

Innovations in Supporting Adolescents' Mental Well-Being at Schools in Thailand

Challenges and Opportunities

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Abstract: The mental well-being of individuals during adolescence is a crucial factor in the development into adulthood. Various digital applications have already been developed to support adolescents' well-being and to prevent and manage adolescents' mental health problems in daily life. Less information is available on how adolescents are working with these applications and how they see these tools as a part of daily life. In this paper we will introduce one example of adolescents using a digital support system. The support system was tailored to be used individually in the school environment of adolescents.

Keywords: adolescents; school life; online applications; usability

I. INTRODUCTION

The mental well-being of adolescents is a global concern. It has been estimated that 10-20% of adolescents have at least one mental or behavioural problem [1]. For example, in Australia, 14% of 14-17 year-olds were assessed as having mental disorders in the last 12 months, which is equivalent to 560,000 Australian children and adolescents. Major depressive disorders had a greater impact on functioning than other disorders: 43% of cases were categorised as severe and 35.8% assessed as moderate [2]. More than 1 million adolescents die around the world every year, and suicide is the leading cause of death for adolescent girls ages 15 to 19 [3].

Today, adolescents are living in an increasingly anxiety-ridden atmosphere. Being academically successful and finding a place in society is their priority. Social problems and peer pressure also significantly factor into the daily lives of adolescents. Adults often underestimate the level of stress that adolescents are under and may not be aware of the potential consequences of that stress on these young people [4]. Therefore, pressures among adolescents may be hidden and overlooked by the adults in their families and at their schools.

A Chinese study involving 1,519 adolescents in China showed that family functioning was significantly related to

adolescent psychological well-being (e.g. general well-being, satisfaction with life, self-esteem, sense of mastery, general psychiatric morbidity), problem behaviour (delinquent and substance abuse behaviour), and school adjustment (perceived academic performance, satisfaction with academic performance, and school conduct) [5]. Moreover, data collected from 20,222 undergraduate university students from 27 universities in 26 countries in Africa, Asia, the Caribbean and Latin America found that, in connection with family life, a lack of social support, stressful life events, irregular sleep, and infrequent meals are some of the factors associated with severe depressive symptoms [6].

The use of information technology (IT) has become an accessible method globally. Seeking health information online is common practice for the general population, including those with mental health disorders [7]. Various applications have been developed and used to enhance learning and empowerment by providing benefits in the areas of cognitive, social, and physical development [8]. For example, web-based interventions for people with depressive symptoms have shown promising effects. A number of previous studies have reported that computerised or web-based interventions can be effective in preventing or reducing depressive symptoms in adolescents and young adults [9, 10], although their effectiveness is quite similar to traditional face-to-face therapy [11]. Some evaluations have shown that adherence to and satisfaction with IT programs using cognitive behavioural therapy is good [12].

Studies have shown that working with internet-based programs has reduced depressed moods among adolescents [13, 14] and decreased symptoms of depression [15, 16]. It has also been observed that the more frequently an individual visits the IT program, the more depression symptoms decrease and well-being is enhanced [17]. The internet is an information [18] and

communication channel for adolescents [19] and an anonymous way to share experiences [20].

Challenges and opportunities of internet use has been discussed in papers. One concern related to this is internet addiction. For example, it was found with the Chinese Internet Addiction Scale (cut-off =63/64) that the prevalence of internet addiction in Hong Kong Chinese secondary school students was 16.0% (males: 17.6%; females: 14.0%, $n = 9,518$) [21]. Other challenges include the engagement of adolescents with digital applications. Reference [22] found variations in the use of text messages among adolescents by gender, age, and ethnicity. The most popular types of messages adolescents responded to included questions and quizzes. The first two months of the program in each year had the highest response frequency. [22]

Low attrition and adherence have been pointed out previously. According to reference [23] about 70% of adolescents using a self-directed depression program at school finished less than three modules and, according to reference [24], less than 10% of the adolescents logged in to the program. Other reasons against using IT include lacking access to a computer, difficulties using technology [25], technical problems, large amounts of reading materials, and the sense that the program and its appearance are more suitable for an age group other than the user [26]. Further, drop-out rates for web-based programs are considerable [27]. There is also the danger that adolescents are left to use the websites and programs with too little supervision [28]. In addition, nurses working in psychiatric out-patient clinics are concerned about an increased risk of suicide for some adolescents as well as security-related factors associated with their computer use [29].

As the Mental Health Action Plan for Europe and Mental Health Declaration for Europe [30] states, "We believe that the primary aim of mental health activity is to enhance people's well-being and functioning by focusing on their strengths and resources, reinforcing resilience and enhancing protective external factors." We have taken this approach into action and developed and tested DepisNet-Thai, an internet-based system aimed to support adolescents' well-being.

