Journal of Evidence-Based Psychotherapies,
Vol. 19, No. 1, March 2019, 91-113.

EFFECTIVENESS OF ACCEPTANCE AND COMMITMENT THERAPY TO ENHANCE STUDENTS' WELLNESS

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Abstract

Wellness is believed to be a precondition for students' success in university. Therefore, many higher education institutions are committed to enhancing student wellness through psychoeducation and counselling program. The present study aimed to test the efficacy of Acceptance and Commitment Therapy (ACT) in enhancing the level of wellness among first-year university students. An experimental study was conducted over six months by implementing a pre-post control group design to measure the benefits of ACT for first-year university students. Exactly 58 students voluntarily participated in serial group counselling, with participants distributed equally between the experimental and control groups. The Five Factor Wellness Inventory, the Acceptance and Action Questionnaire and Client Satisfaction Questionnaire were used as measurement tools. Six core ACT processes were applied over 10 treatment sessions. Comparison of the statistical results for pre- and post-test showed that the wellness score of experimental group was higher than control groups ($F=1325.559$; $p<0.005$). This study asserts that ACT is a feasible and practical way to enhance students' wellness.

***Keywords*:** Acceptance and Commitment Therapy, wellness, first-year college student

1. Introduction

University life has a dual impact on new students. On one hand, freshmen may find adapting to and coping with the university environment difficult because of its different system, culture, and social network (Choate & Smith, 2003). For example, students must adapt to a flexible class schedule and new expectations

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from lecturers (Clark, 2005; Smith & Wertlieb, 2005), as well as adjusting to new academic and social roles (Verger et al., 2009). On the other hand, university life may present opportunities that benefit students. For example, Arnett (2014) suggested college students gain more freedom and autonomy to explore their personal, social, and sexual identity.

Both challenges and opportunities may give rise to problems relating to students' psychological instability, feelings of being "in the middle" (between adulthood and teenage years), and the exploration of identity relating to love, work, and worldview (Arnett, 2000). These challenges, opportunities, and developmental tasks increase students' risk for mental health problems (American College Health Association, 2018). Therefore, the success of first-year students may be jeopardyzed by psychological issues that affect their academic performance, such as lower grades for exams or courses, incomplete or dropped courses, and disruption experienced when completing a practicum or thesis (Al-Tabaa, 2016; American College Health Association, 2018). In addition to affecting academic performance, psychological issues may threaten students' social adjustment, life satisfaction, and wellness (Al-Tabaa, 2016; Daugherty & Lane, 1999; Ross, Niebling, & Heckert, 1999).

Wellness makes vital contributions to determining the success of new students in adjusting to university life. In particular, wellness is believed to have a protective function in terms of being a predictor of personal capacity and students' success (Ballentine, 2010; Horton & Snyder, 2009). According to Myers, Sweeney, and Witmer (2000) wellness is "a way of life oriented toward optimal health and well-being, in which body, mind, and spirit are integrated by the individual to live life more fully within the human and natural community. Ideally, it is the optimum state of health and well-being that each individual is capable of achieving". Wellness integrates multiple domains of health including physical, psychological, social and spiritual.

The indivisible self model of wellness is a new model in counselling practices, which offers some advantages to the field. This model developed based on Adlerian life tasks: spirituality, self-direction, work and leisure, friendship, and love. This model emerged based on a revision of the wellness wheel model, through structural equation modelling involving 5,380 persons (Hattie, Myers, & Sweeney, 2004). The model uses a strengths-based approach focused on the characteristics of healthy people and their choice-oriented behaviors (Myers & Sweeney, 2004; Myers & Sweeney, 2008). The indivisible self model of wellness assumes that the self is central and indivisible. In this model, wellness is placed at the center and labelled the first-order factor. Second-order factors consist of five aspects of the self: creative self, coping self, social self, essential self, and physical self (Myers & Sweeney, 2004). These five factors construct the whole self or indivisible-self. Each of the second order factors comprises subfactors or third-order factors. These third-order factors consist of 17 components that contribute to the wellness of each aspect of the self and total wellness.

Myers and Sweeney (2005) stated that the purpose of the indivisible self model of wellness is to identify factors which are contributed to healthy living and human functioning. The indivisibility of self has signified the whole (wellness) rather than the factors and the interaction between the whole and its factors (Ansbacher, 1967). The indivisible self model of wellness consists of three-order factors. The first is the higher-order factor is called wellness which consists of the sum of all items and is a measure of one's overall well-being. The second-order factor consists of five selves, the creative self, coping self, social self, essential self and physical self. These five selves were seen as the factors embracing the self, or the indivisible self (Myers & Sweeney, 2004).

