10   *Made Suda Cakra Wibawa, I Gede Artha Wibawa, NiKomang Ayu Diah*
Suryandari, I Putu Krisna Wiryantara, I Gede Wahyu Parama Sucipta
JIVA: Burnout Early Detection and Mindfulness Therapy for College Students
to Prevent Self-Diagnosis in The Quarter Life Crisis Era

JIVA: BURNOUT EARLY DETECTION AND MINDFULNESS THERAPY FOR COLLEGE STUDENTS TO PREVENT SELF-DIAGNOSIS IN THE QUARTER LIFE CRISIS ERA

Made Suda Cakra Wibawa, I Gede Artha Wibawa, Ni Komang Ayu Diah Suryandari, I Putu Krisna Wiryantara, I Gede Wahyu Parama Sucipta

Universitas Pendidikan Ganesha

E-mail : suda@undiksha.ac.id

ABSTRACT

Burnout has harmed students. Recent ventures, such as counseling, have yet to provide significant benefits. Furthermore, there is a tendency for college students to self-diagnose. However, self-diagnosis often leads to misdiagnosis and mishandling, triggering more severe health problems. This study aims to know if Jiva can be used as burnout early detection and mindfulness therapy for college students to prevent self-diagnosis in the quarter-life crisis era.

The research was conducted at Marcopolo Bali International from October-December 2022. Population of this study was eight respondents for the small group trial and 80 respondents for the large group trial. The research method used is Research & Development with ADDIE research design. Qualitative and quantitative data will be analyzed descriptively. Jiva app is software that integrates Burnout Early Detection and Body Scan Meditation. The creation of the application will help find burnout as early as possible and treat student burnout.

The results of the material validation test showed that the application was included to excellent category with the score of 4.75 (95%). The results of the media validation test showed that the application was included to excellent category with the score of 4.32 (86%). Furthermore, the small group trial pointed to the application belonging to good category with the score of 3.95 (79%). The large group trial pointed to good category with the score of 3.9 (78%). Thus, Jiva can be used as burnout early detection and mindfulness therapy for college students to prevent self-diagnosis in the quarter-life crisis era.

Keywords: *Jiva, Burnout Early Detection, Mindfulness Therapy, College Student*

1. INTRODUCTION

Students are vulnerable to burnout. Burnout was initially widely known among young people related to busy work. However, burnout has developed in other fields, especially academic life. Higher education affects the level at which a person experiences burnout, and students who have more than nine hours of study time in a day are at high risk of burnout [1].

Based on the research by the American Psychological Association's Stress, adolescents aged 18-30 years have higher stress levels than other generations. Teenagers aged 18-30 who have taken the world of lectures said that education had become a primary source that significantly causes stress and leads to burnout. The global prevalence of burnout syndrome based on complaints felt by students is estimated at 55.4% affecting emotional fatigue, 31.6% affecting cynicism, and 30.9% affecting academics [1,2].

Burnout will have many negative impacts on students. Research states that burnout will affect physical conditions such as insomnia and weight loss. Burnout is also associated with a decrease in learning motivation and academic achievement. Burnout will increase alcohol use, drugs, and suicidal behavior among young people. These negative impacts will pose severe threats to the future of a country [3].

Various countries have intervened in suppressing the incidence of burnout, one of which is through counseling. A counselor is a professional who assists clients in hearing and supporting clients through various problems. However, the intervention has yet to provide significant benefits because counselors only work if there is a case. Students also have to pay a counselor if they want counseling services. This makes burnout cases challenging to detect and less resolved. Therefore, the simple thing that students do is to detect the disease independently (self-diagnosis).

Self-diagnosis is an attempt to self-diagnose independently obtained information based on unauthorized or professional sources such as friends, family, the internet, or by taking experiences from the past. This method is often done by matching the symptoms with the experiences or information of others, family, friends, or oneself to infer the pain felt. After the internet, more detailed symptoms can be accessed more efficiently, improving self-diagnosis behavior. However, self-diagnosis often leads to misdiagnosis and mishandling, triggering more severe health problems. Finally, self-diagnosis behavior aggravates student burnout [4].