In this paper, we will describe how adolescents who used the DepisNet-Thai program in a school in Thailand described their daily concerns and problems with the system. We will also describe challenges and opportunities in using online support systems in a school environment. The paper is part of the larger study where internet-based support system for adolescents in three schools in Thailand were developed and tested in a quasi-experimental design with three study groups: one with a peer group support system, one with an individual support system, and one group with no specific support system offered to the adolescents. In this paper, we will describe examples of adolescents' individual use of the DepisNet-Thai support system in a group in which they used it individually.

II. METHODS

A. Design

In this study, a qualitative design with an explorative approach was used.

B. Settings

The larger study involving different groups was conducted in three urban public high schools in Thailand. The high schools are located in the Southern Province which has 1,394,915 inhabitants. In the province there are a total of 45 public high schools providing education to 18,571 children. In these three schools there were altogether 4,894 adolescents aged 15 to 18.

C. Population

The study population was made up of adolescents from 15 to 19 years old. At the age of 19, all children prepare to finish basic education in Thailand.

D. Recruitment

Schools and education systems vary in Thailand, depending on the geographic area. We aimed to recruit as similar schools as possible to participate in our study. Therefore, the recruitment of schools was carried out in a similar manner for each school, and was based on information (size, type, curricula) gathered from available public sources.

The principal at the school where the support system was used individually was contacted by telephone. A general idea of the study was introduced to him. If his first impression was positive, an information letter about the study and its aims were sent to the principal. After that, a meeting was organised in the school to offer more detailed information of the study (aim, funding, target group, instruments, voluntarism, informed consent, approval, anonymity, data storage, contact details). Based on information received during the meeting, the principal was given the opportunity to agree to participate in the study. The principal informed the school staff who were class teachers and guidance teachers about the practical arrangements of the study.

The school principal selected participating classes using a purposive sampling method. In each class, besides being between 15 and 19 years old, other inclusion criteria for the adolescents included the ability to read, write and speak Thai, voluntary participation, and the ability to give informed consent. Exclusion criteria were inadequate Thai skills, being under 15 or over 19 years old, and refusing to participate in the study.

An information session was organised to invite adolescents in the selected school classes (total sample) to participate in the study. All 60 adolescents received oral and written information about the study. They were informed that their participation was on a voluntary basis and confidential, and that they could withdraw from the study at any time without any consequences. The adolescents received written information to read, consent forms to sign and a parental information sheet to take home. Adolescents were also aware that they were part of a larger study in which one school class will use the internet-based support system in peer groups, one school will use the system individually (without contact with their peers), and one school will not use the internet-based system at all. At the time of the recruitment, the adolescents were aware in which group they were to be included.

E. Instruments

First, background information on the 56 adolescents was collected: age, gender, and information on regular school attendance (yes, no).

Second, usage of the internet-based system was explained by reviewing the content of adolescents' exercises and identifying areas of concerns raised by the adolescents.

F. Internet-based Adolescent support System

DepisNet-Thai is originally based on a Finnish internet-based system developed for adolescents with depression. The original version was modified into the Thai version based on an analysis of adolescents' needs and literature review about coping during adolescence [31]. Based on the literature, different sources of stressors were identified, which included a range of stress-related risks or conditions for adolescents. These are psychological stressors (e.g. eating disorders, suicidal ideation, depression), physical stressors (e.g. chronic illness, sports participation, sexual abuse); familial stressors (e.g. domestic violence); social stressors (e.g. romantic relationships or difficulties in settings such as school); and societal stressors (e.g. discrimination). These stressors formed the structure of the program developed and modified to be used in Thai schools and resulted in the DepisNet-Thai support system. The study protocol was reviewed (17/2016) by the ethics committee of the university.

The DepisNet-Thai support system was planned to take seven weeks: 1) orientation of the system (2 weeks), and using the support system in relation to specific topics (5 weeks). These five topics concerning stressors in adolescents' lives are as follows: psychological, physical, familial, social and societal stressors. Every week the adolescents focused on specific content. At the beginning of each week adolescents familiarised themselves with specific topics. They introduced themselves to the topic with a specific reading material and did some exercises related to each topic. These exercises aimed to support their self-reflection and provide management of their own situation.

In each task, adolescents were asked to focus on their own problems or concerns and to find information and answers to their questions from the reading material linked to the DepisNet-Thai website. Each week adolescents were supposed to receive feedback on their exercises from their tutors (trained teachers). There were a handbook in Thai language for the teachers.