The "creative self" is "the combination of attributes that each of us forms to make a unique place among others in our social interactions" (Myers, 2009). There are five factors in the creative self: thinking, emotions, control, positive humor, and work. The "coping self" is encompassed the factors that regulate human responses to life events and provide a resource against negative effects. There are four factors within this self: realistic beliefs, stress management, self-worth, and leisure. The "social self" includes two factors: friendship and love. The "essential self" is composed of four factors: spirituality, self-care, gender identity, and cultural identity. The "physical self" consists of two factors: exercise and nutrition. Although the physical self is slightly ignored in well-being discussion, the evidence supported the importance of physical factor in holistic wellbeing (Myers et al., 2000).

Besides five selves, the model incorporated the contextual variables which assumes that environmental and contextual factors are important in understanding human behavior (Myers & Sweeney, 2004). There are four contexts are presented: local, institutional, global, and chronometrical. "Local contexts" are the contexts in which individuals live most often –families, neighborhoods, and communities. "Institutional contexts" are including education, religion, government, business and industry, and the media. These contexts affect human lives direct and indirectly. "Global contexts" are including politics, culture, global events, and environmental. The final context is "chronometrical" which reflects the recognition that people change over time (Myers et al., 2000). Each of contextual factor influences individual, vice versa.

Several studies have shown that wellness is significantly associated with mental health, including higher life satisfaction (Danitz & Orsillo, 2014) and lower stress and depression (Muto, Hayes, & Jeffcoat, 2011). In addition, higher wellness and psychological wellbeing is related to educational successes, including educational aspiration, course attendance, amount of time for study, and higher Grade Point Average (Adesina, 2013; Choate & Smith, 2003; Chow, 2010; Tanigoshi, Kontos, & Remley, 2008; Young, Turnage–Butterbaugh, Degges–White, & Mossing, 2015).

Given these important considerations, wellness promotion and preventive services targeted to students are necessary. Wellness promotion is considered an initial strategy to help first-year students adjust to university life. Conley, Durlak,

and Dickson (2013) noted that such services can smooth the transition between high school and university.

LaFountaine, Neisen, and Parsons (2006); Myers (1992); and Sarı (2003) suggested wellness promotion is an effective strategy to prevent psychological problems and improve students' capacity to cope with university life. In addition, Sax (1997) noted that wellness promotion is an effective way to educate new students on a healthy lifestyle in college. Preventive and promotional services provide an opportunity for students to improve their psychological strength (Seligman, 2002), and facilitate positive growth and development (Goss, Cuddihy, & Michaud-Tomson, 2010; Myers & Sweeney, 2008).

Currently, counselling practices largely adopt a wellness perspective as part of the curriculum and standards for counselling education (Yager & Tovar-Blank, 2007), marking a shift from treatment and curative approach to a preventive and strength-based approach. Therefore, wellness promotion is an alternative strategy for empowering students to develop their capacity to cope with life challenges. Myers and Sweeney (2008) suggested that wellness promotion facilitates human functioning in mind, body, and spirit, which is known as indivisibility or holism.

Promotion of wellness may be facilitated by various strategies, including counselling and psychoeducation. Conley, Durlak, and Kirsch (2015) found that a cognitive behavioral therapy (CBT) approach was a promising and effective approach for mental health promotion and prevention. CBT enables students to develop rational ways of thinking, emotional regulation, and healthy lifestyles (Battles, 2016). As a "third generation," CBT modality, acceptance and commitment therapy (ACT) is an alternative approach to enhancing wellness. ACT encourages students to develop flexible thought patterns, self-awareness, and value-based behavior to enhance their wellness. ACT employs six core processes to facilitate changes: acceptance, cognitive defusion, being present, self as context, values and committed action. The processes are overlapping, interrelated and flexible in practice. The first process is "acceptance". From an ACT perspective, acceptance means making room to unpleasant feelings, sensations, emotions and urges (Harris, 2009). Acceptance is also being presently minded with an active state of awareness of private events (thoughts, feelings, bodily sensations), without attempting to change it (Battles, 2016; Hayes, 2016; Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hayes & Twohig, 2008).

The second is "cognitive defusion". It is the process to alter the undesirable functions of thoughts and other private events by taking a step back and acknowledging at language without letting language influence behavior (Battles, 2016; Hayes, 2016). The third is "being present". This process involves ongoing non-judgmental contact with psychological and environmental events. Being present mostly facilitated by mindfulness-based exercises which allowing oneself to be in the moment with focus, willingness, flexibility and consistent with their values (Hayes, Levin, Plumb-Vilardaga, Villatte, & Pistorello, 2013).

