

The Effectiveness of Acceptance and Commitment Therapy (ACT) in Improving Mental Health of Adolescents

Ke Zheng^{1,a,*}

¹The Faculty of Social Science, The Chinese University of Hong Kong, Sha Tin, Hong Kong, 999077, China

a. zhengke07242002@yahoo.com

**corresponding author*

Abstract: This essay investigated the effectiveness of Acceptance and Commitment Therapy (ACT) in improving the general mental health of adolescents. Regarding the serious situation of Asian adolescents' mental health condition, two experiments conducted in East Asian countries were analyzed to determine the efficiency and feasibility of a school-based ACT intervention to prevent mental health illness and promote psychological flexibility of the students. The results of both studies indicated a significant improvement in the psychological flexibility of the participants in the ACT group, while the experiment conducted in China also illustrated the improvement of student's psychological capital and school engagement. Both studies had a crucial contribution to the application of ACT intervention to adolescents in East Asian culture and encouraged future studies regarding the same topic. The procedure and limitations in both studies have shown the potential of school-based ACT intervention, and also given profound guidance to the future implication of ACT intervention in adolescents.

Keywords: Acceptance and Commitment Therapy, ACT, Adolescent, mental health, psychological flexibility.

1. Introduction

The mental health of adolescents has drawn the attention of the public. It is a critical aspect of the overall well-being of the youth and has a profound impact on their future. During adolescence, individuals undergo significant changes in their hormones and physical body, while also facing new environments and responsibilities. This critical period is full of challenges and difficulties that may become the risk factors for mental illness. Mental health issues among adolescents are especially prevalent in Asian countries, with a ratio of 10-20% [1]. Academic pressure in East Asia can have a big effect on adolescents' health and well-being, including depression, anxiety, behavioral problems, and even youth suicide [2], other scholars also suggested that East Asian adolescents' mental health is closely related to academic performance [3]. A study indicated an increase in secondary school students in China who exhibit depressive symptoms as their age increases [4]. Therefore, the requirement for mental illness prevention and mental health intervention is urgent. Addressing mental health in adolescents can promote their strengths to cope with stress, prevent long-term adverse outcomes, and lay the foundation for developing essential skills to reach a fulfilling life in adulthood.

Therefore, it is important to cultivate good mental health in adolescents that can assist them in coping with stress and difficulties.

Acceptance and Commitment Therapy (ACT) has the potential to improve this status quo due to its unique and effective approach to addressing psychological issues in adolescents. It is a mindfulness-based cognitive therapy centered on increasing psychological flexibility, encouraging the clients to use more effective strategies to cope with unpleasant experiences and move towards a way of life that is more consistent with values [5]. ACT was also proven to improve the general psychological performance of adolescents and can well-adapt to the developmental characteristics of the adolescents biologically, psychologically, and socially [5]. For example, the use of creative metaphors and age-appropriate language may assist the adolescents to better understand therapeutic ideation intrinsically and eventually promote their psychological flexibility and resilience to cope with daily stressors.

The structural procedure of ACT can be also designed as a universal school-based intervention approach, which not only targets mental disabilities but also intends to further develop the generally speaking psychological well-being state of teenagers. Therefore, two studies were chosen to evaluate the effectiveness of a school-based ACT group intervention on adolescents.

2. Japanese Study

2.1. Introduction and Methodology of the Japanese Study

The first study regarding the effectiveness of ACT on adolescents was conducted in Japan in 2020 (this study will be referred to “Japanese study” in the following essay) [6]. Their experiment was designed to examine the effects of a low-dose, school-based, universal ACT intervention on adolescents’ psychosocial adjustment.

The students who participated were 270 9th-grade students from four different junior high schools in Japan. There were 67 (Mage=14.06 years, male =32) students in the ACT group and 203 (Mage =14.09 years, male=94) students in the waiting-list control (WLC) group. The group allocation was assigned according to the decision of the participants’ homeroom teachers, instead of randomly assigned. There were originally 299 participants, but 27 of them have withdrawn from the study, and 2 of the data were missing.

Both the ACT group and WLC group received pre-intervention measurement one week before the intervention, and the post-intervention measurement three weeks after the intervention. The students in the ACT group receive six bi-weekly ACT group intervention sessions, each lasting 50 minutes, for a total session duration of 5 hours. Meanwhile, the students in the WLC group receive the usual education program about mathematics and politics.

