The Effectiveness of Motivational Interviewing Counseling to Improve Psychological Well-Being on Students with Online Game Addiction Tendency

Mayang T Afriwilda*, Mulawarman Mulawarman
Universitas Negeri Semarang, Indonesia
mayangtamara8@gmail.com

Abstract

Psychological well-being is a condition of a person who is not only free from pressure or mental problems but a mental condition that is considered healthy and functioning optimally. This study aims to determine the strength-based counseling intervention based on motivational interviewing to improve psychological well-being. This study uses an experiment with a pretest-posttest control group design. 32 eleventh-grade students in high schools in the city of Semarang involved as participants. Participants were selected using purposive sampling (low psychological well-being and online game tendency), then divided into a control group and an experimental group. The results showed that during the measurement period pre-test, post-test, and follow-up here was a significant difference ($t = -9.670, p > .05$) in the experimental group, while in the control group ($t = -7.936, p > .05$). It can be said that when viewed from the pre-test, post-test, and follow-up intervention the use of motivational interviewing to increase the level of psychological well-being is more significant than the intervention in the control group. As the result, there is a significant change in student's psychological well-being after counseling with motivational interviewing.

INTRODUCTION

The industrial revolution 4.0 is an era that combines automation technology with cyber that brings changes to the order of life (Puncreobutr, 2016; Rojko, 2017). One of them is turning games into a trend for teen recreational activities (King & Delfabbro, 2019). However, excessive involvement in games can lead to the risk of addiction (Muller et al., 2014). Game addiction is part of internet addiction being recognized as a mental health condition that impacts individual well-being (Psychlopaedia, 2016).

Based on data compiled from Newzoo, AppAnnie, Forbes, TechinAsia in 2017, Indonesia is ranked 16th in the world with 43.7 million gamers and 10-20 years old with a percentage of 36% (Saputra, 2018). In Indonesia, several studies state that online game addiction causes students to be unable to stop playing, fatigue, skipping school, lack of social interaction, hallucinations, decreased academic performance (Efendi, 2014; Kurniawan, 2017), speaking and behaving rudely, to crimes such as stealing parent’s money (Eskasasnanda, 2017).

Previous research has further linked internet activity such playing online games in particular and wider Internet use with a number of negative mental health problems such as poor psychological functioning and stress (Sampasa-Kanyinga & Lewis, 2015), low self-
According to Yusuf (2006), to fulfill the task of developing adolescents, they must be able to achieve emotional independence, be able to develop interpersonal communication, learn to get along with peers, have social responsibility, and be able to control themselves. Psychological well-being is a condition of a person who is not only free from stress or mental problems, but a mental condition that is considered healthy and functioning optimally. Psychological well-being is used to describe the fulfillment of positive psychological functioning criteria (Effendy, 2016; Ryff & Keyes, 1995). Specifically, Ryff & Keyes (1995) divides psychological well-being into six main dimensions, namely, the extent to which individuals have the quality of positive relationships with others, the individual's ability to accept himself, have a life purpose, be able to grow personally, be able to control the environment effectively and become an independent person (autonomy).

Psychological well-being is very important for students because it has a significant effect on development (Hidayah et al., 2016) and it an indicator of low mental health and being not motivated in the academic process (Okoli & Okoli, 2018). Because psychological well-being is considered a challenge, effort, personal development and striving to grow (Özen, 2005; Waterman, 1992). Kim (2017) stated that the psychological well-being of adolescents should be understood as a function of individual and contextual characteristics.

The results of the research by Misero & Hawadi (2012) found that adolescents who have good psychological well-being are able to feel pleasure, are able to avoid stress, are effective in solving problems, and are committed to academic achievement. Another study from Megawati & Herdiyanto (2016) found that psychological well-being is positively related to prosocial behavior. This means that good psychological well-being will also be accompanied by high prosocial behavior. These findings indicate that good psychological well-being in adolescents appears from optimal functioning in all aspects of psychological development, namely positive feelings and emotions about oneself, being able to solve problems, and also the existence of social connection.