The fourth is "self as contexts". According to Hayes and Twohig (2008), there are three types of self within ACT: the conceptualized self, the self as a process, and the observing self, or self as context. The "conceptualized self" is the self that is constituted of a person's self-evaluations and categorizations. The "self as a process" involves a continuous awareness of present experiences in a nonjudgmental way which involves noticing each experience as it is. The "observing self" or "self as contexts" is the self that adequately giving space with private events. The conceptualized self, the self as a process, and the self as context are the process of changes in person's sense of self. The sense of self influence individual's wellness especially in subfactors of self-worth, realistic belief, gender and cultural identity. The fifth is values, which are chosen qualities of purposive action and used as a compass of life. Lastly is committed action. It is an effective action guided by values which facilitates a wide range of thoughts and feelings, both pleasant and unpleasant (Harris, 2009).

Several studies have shown that ACT is effective for increasing wellness. Danitz and Orsillo (2014) showed ACT improved the psychological wellness of first-year students. Muto et al. (2011) found that ACT improved the psychological health of Japanese international students. Other studies revealed that ACT significantly improved coping and psychological adjustment (Cook & Hayes, 2010), and fostered emotional and cognitive regulation (Masuda, Hayes, et al., 2009).

ACT has also emerged as a promising approach for Asian populations. Yu and Son (2016) reported ACT significantly improved self-control among college students in Korea. In addition, Muto et al. (2011) revealed that ACT was effective for Japanese students. Kusumawardhani (2012) and Mubina (2016) enriched ACT practices in Asian populations. Their studies demonstrated that ACT was suited to enhancing wellness and psychological wellbeing as well as reducing experiential avoidance in Indonesian populations.

Studies on student wellness to date largely discuss the application of therapeutic approaches in clinical populations. A number of studies showed that ACT was effective in improving the wellness of depressive, anxious, and stressed college students (Danitz & Orsillo, 2014; Forman, Shaw, et al., 2012). Another study found ACT was efficacious in improving the psychological health of college students with eating disorders (Masuda, Price, Anderson, & Wendell, 2010). Furthermore, Kusumawardhani (2012) reported that ACT significantly improved the psychological wellbeing of young people after a relationship break-up.

Few studies have examined the efficacy of ACT in enhancing wellness in non-clinical populations. Räsänen, Lappalainen, Muotka, Tolvanen, and Lappalainen (2016) described how online guided ACT significantly improved the psychological wellbeing of college students. However, that was the only published study on the efficacy of ACT in improving psychological wellbeing in a non-clinical population. Therefore, the expansion of research in this area is needed to enrich the evidence for the efficacy of ACT.

The six core processes of ACT are aimed to foster psychological flexibility. Psychological flexibility is defined as “the ability to fully contact the present moment and the thoughts and feelings it contains without needless defense, and depending on what the situation affords, persisting in or changing behavior in the pursuit of goals and values" (Hayes, Pistorello, & Levin, 2012). Psychological flexibility is the ability to accept private events and continue moving forward in a valued base direction (Wolgast, 2014).

Psychological flexibility is related to lower psychopathology (Fischer, Smout, & Delfabbro, 2016), emotion regulation (Biron & Van Veldhoven, 2012) and predictor to psychological health (Masuda, Price, Anderson, Schmertz, & Calamaras, 2009). In several studies, psychological flexibility is considered as moderator to the outcome of ACT (Kashdan & Kane, 2011; Palm & Follette, 2011; Probst, Baumeister, McCracken, & Lin, 2019). In this study psychological flexibility is employed as a control variable for counselling outcome.

This study examined the preliminary effects of ACT in enhancing wellness among Indonesian students. The main objective of this study was to evaluate the effectiveness of ACT in enhancing wellness among first-year university students. The null hypothesis of this study was that the wellness of first-year students who received ACT was higher than waiting list group.

2. Methods

Sample

The sample of this study was 58 participants. Participants' inclusion in this experiment was based on several criteria, including 1) the first-year student in Faculty of Education located in the Rawamangun campus, 2) students whose wellness score below Asian Norm (69), 3) willing to participate in group counselling and sign an informed consent form. The pretest data was collected by visited every classroom and asked students to fill in the 5F-WELL and the AAQ II. In total, 515 students completed 5F-WELL. Only 331 scored below the cut-off of 69 (Asian Norm). The Asian norm is the statistical norm created by Mind Garden for 5F-WELL based on 278 Asian people. The norm was used to standardize the actual score with wider population. Initial recruitment was conducted by distributing an invitation letter through WhatsApp and short text message to 313 students. The invitation letter contains the information on the purpose, benefit, schedule, place of the study and confidentiality. From a total of 331 students, 82 (24.7%) students responded to the invitation and voluntarily agreed to join group counselling; while the other 249 (75.2%) students did not respond. 82 students who responded the invitation received verbal and written information on the purposes of the study, and its potential benefits and risks. Students were also assured of the confidentiality of all data. From 82 students only 58 student who willing to participate in the study and sign the informed consent. The consent form consisted of consent for information on confidentiality and an explanation of the proposed study.

