge about mental health. Respondents also felt the need for help when facing mental health disorders. The help that they want is friends to confide in, counseling with psychologists, and information related to mental health. All the selected help they need projected on a mental health platform called *reveal* as a solution that to be offered. Based on the problems and assistance desired by the respondents, a business model of *reveal* created that illustrates the values that will be offered. *Reveal* is a mental health platform for college students that contains several features, namely mentoring (facilitating users to confiding with peer counselor), *narasi* (a feature for users to share and discuss related to their mental health problems), mood tracker (feature that records condition of user's mental health), as well as webinars and articles (a feature that displays information related to mental health). Further research was conducted with the same respondents by testing *Reveal* application prototype. Further research showed that *reveal* is the right solution for respondents because it can make them more open and more comfortable in seeking help. Respondents stated that the mentoring feature makes it easier for them to find peer counselors to share their problems with. Then *narasi* is considered to make respondents easier to share their experiences and provide support between users, a mood tracker feature is recognized by

respondents to help monitor mental health conditions. Lastly, the webinar and article feature is considered by respondents to be able to increase awareness of the importance of mental health.

Recommendations

Based on the research that has been done, there are several suggestions both from respondents and authors for further research and application development, including: (1) conduct further research to realization *reveal's* application so that it can be used directly in real time, (2) using mental health assessment tools to filtering respondents in future research, (3) collaborate with tertiary institutions to attract peer counselors and users and share awareness the importance of mental health, (4) conducting further display reviews using the basics of user experience and user interface theory, as well as making display considering things that can calm students with mental health disorders, (5) consider including a counseling feature with a psychologist for issues that cannot be handled by peer counselors, (6) conducting a business feasibility analysis to determine *reveal's* potential from a financial aspect.

CONFLICTS OF INTEREST: The author declares no conflict of interest.

REFERENCES

Auerbach RP et al. 2018. WHO World Mental Health Surveys International College Student Project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology* 127(7):623–638. https://doi.org/10.1037/abn0000362

Beiter R, Nash R, McCrady M, Rhoades D, Linscomb M, Clarahan M, Sammut S. 2015. The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of Affective Disorders* 173: 90-96. https://doi.org/10.1016/j.jad.2014.10.054

[BPS] Badan Pusat Statistik. 2021. Jumlah Perguruan Tinggi, Tenaga Pendidik dan Mahasiswa (Negeri dan Swasta) di Bawah Kementerian Riset, Teknologi dan Pendidikan Tinggi/Kementerian Pendidikan dan Kebudayaan Menurut Provinsi. https://www.bps.go.id/indikator/indikator/view_data_pub/0000/api_pub/cmdTdG5vU0IwKzBFR20rQnpuZEYzdz09/da_04/1. [2023 March 04].

Biddle L, Donovan K, Sharp D, Gunnell D. 2007. Explaining non-help seeking amongst young adults with mental distress: a dynamic interpretive model of illness behaviour. *Sociology of Health & Illness* 29:983-1002. https://doi.org/10.1111/j.1467-9566.2007.01030.x

Clement S, Schauman O, Graham T, Maggioni F, Evans-Lacko S, Bezborodovs N, Morgan C, Rüsch N, Brown JS, Thornicroft G. 2015. What is the impact of mental health-related stigma on help-seeking? a systematic review of quantitative and qualitative studies. *Psychological Medicine* 45(1):11–27. https://doi.org/10.1017/S0033291714000129

Escoffery C, Miner KR, Adame DD, Butler S, McCormick L, Mendell E. 2005. Internet use for health information among college students. *Journal of American College Health* 53(4):183–8. [PubMed: 15663067]. https://doi.org/10.3200/JACH.53.4.183-188

Gallagher RP. 2013. *National Survey of Counseling Center Directors.* Pittsburgh (PA): International Association of Counseling Service.

Gulliver A, Griffiths KM, Christensen H. 2010. Perceived Barriers and Facilitators to Mental Health Help-Seeking in Young People: A Systematic Review. *BMC Psychiatry* 10:113–121. https://doi.org/10.1186/1471-244X-10-113

Jorm, Anthony F. 2012. Mental health literacy: empowering the community to take action for better mental health. *American Psychologist* 67(3):231–243. https://doi.org/10.1037/a0025957

Khan A, Khanlou, N, Stol J, Tran V. 2015. Immigrant and refugee youth mental health: a scoping review. *Today's Youth and Mental Health* 3-20. https://doi.org/10.1007/978-3-319-64838-5_1

Krishnan L, Sequeira AH. 2012. Stress Among College College Students and How to Combat it. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2041423

[KEMENKES RI] Kementerian Kesehatan Republik Indonesia. 2018. Hasil Utama Riskesdas. https://kesmas.kemkes.go.id/assets/upload/dir_519d41d8cd98f00/files/Hasil-riskesdas-2018_1274.pdf. [2023 March 04].

Lattie EG, Cohen KA, Hersch E, Williams KDA, Kruzan KP, MacIver C, Hermes J, Maddi K, Kwasny M, Mohr DC. 2022. Uptake and effectiveness of a self-guided mobile app platform for college student mental health. *Internet Interventions* 27(1). https://doi.org/10.1016/j.invent.2021.100493

Nuraisyah A, Muhibuddin FW, Taryana A, & Suhendi. 2022. Design thinking approach in designing "care-pet" crowdfunding platform for abandoned cats and dogs in Indonesia. *Business Review and Case Studies* 3(2): 138. https://doi.org/10.17358/brcs.3.2.138

Pedrelli P, Nyer M, Yeung A, Zulauf C, Wilens T. 2015. College students: Mental Health Problems and treatment considerations. *Academic Psychiatry*. 39(5):503-511. https://doi.org/10.1007/s40596-014-0205-9

[Statista] Statista Research Department. 2023. Number of State University Students in Indonesia. https://www.statista.com/statistics/704777/number-of-state-university-students-in-indonesia/

Rahmawati AK. 2019. Perancangan model bisnis konklik konseling online dengan pendekatan customer discovery [thesis]. Bogor: IPB University

Rickwood D, Deane FP, Wilson CJ, Ciarrochi J. 2005. Young people's help-seeking for mental health problems. *Advances in Mental Health* 4:218-251.

Schislyaeva ER, Saychenko OA. 2023. The design of a mental health service platform for college students based on multi-modal information. *Microprocessors and Microsystems* 96(1). https://doi.org/10.1016/j.micpro.2022.104748

Taryana A, Kalsum U, Yatim MIZ, Azman M. 2024. Design Thinking Approach In Handling Food Waste In PT Atim And Wanti Saiyo Jaya Catering Business. *Jurnal Aplikasi Manajemen dan Bisnis*. 10(3): 1059 – 1066.

Vidiawati D, Iskandar S, Agustian D. 2017. Masalah kesehatan jiwa pada mahasiswa baru di sebuah universitas di Jakarta. *eJournal Kedokteran Indonesia* 5(1). https://doi.org/10.23886/ejki.5.7399.27-33

Wang J, Adair C, Fick G, Lai D, Evans B, Perry BW, Jorm A, Addington D. 2007. Depression literacy in Alberta: Findings from a general population sample. *Canadian Journal of Psychiatry/La revue canadienne de psychiatrie* 52:442–449. https://doi.org/10.1177/070674370705200706

[WHO] World Health Organization. 2019. Mental health definition: a state of well-being. http://www.who.int/features/factfiles/mexntalhealth/en/. [2023 March 04].