Based on the research conducted by Twenge & Campbell (2018) who examined the relationship between screen time and lower psychological well-being among children and adolescents. However, this study has several limitations, the survey items combined TV and electronic games into one question, which allowed only an analysis of total screen time and not any differentiation between legacy media (TV) and digital media (electronic games, Internet, social media, etc.). Second, the survey assessed only weekday screen time, and screen time may be higher on weekends. Current research is based on the recommendation that are screening and interventions are needed to help promote low psychological well-being caused by digital media. Therefore, to improve psychological well-being requires interventions that focus on self-motivation to achieve a commitment to change (Griffiths et al., 2012; Xu et al., 2011).

One approach to the strength-based paradigm and focus to build motivation is motivational interviewing. Motivational interviewing counseling emphasizes the development of strengths by identifying one's own strengths (Jones-Smith, 2013). The results of previous research show that strength-based counseling is effective for increasing resilience (Suranata et al., 2017). Likewise, strength-based cognitive therapy is also effective in increasing student resilience (Fadhillah et al., 2017; Padesky & Mooney, 2012). One other studies have also shown motivational interviewing counseling can support self-empowerment, and believe that everyone has the ability to solve problems and achieve goals (Manthey et al., 2011). Although using a strength based paradigm, previous research has not used a specific specific strategy besides that research on the efficacy of motivational interviewing is still very limited in the school environment.
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Research Iarussi et al., (2013) explained that counselors need to master motivational interviewing (MI) to develop counseling skills as a professional in the field of counseling. In the implementation of this research was carried out individually, because based on the results of the meta-analysis, the motivational interviewing intervention in the form of an individual has a stronger effect and the results can last in the long term (Jiang et al., 2017; Smedslund et al., 2011). According to the previous explanation and corrects some of the limitations of the above studies, researchers attempted to examine the effectiveness motivational interviewing counseling to improve students' psychological well-being who have tendency to game online addiction.

Rationale of the Current Study

This study is different from previous studies. in this study specifically to improve the psychological well-being of students by examining the effectiveness of individual counseling with a motivational interviewing approach. The use of motivational interviewing counseling carried out with individual services provides the right means of solving problems that are being experienced by students, because in this counseling is more intensive and more personal (Saputra, 2016). So that in this case students are able to further prove and open their minds in identifying and responding to their problems in order to achieve the expected goals without feeling uncomfortable with the environment that is being felt at the moment (Tutiona et al., 2016).

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The research of Manthey et al. (2011) explains that both motivational interviewing and other strength-based practices support personal empowerment and hold the belief that individuals already possess the skills necessary to solve problems and achieve goals. Strength-based practice and motivational interviewing do not expect one to be the expert who is responsible for how an individual change. Conversely, it allows a person to become skilled in facilitating a process of exploring and reinforcing the counselee's goals, values and strengths.

Hypotheses

1. Individual motivational interviewing counseling is effective in improving psychological well-being students with a tendency to online game addiction

2. There is an interaction effect on the effectiveness of motivational interviewing counseling to improve psychological well-being in students with a tendency to online game addiction

METHODS

Research Design

This research is quantitative in nature, and uses an experimental design. The experimental design used was a pre-test and multiple post-test designs involving two groups,
namely the experimental group and the control group. Counseling activities are carried out face to face.

Participants
The participants in this study were students of eleventh grade class from several high schools in Semarang, which consisted of 32 students who were divided into two groups (each group consists of 16 students). The participants were selected using purposive sampling technique based on low psychological well-being (x < 147) and high game online addiction (x > 77). After the subjects were collected, they were collected into two groups, the experimental group and the control group randomly. Participants in the experimental group received treatment in the form of individual counseling with motivational interviewing, while the control group received individual counseling without a specific approach (treatment as usual).

Instruments
The instrument used to measure the level of psychological well-being is adapted from the Psychological Well-being (PWB) scale made by Ryff (1989) and Game Online Addiction made by Lemmens et al. (2009). PWB scale consists of six interrelated elements, namely autonomy, environmental control, personal growth, positive relationships with others, goals in life, and self-acceptance. The psychological well-being scale used in this study is a medium form of 42 items with 3 items for each aspect (Ryff, 2014). This instrument has a Cronbach Alpha score of .908.

Then, Game Online Addiction instrument (Lemmens et al., 2009), this instrument is structured based on seven aspects, namely salience, tolerance, mood modification, withdrawal, relapse, conflict, problems. This online game addict behavior scale consists of 21 questions. The reliability of the scale is indicated by Cronbach’s alpha .94. There are no unfavorable items in this instrument.