After recruitment, participants were interviewed during a pre-counselling session to ensure their commitment and availability for counselling. Once they stated their commitment, they were randomly assigned to the experimental or control group. Fifty-eight students aged 18–19 years committed to participating in group counselling; 56 females and two males. There were 29 students in the experimental group and 29 in the control group. The sample was considered to have fulfilled the minimum criteria for experimental and causal-comparative research (Gall, Gall, & Borg, 2003; Heppner, Wampold, & Kivlighan, 2007).

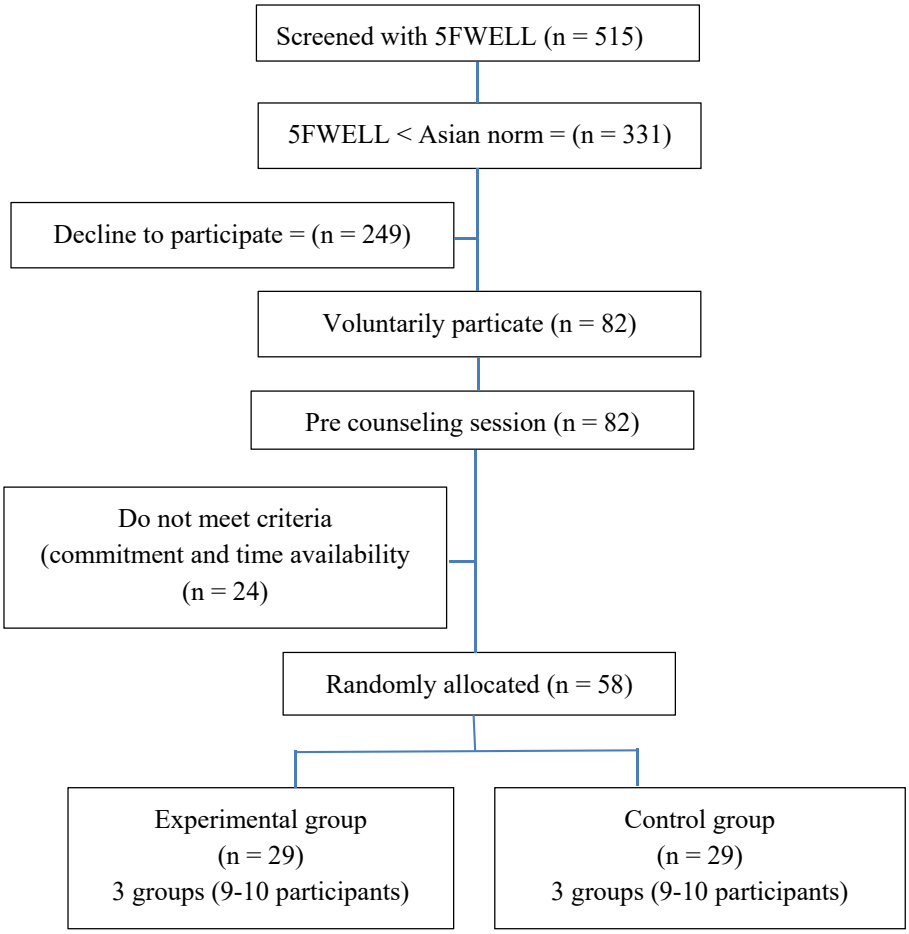

Figure 1. Participant screening and assignment flow.

Instruments

The measurement instruments were the Five Factor Wellness Inventory (5F-WEL) and Client Satisfaction Questionnaire (CSQ-8). The 5F-WEL is a self-reported measure which was administered to identify students' level of wellness

(Abrahams & Balkin, 2006). The 5F-WEL includes 73 items that reflect specific attitudinal and behavioral statements along with 18 additional experimental items, giving a total of 91 items. The additional items were including contextual variables and an item on life satisfaction. Although contextual variables and life satisfaction were not included in the treatment, those factors were influence the holism of wellness. Responses are on a 4-point Likert-type scale: strongly agree, agree, disagree and strongly disagree (Myers, Luecht, & Sweeney, 2004), with alpha coefficients for total wellness of 0.94 (Hattie et al., 2004). Several examples of items to measure creative self: "I can express both my good and bad feelings appropriately" and "I seek ways to stimulate my thinking and increase my learning". These items are used to measure emotion and thinking. The higher score means the higher capacity to manage the emotion and thinking.

In this study, the 5F-WEL was translated into the Indonesian language (*Bahasa*) using a back-translation approach (Hambleton, Merenda, & Spielberger, 2004). The translation was reviewed by the experts in psychometry, language and psychology. In this study, the alpha coefficient for total wellness was .971.