Two questionnaires were involved in this study. Including the Value of Young Age Scale (VOYAGE) and the Strengths and Difficulties Questionnaire (SDQ). The VOYAGE measures two domains: the clarification of value and commitment (CVC) and continuation of avoidance (CA). The researchers indicated that a high CVC score and a low CA score represent better psychological flexibility, which is one of the aims of ACT intervention. The SDQ measures the domain of Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, Peer Relationship Problems, and Prosocial Behavior. All the domains constitute the assessment of the emotional and behavioral problems of the students. The experimenter highlighted students with an SDQ score higher than 13 as the sub-clinical sample and analyzed their data specifically. In the experimental group, there were 22 sub-clinical participants in the act group and 48 in the WLC group.

2.2. The Result of the Japanese Study

The main results of the whole sample showed a significant decrease in CA from VOYAGE in the participants from the ACT group, with $\beta = 0.86$ (95% CI: 0.21 to 1.51), $p = .011$. The WLC group showed non-significance, with $\beta = -0.11$ (95% CI: -0.43 to 0.21), $p = .493$. Although the interaction effect was non-significant on CVC, it showed a significant time effect, with $\beta = 0.86$ (95% CI: 0.28 to 1.44), $p = .030$. A significant decrease was also shown in hyperactivity/inattention from SDQ in the ACT group, with $\beta = 0.92$ (95% CI: 0.50 to 1.33), $p < .001$. The WLC group showed non-significance, with $\beta = 0.22$ (95% CI: -0.01 to 0.45), $p = .057$. In the sub-clinical sample, a significant effect was shown in the decrease in CA in the ACT group, with $\beta = -2.60$ (95% CI: -4.20 to -1.00), $p = .002$, compared to the WLC group, with $\beta = -0.58$ (95% CI: -1.46 to 0.30), $p = .193$. There was no significant change found regarding students' difficulties in the SDQ scale, which may imply that students with severe mental health issues received less effectiveness from the ACT sessions. The researcher also did correlational data analysis, and the result showed that the changes in CA were significantly associated with total difficulties listed in SDQ, which may indicate the effectiveness of ACT intervention in improving students' emotional and behavioral difficulties. The correlational analysis also showed that hyperactivity/inattention was associated with both CV and CA.

3. Chinese Study

3.1. Introduction and Methodology of the Chinese Study

The second study was conducted in China (this study will be referred to “Chinese study” in the following essay) [7]. It aims to improve teenagers' psychological well-being in general. The participants were 35 (Mage=13.23 years, male=19) 7th-grade students from one junior high school in Hefei, China. The ACT group had 18 students, while the control group had 17 students. The group allocation was randomly assigned by drawing lots, different from the previous study from Japan. The most salient characteristic of the participants was that 81.8% of them were “left-behind” children, which means children under the age of 18 who stay at home while one or both of their parents move to other places for work and do not live together for at least six months. [7]. They are more likely to have mental health issues and difficulties adapting to school[7], thus urged to receive mental health intervention.

Both the ACT group and the control group received pre-intervention and post-intervention measurements. The participants in the ACT group received ten ACT sessions in 5 weeks, twice sessions per week. Each session lasted one hour; the sessions were 10 hours in total. The control group received ten sessions of the regular Chinese Ideological and Moral Character courses.

Three questionnaires were used in this study to assess various aspects of the effectiveness of ACT intervention. The Utrecht Work Engagement Scale-student (UWES-s) measures school engagement, with three domains: vigor, dedication, and absorption. The Positive Psychological Capital Questionnaire (PPQ) measures psychological capital using four domains: hope, resilience, optimism, and efficacy. The Acceptance and Action Questionnaire II (AAQ-II) measures the psychological flexibility of students.

3.2. Result of the Chinese Study

For psychological capital, the data analysis indicated a significant time $\times$ condition interaction: $F(1, 33) = 8.72$, $p = 0.006$. A significant difference was shown between the post-intervention measurement score of the ACT group: $F(1, 17) = 20.00$, $p < 0.001$, $d = 0.80$, and the control group: $F(1, 16) = 0.19$, $p = 0.67$. The school engagement also had a significant time $\times$ condition interaction: $F(1, 33) = 7.28$, $p = 0.01$. A significant difference was shown between the post-intervention measurement score of the

ACT group: $(1, 17) = 7.74, p = 0.01, d = 0.49$, and the control group condition: $F(1, 16) = 1.29, p = 0.27$. The psychological flexibility did not show significant time $\times$ condition interaction: $F(1, 33) = 0.53, p = 0.47$, in specific, the time effect was significant while the condition effect was not. However, through the paired t-test, the ACT group had a significant mean difference in AAQ-II scores before and after the treatment: Mean difference = 3.5, $p < 0.001, d = 0.56$, compared to the control group: Mean difference = 1.71, $p = 0.23$.