Procedures
There are several steps taken. First, the researcher gave a pretest to determine the psychological well-being of students before the intervention. Second, providing 3 sessions of motivational interviewing counseling interventions with 2×45 minutes allotment for each session. Third, the provision of a post-test to see changes in the psychological well-being of the subject. Fourth, the researchers followed the activity after a two-week post-test.

Data Analysis
Before testing the hypothesis, the normality test is carried out. The data analysis used was ANOVA repeated measures and paired sample t-test to see changes in pre-test, post-test, and follow-up.

RESULTS AND DISCUSSION
Results
Based on the data in Table 1, the participants in this study had an age range between 14-17 years with the number of participants based on gender were 21 male students and 11 female students. The division of groups was done randomly.

Based on the data in Table 2, the results of the tests carried out prove that it has a data description with an average level and a standard deviation. The psychological well-being in the experimental group experienced a drastic increase where the mean from pretest (M = 141.75; SD = 9.18) to posttest (M = 182.93; SD = 15.57) and to follow-up (M = 202.50; SD = 20.07), differed. compared pretest (M = 134.75; SD = 12.94) to posttest (M = 160.06; SD = 17.57) and to follow-up (M = 170.31; SD = 18.06) in the control group.
Based on the data in Table 3, the present study showed that there is a significant main effect of time on psychological well-being (F (2,32 = 155.760, p<.01). The interaction effect of time and group also significantly affect the level of psychological well-being (F (2,16) =, p<.05). However, there is no significant effect of time on psychologically well being in control group.

Based on the data in Table 4, motivational interviewing intervention given to the experimental group in the T1 vs T2 period showed a significant difference (t = -9.234, p > .05) while the control group also experienced a significant difference (t = -5795, p > .05). In other words, the MI intervention had a more significant effect on increasing the level of Psychological Well-being at the T1 vs T2 measurement period than the control group intervention.

Furthermore, during the measurement period T2 VS T3 showed that there was a significant difference (t = -6.332, p > .05) to the results of measuring the level of psychological well-being in the experimental group, while the TAU group also experienced an increase (t = 3,617, p > .05). In other words, the T2 vs T3 intervention MI intervention had a more significant effect on increasing the level of Psychological Well-being at the T1 vs T2 measurement period than the control group intervention.

In addition, during the measurement period T1 vs T3 showed that there was a significant difference (t = -9.670, p > .05) in the experimental group, while in the control

Table 1. Participants demographical information

<table>
<thead>
<tr>
<th>Variables</th>
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<td>Age (years old)</td>
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</tr>
<tr>
<td>14</td>
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<tr>
<td>15</td>
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<td>16</td>
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<td>15.7</td>
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<tr>
<td>Gender</td>
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<tr>
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<td>21</td>
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<tr>
<td>Female</td>
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Table 2. Descriptive data of psychological well-being

<table>
<thead>
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<th>Control</th>
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<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>Pre-Test (T1)</td>
<td>16</td>
<td>141.75</td>
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<tr>
<td>Post-Test (T2)</td>
<td>16</td>
<td>182.93</td>
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<tr>
<td>Follow up (T3)</td>
<td>16</td>
<td>202.50</td>
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Table 3. Comparison Result Between and Within Group

<table>
<thead>
<tr>
<th>Time of Assesment</th>
<th>Range</th>
<th>Experiment</th>
<th>Control</th>
<th>t</th>
<th>F (2,16)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>T1 (Pre-test)</td>
<td>0-6</td>
<td>141.75</td>
<td>9.1833</td>
<td>134.75</td>
<td>12.948</td>
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<tr>
<td>T2 (Post-test)</td>
<td>0-6</td>
<td>182.93</td>
<td>15.579</td>
<td>160.062</td>
<td>17.578</td>
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<tr>
<td>T3 (Follow up)</td>
<td>0-6</td>
<td>202.50</td>
<td>20.073</td>
<td>170.312</td>
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<tr>
<td>F (1,16)</td>
<td></td>
<td>130.760</td>
<td></td>
<td>25.110</td>
<td></td>
</tr>
<tr>
<td>F (2,32)</td>
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<td>155.760</td>
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</table>