Therefore, writers seek to create an innovation, namely the Jiva application, as early detection of student burnout in preventing self-diagnosis in the era of the quarter-life crisis. The output of this innovation is the creation of the Jiva application, which can be a means of early detection of student burnout as a step in suppressing burnout. Based on the problems, the formulation of this research problem is "how can Jiva be used as burnout early detection and mindfulness therapy for college students to prevent self-diagnosis in the quarter-life crisis era?". This study aims to know that Jiva can be used as burnout early detection and mindfulness therapy for college students to prevent self-diagnosis in the quarter-life crisis era.

2. METHOD AND EXPERIMENTAL DETAILS

The research was conducted at Marcopolo Bali International with research time from October-December 2022. The population of this study is all Marcopolo Bali International students, namely 88 students. This is because, based on the results of preliminary studies, seven out of ten students experience burnout. The study sample was determined by total sampling. Small group trials can be conducted using 6-12 respondents, and large group trials can be conducted using 30-100 respondents [5]. Therefore, the study will use a sample division, namely eight respondents for small group trials and 80 respondents for large group trials.

The research method used in this research was a Research & Development (R&D) method. Research and development methods are research methods used to produce a specific product and test the effectiveness of the product. So, research and development are longitudinal (gradually can be multi-years) [6,7].

The appropriate research design is ADDIE (Analyze, Design, Develop, Implement, and Evaluate) based on the problems found and the research objectives. According to product development steps, this research design with a research and development model is more rational and complete than other models. The ADDIE development model consists of several stages: analysis, design, development, implementation, and evaluation [8].

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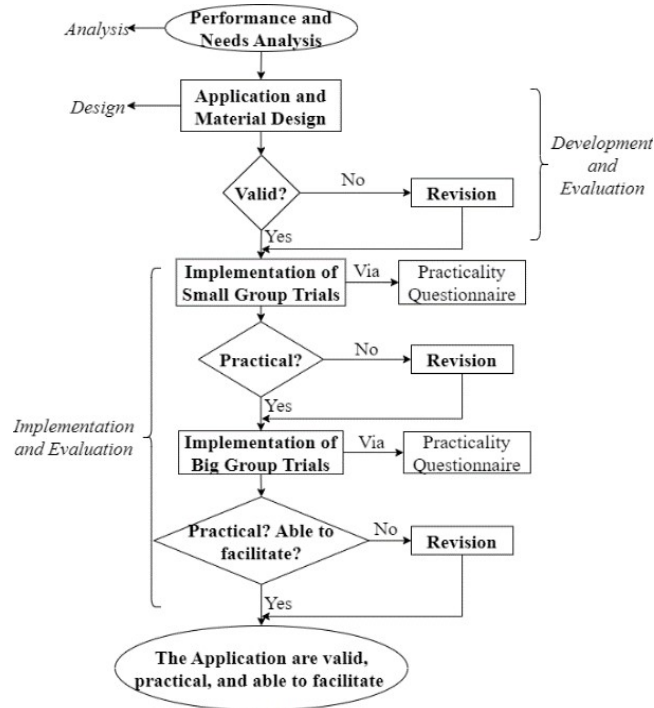*to Prevent Self-Diagnosis in The Quarter Life Crisis Era*

Figure 1. ADDIE Procedure

ADDIE is a systematic and related development model between one stage and another (Figure 1). The analysis stage is analyzing the need for the medium being developed. This stage will discuss environmental needs analysis and solution needs analysis. The design stage is the stage of designing the material and the visual form of the media to be developed. This stage will include flowcharts and storyboards. The development stage is the production process of the medium under development. At this stage, validators will assess the application, namely media experts and material experts (psychiatrists). The implementation stage is a product trial conducted by small and large group trials to see the feasibility of the developed media. The evaluation stage is an assessment of the development process carried out to see that the product can be used as a whole [8,9].