To measure psychological flexibility was used The Acceptance and Action Questionnaire-II (AAQ-II) (Ciarrochi & Bilich, 2007). AAQ II is the most widely used measure psychological flexibility. The original AAQ-2 item pool was developed by a panel of 12 ACT researchers and practitioners to reflect the general construct of psychological flexibility (Luoma, Drake, Kohlenberg, & Hayes, 2011). The items on the AAQ-2 are rated on a 7 point Likert-type scale from 1 (never true) to 7 (always true). Low scores on the AAQ-2 are reflective of greater psychological flexibility. Bond et al. (2011) reported that the mean alpha coefficient of AAQ II was .84 (.78 -.88), and the 3- and 12-month test-retest reliability is .81 and .79.

In addition to 5F-WELL and AAQ II, this study used the Counseling Satisfaction Questionnaire (CSQ-8) to assess participants' satisfaction on counselling. The purpose of CSQ-8 is to ensure the process of counselling was satisfied and benefited to participants. The CSQ-8 was developed by Larsen, Attkisson, Hargreaves, & Nguyen in 1979. It includes eight items scored on a 4-point Likert scale, with different descriptors for each response point (Kelly et al., 2018; Larsen, Attkisson, Hargreaves, & Nguyen, 1979). Matsubara et al. (2013) reported that the mean alpha coefficient of the CSQ-8 was .85. The CSQ-8 was translated into Bahasa by Ficky (2016), with alpha coefficient is .72.

Intervention protocol

This study used a pre-post-test control group design. A waiting list control group design was used to meet ethical standards. The study was conducted over six months - from participants screening to post-test. The treatment for experimental groups was conducted over a 2-month period. The pre-test and post-test were conducted in around two weeks before and after the treatment with paper and pencil based. The instrument used for pre and post-test was the 5F-WELL. The pre-test collected before pre counseling session and the post-test conducted a week

after the end of counseling session. The counselling sessions were held in 60 to 90-minute sessions. Treatment group is divided into three small groups consisted of 9 to 10 participants. The counselling session was led and facilitated by a counsellor and three co counsellors with a postgraduate qualification in guidance and counselling. Because the counselling session for treatment groups was finished two weeks before semester holiday, the treatment for waiting list control group was conducted after three months semester holiday.

The treatment protocol was developed based on six ACT core processes and adapted from ACT manual developed by Oliver, Morris, Johns, and Byrne (2011). The protocol was to enhance wellness and its second order factor which were reviewed by four experts in psychology and counselling. These six core processes were divided into 10 sessions. The first two sessions were focused on exploration on acceptance of wellness and each factor. These sessions facilitated students' development of their capacity to be active and aware of private events without unnecessary attempts to change the situation (Hayes et al., 2006; Hayes et al., 2012). Students need to openly accept private events regarding their wellness profile. They were encouraged to talk openly about their concerns to enhance all factors of self (coping self, creative self, social self, essential self, and physical self) to understand these concepts.

The third to fifth sessions were focused on cognitive diffusion, being present and self as context. "cognitive diffusion" was employed to encourage students to identify and separate thoughts and private events from the self (Hayes et al., 2006). Metaphors and experiential exercises were used to encourage cognitive diffusion. Students were encouraged to identify their private events and their impact on their emotions, physical sensations, and behaviors. Metaphors and experiential exercises that were used were chosen based on suitability for the Indonesian context, such as "*si kancil,*" "don't think about ice cream," and "hand as thought' (Stoddard & Afari, 2014). "Being present" was aimed to evaluate the attainment of the capacity to have non-judgmental contact with psychological events. The concept of being present means that students had to be aware of present moments without confusing them with future or past events (Hayes et al., 2006). Being present was facilitated with mindfulness exercises, such as "leaves on a stream," "mindfulness meditation," "mindful movement," and "self-compassion." The "self as context." This phase was achieved through experiential exercises and metaphors. These sessions were aimed to facilitate the improvement of coping self, creative self, social self, physical self, and essential self.

The sixth to ten sessions involved "value clarification" and "committed action". In value clarification, students were encouraged to identify their values across different life domains (e.g., academic, social, spiritual, and physical). In the "committed action," students planned their wellness improvement based on values. In these session students were facilitated to plan and implement their value-based action in the daily life.

3. Results

The participants of this study were 58 first-year students. The ratio between female and male was an imbalance; the female was outnumbered, male participant. The detail of the participant's characteristic was in table 1.

Table 1. Characteristic of Participants.

Characteristics	Number of participants
Age (years)	
18	31
19	27
Gender	
Female	56
Male	2
Total	58

To examine the effect of the intervention on the indivisible self model of wellness, analysis of covariance (ANCOVA) was conducted using baseline psychological flexibility scores as covariates for each post-test score. The ANCOVA employed to determine the differences in mean score between treatment and control group (Rutherford, 2011). Keselman et al. (1998) argued that ANCOVA in experimental studies minimize the error variance, resulting in increased statistical power and greater precision in the estimation of group effects. In this case, the psychological flexibility was used to control the treatment result.