4. Discussion

Those two studies have illustrated the effectiveness of ACT on the mental health of adolescents from several aspects. Psychological flexibility as the primary goal of ACT intervention was measured in both studies. It is indispensable to adolescent development, as evidence has shown it is associated with the emotional regulation skill of the youth [8], and may protect adolescents from psychopathological conditions such as depression [9]. In the study from Japan, the high CVC and low CA represent better psychological flexibility, while the ACT sessions have a significant effect on both aspects [6]. The significant effect of ACT intervention on CA may greatly improve mental health. Avoidance is one of the six processes of psychological inflexibility, specifically, experiential avoidance (EA), meaning to avoid accepting aversive emotions [10]. For example, someone with high avoidance may decline to do work when facing challenges. There is empirical evidence suggesting that EA mediates the relation between stressful incidents and general psychological distress, it is especially associated with Generalized anxiety disorder (GAD), and can also mediate the self-regulatory strategies and psychological outcomes when coping with maladaptive [11]. It is an important factor that affects the psychological well-being of adolescents. After receiving ACT intervention, the lower CA may help the adolescents to adopt better coping strategies toward daily stress, challenges, and intensive academic workload. In the Chinese study, there was a significant mean difference in AAQ-II scores before and after the intervention. The non-significance in the interaction effect may be related to the limited sample size due to school schedule and regulation, potentially influencing the result. Combining both studies, we may argue that the ACT intervention is effective in improving adolescents' psychological flexibility, and it is beneficial in enhancing the mental health and well-being of adolescents.

The Japanese study also indicates the effectiveness of ACT intervention on hyperactivity/inattention. Regarding the mechanism behind this effectiveness, there were two approaches to explain it. First, the researcher inferred that the mindfulness technique in ACT intervention may be effective in reducing hyperactivity/inattention. Studies have confirmed the effectiveness of mindfulness-based therapy in improving ADHD symptoms [12], also that the structural group therapy of mindfulness can be an effective approach in treating children when ADHD [13]. Since mindfulness-related practice was also involved in this experiment, we may infer that the post-intervention difference in hyperactivity/inattention was related to the mindfulness-based nature of ACT intervention. The second explanation was regarding the value-work component of ACT intervention. The correlation analysis reveals the negative association between CVC and hyperactivity/inattention, which leads to the inference that CVC may play a crucial role in the improvement of hyperactivity/inattention. According to the ACT session schedule in this study, the first two sessions were aimed at clarifying the value of the participants and encouraging them to commit behaviors that follow their values. All the practices may potentially increase the CVC and further encourage the participants to make more value-centered decisions, eventually preventing the risk-taking hyperactive behavior.

The Chinese study also proved their hypothesis of the ACT intervention's effectiveness on psychological capital and school engagement. The definition of psychological capital given in the essay was: an individual's positive psychological state of development [7]. It can predict mental

health conditions and is related to personality development [7], which is crucial in the adolescence period. According to another study, psychological capital can buffer the impact of cumulative risk on anxiety/depressive symptoms in adolescents [14]. The psychological capital can also encourage school engagement, while it is associated with positive academic outcomes, including achievement and persistence in school [15]. All aspects reflected some improvement in the adolescents' functioning at school.

The two experiments also illustrated the limitations of selecting adolescents as participants which guided the future experiments. First is the general constraint due to school regulations and course schedules. The school-based group intervention in those two experiments designed the ACT sessions in the form of tutorials, which can be well-adapted to school regulations, but limitations still existed. In the Chinese study, all their participants were chosen from the 7th grade because the senior students have a heavier curriculum. However, the target of the ACT intervention should be the students with higher stress and heavier workloads. This status quo indicated an ironic contradiction, which is the population that urgently needs mental health interventions is not able to receive them. This suggests that more experiments should be conducted to illustrate the benefits of incorporating ACT interventions into the course schedule, such as increasing school engagement. Experiments with more participants of varying ages should be encouraged in the future to overcome the limitation in assessing the effectiveness of the ACT intervention across different age groups. Lastly, the intervention process may be contaminated due to communication between participants. Although such experiments usually apply a double-blinded procedure; we should take into consideration that the participants were adolescents and, therefore less likely to follow the instructions.

5. Conclusion

Overall, those two studies have numerous contributions to the application of ACT to adolescence. Since many of the studies regarding ACT were conducted in Western culture, those two studies provide us valuable insights into identifying the effectiveness of ACT in East Asian culture, as well as the adaption of ACT in treating Asian adolescents. Studies like those laid the foundation for designing a potential solution for adolescents' negative psychological outcomes due to the high-stress education system in East Asia. More experiments on this issue should be encouraged in the future, while also taking into consideration the limitations of selecting adolescents as participants.

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