Table 1. Guidelines for Converting Quantitative Data
to Qualitative Data on a Scale of 5

Quantitative Data	Range Formula	Interval	Interpretation
5	$x > xi + 1.8\ Sbi$	$x > 4.21$	Excellent
4	$xi + 0.6\ Sbi < x \leq xi + 1.8\ Sbi$	$3.40 < x \leq 4.21$	Good
3	$xi - 0.6\ Sbi < x \leq xi + 0.6\ Sbi$	$2.60 < x \leq 3.40$	Good Enough
2	$xi - 0.6\ Sbi < x \leq xi - 1.8\ Sbi$	$1.79 < x \leq 2.60$	Not Good Enough
1	$x > xi - 1.8\ Sbi$	$x \leq 1.79$	Very Bad

Information

X : Empirical score

xi : is the ideal average with the formula =1/2 (maximum score + minimum score)

Sbi : is the ideal standard deviation with the formula + 1/6 (maximum score – minimum score)

The data obtained are quantitative and qualitative. Quantitative data in the form of numbers obtained from product assessment questionnaires compiled on a Likert scale. Qualitative data is in the form of responses, criticisms, and suggestions, as stated in the questionnaire. The data analysis used to process the data obtained from the questionnaire is descriptive. The quantitative data of each instrument item are calculated using average analysis techniques to produce guidelines, as presented in Table 1. [10].

3.   RESULT AND DISCUSSION

The Jiva app is software that integrates Burnout Early Detection (BED) and Body Scan Meditation (BSM). The creation of this application is intended to help find as early as possible and treat student burnout by going through four main menus (Profile, News, Scan, and Course). BED becomes practical for students during their busy lives. Of course, this is based on the academic burden and responsibility given to students, so they need more time. BSM (Body Scan Meditation) is a solution for students than can be used to overcome burnout. BSM is selected as an MBSR (Mindfulness-based stress reduction) intervention because it can better reduce stress, depression, and fear and improve emotional regulation [11].

Analysis of the reasons for the Jiva application is related to the needs and potential of users, namely students. Students are particularly vulnerable to burnout [12,13]. Based on the research by the American Psychological Association's Stress, adolescents aged 18-30 years have higher stress levels than other generations. Teenagers aged 18-30 who have taken the world of lectures say that education has become the primary source that significantly causes stress and leads to burnout [2]. Research conducted by Siti Aminah (2022) also supports that burnout in students is more caused by the study load carried out by students [14]. If this is not prevented and not addressed immediately, of course, many students will experience obstacles in the process during the lecture period.

Students have great potential in using the Jiva application. With the convenience of today's technology, students can use smartphones to overcome burnout. In addition, the internet signal, which is currently almost evenly distributed, makes it easier for students to seek help when experiencing burnout [15]. It is supported by all students at Marcopolo Bali International having smartphones and good internet facilities. Therefore, the author created a Jiva application for the early detection of burnout in students as a step in suppressing burnout events. The condition of burnout in a person can be measured using the primary measuring tool, the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) questionnaire. This questionnaire contains three dimensions: emotional exhaustion, depersonalization, and personal accomplishment. Meditation using BSM is easy to do [16].

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Figure 2. Application Initial Operation Flowchart

At the initial stage, the Jiva application will direct the user to open the application (Figure 2). If the user already has an account, the user can log in to the account by entering their email and password in the application. The user is directed to sign up for an account if needed. At the registration stage, the user is asked to fill in data, such as full name, email, and password. The user confirms the registration with the registered email if it is correct, and the account data will be saved. Furthermore, if the user has successfully logged in, the user is directed to the main menu.
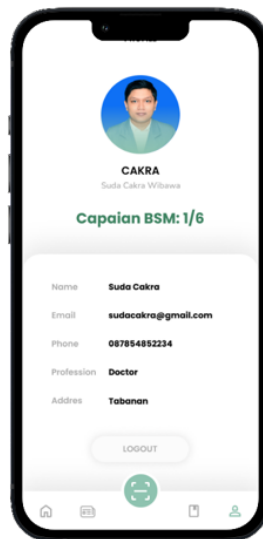