The results indicated that ACT significantly affected wellness (F=1325.559; p<0.005). Participating students' total wellness was significantly improved after receiving the ACT intervention. Significant improvement was also seen in the second-order wellness factors: creative self (F=385.656; p<0.005); coping self (F=347.546; p<0.005); social self (F=317.291; p<0.005); essential self (F=665.231; p<0.005); and physical self (F=74.365; p<0.005). Contextual variables (F=355.765; p>0.005) and life satisfaction (F=56.647; p<0.005) also showed significant improvement after ACT (Table 1).

Table 2. Pre- and post-test wellness scores.

Indivisible Self of Wellness Factors	Control Group			Experimental Group			F
	Pre-test Mean (SD)	Post-test Mean SD	T test P value	Pre-test Mean SD	Post-test Mean SD	T test P value	
Total Wellness	45.72 (3.13)	48.45 5.78	3.04 .005	41.8 3	84.57 6.22	33.00 .000	1325.559
Creative Self	44.41 4.53	49.05 7.91	3.75 001	41.13 5.64	82.14 7.71	21.78 .000	385.656
Coping Self	55.49 4.55	56.3 5.96	-4.69 .000	51.22 4.39	80.76 6.51	17.95 .000	347.546

Indivisible Self of Wellness Factors	Control Group			Experimental Group			F
	Pre-test Mean (SD)	Post-test Mean SD	T test P value	Pre-test Mean SD	Post-test Mean SD	T test P value	
Social Self	35.66 6.33	38.9 12.92	1.48 .148	35.56 6.21	89.76 10.36	23.13 .000	317.291
Essential Self	38.36 4.12	41.1 8.24	2.03 .052	32.97 4.18	90.03 8.78	31.50 .000	665.231
Physical Self	52.5 7.52	54.56 10.52	1.33 .194	46.46 10.76	79.82 10.91	10.11 .000	74.365
Contextual Variables	43.85 6.02	46.44 7.63	1.80 .081	40.89 4.81	87.01 7.08	23.19 .000	355.765
Life Satisfaction	48.27 18.81	51.72 18.81	-.94 .355	36.20 15.79	87.93 18.44	10.13 .000	56.647

The pre-test results showed that the means score of students' wellness both experimental and control groups were lower than the mean score of Asian population (M=45.72 (control group) and 41.8 (experimental group) vs. M=69). The Asian population means score were developed by Mind Garden (Myers & Sweeney, 2005). After treatment, there was a considerable increase in the wellness score of those in the experimental group (M=41.8 vs. M=84.57), whereas no such increase was seen in the control group (M=45.72 vs M=48.45). Table 1 presents the differences in wellness total and second-order factor scores between pre- and post-test in the experimental and control groups. In the control group, the mean pre- and post-test total scores were M=45.72 and M=48.45, respectively. In the experimental group, the mean pre- and post-test total scores were M=41.8 and M=84.57, respectively. There were also differences in the mean scores of the control and experimental groups in the wellness factors. The mean essential-self score showed a considerable increase in the experimental group (from 32.97 to 90.03), followed by social-self (from 35.56 to 89.75); however, coping-self had the smallest increase (from 51.22 to 80.76).

Table 3. Wellness scores of the control and experimental groups.

Indivisible Self Model of Wellness Factors	Indivisible Self Model of Wellness Sub Factors	Control Group		Experimental group	
		Pretest Mean SD	Posttest Mean SD	Pretest Mean SD	Posttest Mean SD
Creative Self	Thinking	45.51 8.48	50.68 11.07	40.34 9.44	83.96 9.85
	Emotion	41.81 7.48	46.12 11.74	39.87 11.86	81.68 13.03
	Control	46.26 9.07	49.13 10.28	41.95 8.17	75 7.042
	Work	43.44 7.57	46.89 10.38	37.93 7.26	84.13 7.91
	Positive humor	45.47 9.86	52.58 12.55	46.76 11.64	83.18 14.47

Indivisible Self Model of Wellness Factors	Indivisible Self Model of Wellness Sub Factors	Control Group		Experimental group	
		Pretest Mean SD	Posttest Mean SD	Pretest Mean SD	Posttest Mean SD
Coping Self	Leisure	50 8.1	51 10.89	43.67 7.84	81.17 10.83
	Stress management	45.47 9.58	53.44 11.64	42.45 12.08	82.75 10.65
	Self-worth	40.51 9.09	43.1 11.24	30.81 6	91.81 10.7
	Realistic belief	82.06 10.04	75.51 11.36	83.62 10.84	69.82 7.61
Social self	Friendship	38.14 7.53	40.73 13.42	37.06 8.17	90.08 9.95
	Love	33.18 7.3	37.06 13.66	34.05 9.08	89.43 13.78
Essential self	Spirituality	35.86 7.91	37.06 10.13	30.86 7.07	92.06 10.04
	Gender identity	38.14 7.71	37.06 10.94	32.97 7.63	92.88 9.4
	Cultural identity	46.26 8.5	46.83 11.44	35.34 9.61	85.91 13.38
	Self-care	35.77 8.33	45.9 21.66	33.83 9.37	87.71 12.44
Physical self	Nutrition	53.79 10.74	56.89 14.23	45.34 13.62	77.75 10.4
	Exercise	51.2 10.49	52.24 13.79	47.58 12.65	81.89 16.44
Contextual variables	Local context	52.41 9.96	50.51 9.48	48.62 10.51	87.58 11.06
	Institutional context	36.42 7.29	40.3 10.64	32.11 5.71	90.51 8.61
	Global Context	45.11 10.33	48.56 14.27	41.09 9.69	83.04 12.29
	Chronometrical context	39.65 9.34	45.9 10.6	39.87 9.05	85.77 10.94