III RESULTS

A. Participants

Out of the participants (n = 56), 80% were at least 16 years old (n = 45) and the mean age was 16 (Mean 15.86, SD 1.03). About half of the adolescents were females (54%, n = 30) and 98% had been regular in their school attendance.

B. Psychological stressors

Adolescents (n = 37) expressed different sources of psychological stressors and feelings in their current life situations. These stressors were related to, for example, school pressures, and problems with friends and families. The adolescents' own feelings were also a source of stress for them.

Adolescents described themselves "Table I" to have a lot of school and leisure time activities which had to be done within time limits, and their study credits and future studies also caused them stress. Problems with friends can occur when they are stressed and act unfriendly, which can lead to more stress. Adolescents also mentioned tense relationships and a lack of love between parents. Parents and their expectations were also a source of stress for the adolescents. Adolescents considered themselves to be some kind of failure and were ashamed of it.

"I have stress because there is a lot of work to do. I am afraid that I cannot catch up with my studies."

"My parents tell me to read books and do exercises. They make me very stressed. I come back from school late at night, so I cannot manage my time."

"When I have stress, I felt moody easily, then it might make people around me to feel terrible."

TABLE I. EXAMPLES OF PSYCHOLOGICAL STRESSORS AND FEELINGS AMONG ADOLESCENTS (N = 37)

Psychological stressors and feelings	Examples of psychological stressors and feelings
School pressures	A lot of activities and school work Worrying about studies and future career for university and work Keeping deadlines
Problems with friends	Arguments about school tasks Maintaining friendships in group work Socialisation with friends
Problems with families	A lack of love in families Pressures about a future career High expectations for success Having other priorities than families
Own feelings	Shame Being afraid to be punished Feeling tired Feeling pressure and stress

C. Physical well-being

Adolescents (n = 19) expressed different types of physical stressors in their current life situations "Table II". These stressors were related to alertness, pains, overloading emotions and physical appearance.

Adolescents described feelings when they had a low sense of alertness, and they also mentioned sources which made their alertness higher, such as duties, deadlines, studies or careers. They described specific pains and emotions which had a major effect on their physical well-being such as feelings of overwhelming stress or anxiety. Being overweight and having acne were mentioned to be physical shortcomings.

"I get up at 4 o'clock because I must get up at the same times as friends in a dormitory. I felt sleepy all day."

“Physical stress affects me so that I cannot understand lessons and cannot catch up with them. I solve it by sleeping, doing other activities, and asking friends about homework at school.”

TABLE II. EXAMPLES OF PHYSICAL WELL-BEING AMONG ADOLESCENTS

Physical well-being	Examples of physical well-being
Alertness	Being tired, sleepy Being bored A lot of activities and school work Worrying about studies and future career for university and work Keeping deadlines
Physical problems	Stomach pain Headache
Emotions	Being stressed Having anxiety
Appearance	Being overweight Shaming own looks

D. Family relationships

Adolescents (n = 16) described their family situation and its relation to their stress “Table III”.

Family was mentioned to be a source of stress to the adolescents. Adolescents felt that their family lacked trust in them to be able to choose their own friends and hobbies, and to manage their school independently. Adolescents were afraid to express their own opinions and were not confident that parents’ opinions were the correct ones. They thought that it is important to have supportive family members available when needed.

“If the stress comes from adults by forcing and being strict on children, they may decrease those actions.”

“Some things in a family cannot be talked about with outsiders. It may cause conflict among us.”

“Some teenagers know how to think even though they face violence in their families. They know how to manage time for study and activities. They do not mix work and privacy. However, some teenagers follow their friends. They do not want to go home because, when they go home and face other people in their families, they will feel frustrated.”

TABLE III. EXAMPLES OF FAMILY RELATIONSHIPS AMONG ADOLESCENTS

Family relationships	Examples of family relationships
Trust	A lack of trust Being bored A lot of activities and school work Worrying about studies and future career for university and work Keeping deadlines
Expression of own opinions	Having own opinions and decisions Who had the best opinions?
Sharing feelings	A lack of family members with whom to share feelings and opinions A lack of support
Physical abuse	Violence in family

E. Online friendships

Adolescents (n = 7) described their online friendships and how to protect themselves causing any harm. Their concerns about online friendships were related to trust, gossip, how to accept different people, and trying not to harm others “Table IV”.

Adolescents knew that it is a risk to accept someone they did not know as a friend. They described that they may be harmed by gossip or be invited to gossip about others. If being cyberbullied, they felt that it was best to not fight back.

“When we accept friends in social networks, we should accept the ones we know and trust. If we accept others, we will be harmed and gossiped about. It will affect us. We should not gossip about others because we will be gossiped about.”

“Do not let people dislike you or become your enemy.”