Figure 3. Profile Feature Display

The Profile section contains the user identity of the application. This section is similar to other fitness apps (Figure 3). This section includes the user's name, profession, email, BSM Achievements, and psychiatric address. Based on this identity, the application will be facilitated to send notifications via email or directly on the device.
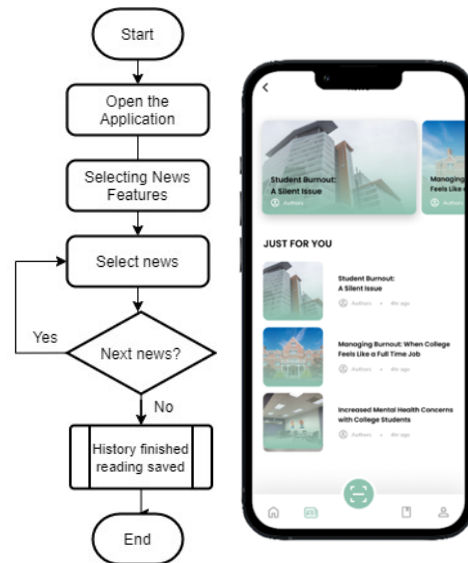
Figure 4. Flowchart and News Feature Display

Furthermore, in the News section, users can find the latest news about the world of health (Figure 4). The advantage of this news is that it can display tips and tricks to manage stress so that it becomes a manageable chronicle. First, the user signs in to the application and selects the news feature. The user selects the news presented to be readable. If the user wants to select more news, users can return to the news page. When finished, the reading history will be saved in the application.

Table 2. Categories Burnout

EE	High	27
(Score 0-54)	Moderate	19 – 26
	Low	0 – 18
DP	High	≥ 10
(Score 0-30)	Moderate	6 – 9
	Low	0 – 5
PA	High	0 – 33
(Score 0-48)	Moderate	34 – 39
	Low	≥ 40

The scan is part of an application regarding a quick assessment of students' burnout status. The Jiva application uses the Maslach Burnout Inventory assessment instrument in this feature. There are about 22 questions in the instrument. Each question will have six options: never, several times a year, once a month, several times a month, once a week, several times a week, or every day. The components to be assessed are EE (occupational exhaustion), DP (Depersonalization), and PA (Personal Accomplishment). Each component will be interpreted (Table 2) [17,18].

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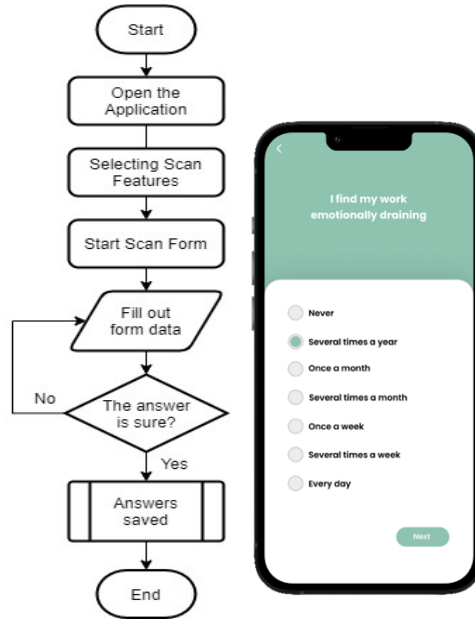*to Prevent Self-Diagnosis in The Quarter Life Crisis Era*