Table 2 shows the differences between the sub-factors of the indivisible self model of wellness. Spirituality had the greatest increase in wellness score, from 30.86 to 92.06. This was followed by self-worth (from 30.81 to 91.81), and institutional context (from 32.11 to 90.51). The smallest improvements were in nutrition (from 45.43 to 77.75) and control (from 41.95 to 75).

Counselling satisfaction (as measured by the CSQ-8) indicated that most participants were satisfied with the counselling (M=28.18, 88.07%). It can be concluded that group counselling based on ACT offered benefits and had meaningful results for participating students.

4. Discussions

Entering higher education requires a psychological capacity to cope with the demands and challenges of university life. Wellness is a key aspect of first-year students' psychological capacity to adapt to transitional tasks. Therefore, this study aimed to examine the efficacy of ACT in enhancing wellness. The analysis of descriptive data showed differences between participants in the experimental and control groups. Participants in this study had a lower mean total wellness score compared with the mean for the Asian norm, as established by Mind Garden (Myers & Sweeney, 2005). This was also evident in the second-order wellness factors, where participants' mean scores were mostly below Asian norms, except for social-self and essential-self. This contradictory result was also found by Ballentine (2010) in his research involving colleges in the southeastern region of the US.

Similar results also appeared for the third-order factors of wellness. Scores for most third-order factors were below Asian norms. The greatest differences from Asian norms in the third-order factors were for self-care, love, self-worth, friendship, spirituality, gender identity, emotion, work, and institutional context. There was also some contradiction between our results and Asian norms for friendship, love, spirituality, self-care, and self-worth (Myers & Sweeney, 2014). However, the lower scores for the love and spirituality factors were consistent with characteristics of first-year students as shown in previous studies (LaFountaine, Neisen, & Larsen, 2007; Wahyuni, Nurihsan, & Yusuf, 2018).

As emerging adults, first-year students commonly explore their identity, including their spiritual identity. With the development of their capacity for abstract reasoning, students may question their values, including spirituality, gender, and spiritual identity. They are also likely to develop initial resolutions on themselves in terms of love and social networking (Arnett, 2006). In this process, students may face uncertainty in their identity, which may affect their wellness (Arnett, 2006).

The present study showed that the total wellness scores of participants in the experimental group significantly improved after the ACT intervention. This suggests that ACT was effective in enhancing student wellness. The efficacy of ACT in enhancing wellness and wellbeing has been reported in many previous studies (Danitz & Orsillo, 2014; Kusumawardhani, 2012).

Improvement in students' wellness scores after ACT may lead to improvement of their mental and psychological health (Smith, Robinson, & Young, 2007), positive motivation, and success in education and relationships (Levin, Pistorello, Seeley, & Hayes, 2014; Muto et al., 2011). Results showing improvement in positive motivation and success in education and relationships have similarities with the second-order wellness factors of coping-self, creative-self, and social self. Therefore, the results of our study are consistent with previous studies.

Although previous studies showed ACT was effective in enhancing wellness, most previous studies focused on students with psychological problems or clinical populations. ACT was effective in enhancing wellness of students with psychological stress (Versluis, Verkuil, Spinhoven, van der Ploeg, & Brosschot, 2016; Woidneck, Pratt, Gundy, Nelson, & Twohig, 2012), dating break-up (Kusumawardhani, 2012), anxiety and depression (Danitz & Orsillo, 2014; Forman, Chapman, et al., 2012; Smith, 2017), emotional eating (Hill, Masuda, Melcher, Morgan, & Twohig, 2015; Juarascio et al., 2013), stigma and prejudice (Masuda, Hayes, et al., 2009), smoking cessation (Gifford et al., 2011; Singh, Starkey, & Sargisson, 2017), and academic procrastination (Scent & Boes, 2014; Wang et al., 2017).