Table 4. Comparison result between the assessment on experiment and control group

<table>
<thead>
<tr>
<th>Comparison</th>
<th>t</th>
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<tr>
<td></td>
<td>EXPERIMENT</td>
</tr>
<tr>
<td>T1 vs. T2</td>
<td>-9.234</td>
</tr>
<tr>
<td>T2 vs. T3</td>
<td>-6.322</td>
</tr>
<tr>
<td>T1 vs. T3</td>
<td>-9.670</td>
</tr>
</tbody>
</table>

*T1 = pre-test, T2=post-test, T3= follow-up
group \((t = -7.936, p > .05)\). It can be said that when viewed from the T1 vs T3 intervention the use of MI to increase the level of Psychological Well-being was more significant than the intervention in the control group.

**Discussion**

So that, hypotheses 1 of the results showed that motivational interviewing counseling could effectively improve students' psychological well-being than the control group. The results of this study reinforce other relevant research which states that motivational interviewing based on expressed principles such as empathy, support for the effectiveness of the counselee's personality, accepting counselee resistance etc. can have interventions with each other (Miller & Sanchez, 1994; Rollnick & Miller, 1995). Research studies show that motivational interviewing is directive counseling (with an evidence-based approach) that helps counselees to change their behavior through uncertainty detection and resolution. In other words, the main purpose of motivational interviewing is to treat and handle doubts and ambivalence in the counselee. The counselor also uses such an approach to determine changes in counselee behavior (Imanparvar, 2016).

The results of the research found that motivational interviewing is proven to be effective in improving psychological well-being. Thus, the results found are consistent with other findings which reinforce the fact that motivational interviewing can improve psychological well-being in students with learning difficulties. Psychological well-being refers to a feeling of well-being that includes complete awareness and integrity in all personal aspects. Psychological well-being includes assigning personal cognitive values to life; that is, individuals assign a value to their conditions depending on their expectations and previous experiences (Imanparvar, 2016).

Then, hypotheses 2 of the results describe that there are interaction effects between motivational interviewing group and control group. The results of this study are in line with research (Simmons et al., 2016) which states that this approach requires attention to the existing strengths of a person, family, group, or organization, and utilizes and builds these strengths to help recovery, empower counselees, and build resilience. A focus on strengths offers another avenue to help reduce unwarranted or excessive anxiety, anxiety, and demoralization. Exploring and using strengths can increase immunity to stressors by building habits and protective, pragmatic actions. A focus on strengths will help to transform and reassess challenges, and potentially provide us with a stable dose of well-being to establish positive coping mechanisms (Baker et al., 2017; Rashid & McGrath, 2020).

Motivational interviewing counseling interventions are able to provide a positive identification effect on low self-esteem and self-control, where before being given the intervention these conditions greatly hamper daily life. However, from the motivational interviewing counseling, students can better understand their internal thoughts, expand their perspective of thinking to be more positive, resolve their ambivalents, try to determine what actions they take, and try to be able to apply them to themselves when they feel difficult situations that are not according to his expectations at that time (Singh, 2019).

**Limitations and Suggestion**

The results of this study still have limitations, the study did not measure and analyze the level of tendency of online game addiction in research subjects after being given motivational interviewing (post-treatment) counseling, but only focused on efforts to improve psychological well-being. Second, with regard to the research design used, the method of determining the group of research subjects by randomization does not really guarantee that it will create an equal composition of the two groups. Third, in this study, a follow-up plan to determine how changes in the effect after giving the motivational interviewing counseling
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treatment was carried out only with a span of 2 weeks after the last post-test. Future research could analyze the level of well-being of students by gender, or test the efficacy of MI in a group setting and address the limitations of this study.

Implications
The results of this study provide evidence that the effect of motivational interviewing counseling can have an effective effect on increasing psychological well-being in students and can be used as a conceptual and practice reference in the development of future counseling.

CONCLUSIONS
The findings of this study prove that there is an effect of motivational interviewing counseling approach intervention on students' psychological well-being. Thus, counselors can use motivational interviewing counseling to intervene with students.

AUTHOR CONTRIBUTIONS STATEMENT
MTA has prepared research designs, collected data at the study site and analyzed the data. MW has provided guidance, instructions, criticisms, and advice in the preparation of research designs and supervision during the research process.

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