Figure 5. Flowchart and Display Scan Feature

The following menu is Course. The course menu aims to educate students to learn more to be more aware of the sensations of the student's body, mind, and feelings associated with relapse and to associate constructively with this experience [19]. Therefore, students have a new way to be and associate their thoughts and feelings to overcome burnout. First, the user opens the application and selects the scan menu at the bottom of the middle of the screen. Next, the user presses the start button to scan and fill out the form. The user is directed to answer all questions. If the user is sure to press the finish button, the data will be saved, and receive feedback in the form of scan results and recommendations.
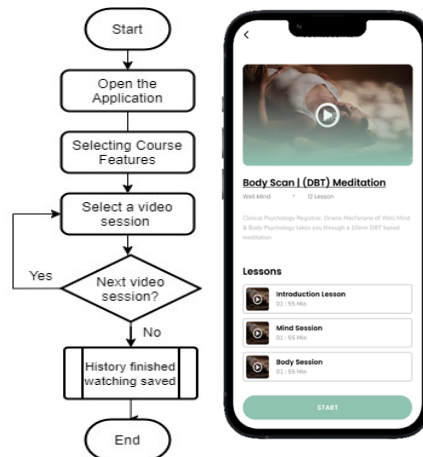

Figure 6. Flowchart and Course Features Display

To overcome burnout in students, students can do meditation using the Body Scan Meditation (BSM) method (Figure 6). BSM is a meditation with a form of attention-focusing practice that is somatic oriented to all parts of the body [20]. The implementation of this meditation is straightforward because it is only enough to sit or lie in a comfortable

position. Instructions will be given slowly, focusing on specific body parts for 45 minutes (Advance BSM) within six days to 8 weeks. However, BSM can be done with a shorter version, which is 10-15 minutes (Brief BSM) [21,22]. First the user opens the application and selects the course feature. First, the user opens the application and selects the course feature. The user can select a video session that has already been set up. If the user wants to continue the following video, the user can re-select the video session. When finished, the watched history will be saved in the application.

The material validation test results are obtained from the responses of the validation instrument. The validator of the material is dr. Komang Gunawan Landra, Sp.KJ. The number of points for each aspect is 37 for the assessment and 39 for the content aspects. The assessment aspect belongs to the excellent category, with an average score of 4.6 (92%). The content aspect belongs to the excellent category, with an average of 4.9 (98%). Therefore, the media validation test results have an average of 4.75 (95%) with excellent categories. Validator comments and suggestions are clear and relevant material. The validator concludes that the Jiva application is feasible for use/ field trial without revision.

Media validation test results are obtained from the results of validation instrument responses. The number of points for each aspect of the questionnaire is 65 for the display aspect, 18 for the presentation aspect, and 25 for the programming aspect. The visual aspect belongs to the excellent category, with an average of 4.3 (96%). The presentation aspect is excellent, with an average of 4.5 (90%). The programming aspect belongs to the good category, with an average of 4.17 (82.4%). Therefore, the media validation test results have an average of 4.3 (86%) with excellent categories. Validator comments and suggestions are the appearances of the UI/UX design already user-friendly. Validators concluded that the Jiva app was feasible for use/field trials without revision.
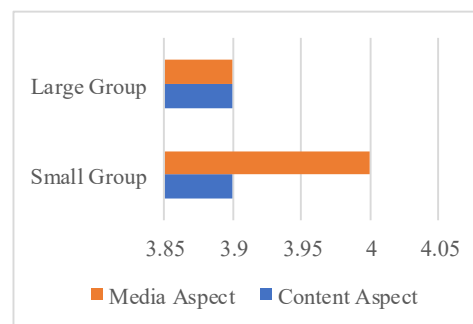

Figure 7. Small Group and Large Group Trial Results

The results of the small group trial were obtained from the responses of eight students. The items from questionnaire are twelve items for the content aspect and thirteen for the media aspect, with the maximum points for each item being five points. The content aspect belongs to the good category, with an average score of 3.9 (78%). Furthermore, the media aspect belongs to the good category with an average score of 4 (80%). Based on the results of small group trials, the Jiva application was found to be a good category application with an average of 3.95 (79%).