TABLE IV. EXAMPLES OF FRIENDSHIPS AMONG ADOLESCENTS

Friendships	Examples of online friendships
Online	A lack of trust Gossip Acceptance Harming others

F. Society – Feedback of the DepisNet-Thai

Adolescents (n = 12) gave their voice to the society by giving their feedback about the DepisNet-Thai system. Some examples of adolescents’ feedback are as follows:

“It is an almost complete program but topics should be improved.... Importantly, I know myself more now than before.”

“Website structure should be more interesting and faster. If we forget the password to log in with, we cannot edit anything at all. For example, my friend lost her password. Other benefits are that when we do a survey, it causes us to think of about ourselves. It can also be useful for us.”

“General content structure is easy to understand but the content should include more interesting media. You should make research interesting and colorful. A website should include more Thai. I get a benefit that it can apply to my real life because we are at an age when we face many problems involving stress. A school should invite a speaker to deliver a speech to students.”

“It is convenient to use a program by logging in. I could use it immediately... The colors of letters are clear. Column ordering and references can be studied more. The benefit is that I know the stress, behaviours of teenagers, advantages and disadvantages of the cyber world, and ways to solve problems.”

“It helps students to know themselves more. I know how I feel. The teenage years are very important. If we choose the wrong way, we can come back again. People of this age should take care of and interest in themselves. We need to know about the situations and people around us. We cannot only be interested in the cyber world. The feedback has caused me to move forward. I want a teacher to give more opinions to

students. I want to know that what we can change and how to solve problems to become correct. Other things are good.”

III DISCUSSION

In this paper, we described how those adolescents who used the DepisNet-Thai program independently in one school in Thailand have described their daily concerns and problems with this system. As reference [2] has expressed, schools play a major role in supporting young people with emotional and behavioural problems. Schools are often places where symptoms of mental disorders are first identified. Therefore, we totally agree that developing any types of systems for adolescents to support their mental well-being is crucial.

Adolescents described themselves to have a lot of school work and activities that had to be done within time limits. They were also concerned about their credits, future studies and career. This is in line with previous studies in which overly demanding academic expectations [32] and competition [33, 34] have been pointed out.

Parents and their expectations were also a source of stress for the adolescents. Families put pressure on the adolescents regarding their success at school and their eventual career. Adolescents even described a lack of support from their families and highlighted the issue of how important it is to have supportive family members available when needed. Many adolescents lack support at home, and their parents do not understand their worries [see 35].

Adolescents described feelings of stress, tiredness, sleepiness, and anxiety. Previously, higher stress levels have been found among those with ineffective coping [e.g. 36]. On the other hand, there were no worries communicated related to teenage pregnancies [37] or sexually transmitted infections [38], both of which have been identified to be major concerns in Thailand. However, like many other authors, we also found that adolescents' use of online or digital systems decreased as the program progressed [also 23, 24]. At the beginning of the project, we had 56 participating adolescents, but only 12 of them provided feedback on it.

There were a number of challenges and opportunities identified while using online support systems in a school environment. First, one challenge found in our study was knowing the adolescents' actual use of the internet-based system. Therefore, serious effort should be put on developing the content, structure and outlook of these applications for adolescents' use. If the aim of the system is not clear to the adolescents, they may use their time with more entertaining applications. Another point is the importance of having a tutor available who is able to support and encourage young people to express their sorrows and feelings. If support persons are not encouraging and ready to mentor young people in their daily problems, young people may not be willing to share their inner ideas with outside adults.

Second, despite different challenges, we can see many opportunities for using internet-based solutions with adolescents. They can be used as reliable sources of information for young people and teachers concerning mental health

information. This is due to adolescents seeking help for their symptoms for the first time. Reliable online sources of information can be places where anyone can find information without being stigmatised or being shamed. However, the reliable sources of information should be made known to avoid false and untrusted links and sites. Digital solutions could also be used for communication between experts and those young people who are reluctant to visit experts face to face. Not all are able or willing to share their honest opinions with a person they know. Technology can also be used to prompt important events that young people could easily forget about, such as a dentist appointment, homework, etc.

Further, adolescents can be encouraged to discuss with their own therapist about the thoughts raised during their reflection on the website. Such reflection tools are, for example, a mood diary and a question-answer column. IT-based self-reflection may improve understanding of adolescents' individual needs and make it possible to tailor support according to these needs. Adolescents can also use a mood diary as a self-reflection tool in which to record their thoughts, feelings and life situations.

In all cases, it is important to be aware of situations where technology can be used and those where it should not be used. Technology can never replace humans – but we may not need humans in every task in our daily activities. A good balance, the right uses and the right times for technology should therefore be identified in the lives of adolescents.

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