On the contrary, this study focused on non-clinical population which highlighted the enhancement of psychological strength – wellness. Non clinical population slightly disregarded because they were seen as "no problems population". The population also the larger population within the university. However, they still need facilitation to enhance their psychological capacity. The six core processes of ACT facilitates enhancement of wellness. In non-clinical population, wellness would facilitate to have better capacity in adapting to academic, social and developmental tasks. Furthermore, higher score of wellness represents the capacity to cope with hardships, to have social support, physically and spiritually healthy. Therefore, they can life more fully and mentally healthy (Myers & Sweeney, 2004).

The present study enriches the evidence from previous studies on the application of ACT for a non-clinical university-based population in the Indonesian context. The results of this study also contribute to providing evidence for mental health prevention and promotion (e.g., wellness promotion), and other psychological strengths.

Application of ACT in Indonesia is still limited. ACT interventions were implemented to support coping with mental health problems, such as dating break-up (Kusumawardhani, 2012), violent behavior (Sulistiowati, Keliat, & Wardani, 2014), anxiety (Sari & Wiryo Nuryono), and sensory perception disorder (Irawan, 2016). However, only two published studies reported on the improvement of positive qualities; namely, self-acceptance of convicted criminals (Sukasti, 2017) and quality of life among patients with cancer (Suhardin, Kusnanto, & Krisnana, 2016).

Several factors contributed to the significant results for wellness enhancement. The first was students' willingness and commitment to participate in the ACT sessions. This is likely to have made a considerable contribution to the improvement of total wellness and associated factors. Students' willingness indicated their autonomy to take action, which is an important factor in the success of counselling (Michalak, Klappheck, & Kosfelder, 2004; Ryan, Lynch, Vansteenkiste, & Deci, 2011). The commitment to contribute to group counselling is recognized as a predictor of counselling results (Kessler et al., 2009). In the trans-theoretical theory

paradigm, when students commit to participating in counselling, they prepare and are ready to take action and make an effort to modify their thinking and behavior (Prochaska & DiClemente, 1992; Prochaska et al., 2012). Students' willingness to participate enabled them to be more open to challenging themselves and developing realistic solutions (Bieling, McCabe, & Antony, 2006).

The second factor that contributed to the counselling results was social support. Social support is recognized as a significant contributor to successful group counselling. Participants receive support from other participants and progress at the same pace regarding their efforts to develop their wellness (Corey, 2012; Prochaska & DiClemente, 1992). Therefore, each participant could challenge themselves to enhance all factors of the indivisible self model of wellness.

In this study, ACT techniques made a considerable contribution to enhancing wellness. Students were encouraged to face their worries and challenges, self-worth, realistic beliefs, emotion, and stress through experiential exercises and metaphors. Metaphors are used in counselling and are considered a useful technique to improve attitudes (Sopory & Dillard, 2002), possibility to take action, and solve problems (Bränström, Duncan, & Moskowitz, 2011). Participating students could change their thinking and perspectives about themselves and their private events, and develop the courage to act to improve their wellness. Moreover, the enhancement of the indivisible self model of wellness was also facilitated by mindfulness. Mindfulness is considered a useful technique to regulate emotion (Farb et al., 2010), improve positive thinking (Bränström et al., 2011) and capacity for attention, manage negative thinking, and develop the capacity to be in the present (Lutz, Slagter, Dunne, & Davidson, 2008; Ramel, Goldin, Carmona, & McQuaid, 2004). In general, metaphors and mindfulness are adequate to promote sub-factors of the indivisible self model of wellness. Mindfulness is also a predictor of autonomous action and emotional wellbeing (Brown & Ryan, 2003).

This study had some limitations. First, in this present study, we focused primarily on the effectiveness of ACT in enhancing the wellness of the first-year student in one faculty. The accessible population of this study was relatively small. Future investigation should include a broader age range (e.g., sophomore, junior and senior years) and larger number of population. Second, the experimental design was to evaluate a mode of ACT treatment. It would be better if the future research could compare more than one counseling approach or modes of delivery (online vs face to face; individual vs group counseling) and different characteristic of samples. Third, the study was conducted during the second semester which interrupted by fasting month. As a consequence, the semester holiday was 3 weeks faster and longer than usual. This time period was insufficient to conduct treatment for the control group consecutively. Fourth, no follow-up effect was examined. Subsequent research could track long-term effects to explore specific treatment mechanisms.

5. Conclusions

This study concludes that an ACT intervention among first-year university students shows promising results. The findings demonstrate that ACT is a feasible method to enhance first-year students' total wellness as well as the indivisible self model of wellness. The effectiveness of ACT implemented within larger Indonesian populations and different modes of delivery need to be further investigated.

Acknowledgements

We are thankful to the Faculty of Education Universitas Negeri Jakarta Indonesia who participated in this study. We thank Audrey Holmes, MA, from Edanz Group (www.edanzediting.com/ac) for editing a draft of this manuscript.

Conflict of interests

I hereby declare that there are no potential conflicts of interest associated with this publication, and that any financial support has been noted in the Acknowledgment section.

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