The results of the large group trial were obtained from the responses of 80 students. The items from questionnaire are twelve items for the content aspect and thirteen for the media aspect, with the maximum points for each item being five points. The content aspect belongs to the good category, with an average score of 3.9 (78%). Furthermore, the media aspect belongs to the good category, with an average score of 3.9 (78%). Based on the results of a large group trial, the Jiva application was found to be a good category (78%).

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Self-diagnosis assumes that a person is exposed to a disease based on their knowledge. Self-diagnosis is very dangerous to a person's health if they take the wrong treatment method and medicine. In addition to harming health, Self-diagnosis can also affect mental health, causing excessive anxiety.

The Jiva application facilitates students to make an early diagnosis of burnout to avoid self-diagnosis. The Jiva application is software that provides results by international standards, Maslach Burnout Inventory. Students who have filled out the application questions will be given recommendations according to the psychiatrist's advice. This will prevent students from self-diagnosis. If there is an indication of burnout symptoms, the application will suggest doing brief BSM, Advanced BSM, and seeking psychiatry.

BSM is a meditation with a form of attention-focusing practice that is somatically oriented. Kabat-Zinn introduced this meditation (Kabat-Zinn's BSM) adapted from the Satipattha sutta. BSM is easy to do because it only sits/lies in a comfortable position. In that position, a person is slowly given instructions regarding special attention to specific body parts. The program is run for 45 minutes, six days/8 weeks. However, BSM can be done with a shorter version of 10-15 minutes. BSM focuses on cultivating the body experience as it is. BSM fosters a distinction between the body's awareness and reaction and the body's acceptance of what it is. This meditation encourages an adaptive attitude to approach the body (for example, curiosity or kindness). Therefore, BSM will provide hypnotherapy induction through more attention to each body part [20,21].

BSM is believed to have many benefits for the body. Physiologically, BSM can provide a significantly increased effect on the synchronization of heart rate and breathing. Neuroanatomically, BSM activity by long-term meditators was shown to cause increased gray matter concentrations in the left inferior temporal gyrus, right anterior insula, and right hippocampus compared to non-meditative controls [20,21]. Psychologically, BSM can reduce stress and positively reduce interpersonal problems and anxiety. In addition, this meditation causes a person to become more communicative and passionate in living work due to controlled emotions [11]. The intervention of BSM as part of mindfulness in reducing stress (up to chronic stress) is carried out with ABC [23]:

a. Awareness
   The first stage is consciousness as the primary foundation by systematically paying attention to all body parts. This stage is the basis for noticing when the mind wanders and understanding the habitual patterns of the mind.
b. Being the experience
   After building based on consciousness and recording, thoughts go back-to-back. The next step is to learn to adapt to difficult experiences with an attitude of acceptance.
c. Choice
   Choice has the meaning of making wise choices and is an essential aspect of mindfulness. At this stage, one can quickly learn to make wise choices about how to handle the experience.

As a solution, the Jiva application has a SMART strategy. This strategy is carried out so that the realization and application are right on target. Specifically, the Jiva application is software that identifies and reduces student burnout. Measurable application through a decrease in burnout, for example, from heavy to moderate. The deployment will be achievable with an application usage of about 720 - 2160 minutes. Realistic when done for 15 or 45 minutes 6 times per week. The deadline set is a minimum of 8 weeks.

In SWOT, the construction of the Jiva application has the advantages of being easy to use, practical, and cheap. The weakness of this application is that it depends on the number of people who realize that they are burnout. However, the opportunity for the Jiva

application is excellent because of the high number of burnout sufferers in students. The challenge faced is the abundance of alternative therapies to eliminate psychological problems, including medicaments.

4. CONCLUSION AND SUGGESTIONS

Thus, Jiva can be used as burnout early detection and mindfulness therapy for college students to prevent self-diagnosis in the quarter-life crisis era. The advice from this study is: (1) for students to be wise in managing stress and recognizing themselves, one of which is to detect burnout early through the Jiva application so that well-handled; (2) for the government, the author hopes that the government can support the development of applications and play a role in disseminating information; (3) for further research, so that the Jiva application can be tested on the general public.

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