

# Group Acceptance and Commitment Therapy to Reduce Psychological Distress Among College Students With Social Media Addiction

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## ABSTRACT

Social media use is growing rapidly in Indonesia, especially among college students. Excessive social media engagement is considered a form of internet addiction with unique adverse consequences. A common finding is that individuals use social media excessively to alleviate the negative emotions associated with difficult aspects of life, termed experiential avoidance behavior. Acceptance and Commitment Therapy (ACT) aims to increase psychological flexibility and reduce experiential avoidance through mindfulness of the present, acceptance of difficulties, and behavioral changes according to personal values. The current study examined the efficacy of group ACT to reduce psychological distress among college students with social media addiction. Five female undergraduate students reporting 7–13 h on social media daily participated in four ACT sessions. Participants completed the Hoskins Symptom Checklist-25 (HSCL-25) for anxiety and depression (psychological distress), Bergen Social Media Addiction Scale (BSMAS), and the Acceptance and Action Questionnaire-II (AAQ-II) before and after the intervention, and scores were compared by Wilcoxon sign rank test. All participants demonstrated significantly greater psychological flexibility after the ACT sessions as evidenced by lower AAQ-II scores ( $z = -2.032$ ;  $p = 0.04$  vs. pre-intervention) and four of five achieved lower HSCL-25 scores (group change:  $z = -1.841$ ;  $p = 0.06$ ). While mean social media addiction score was not significantly reduced immediately post-program ( $z = -1.342$ ,  $p = 0.1$ ), 4 of 5 participants also showed substantial reductions. Further, most participants demonstrated continued reductions in HSCL-25 and AAQ-II scores at follow-up. Post-intervention interviews revealed that all participants experienced reduced psychological distress and compulsion to use social media. Participants found ACT mindfulness and metaphor techniques particularly useful, while the group setting was considered advantageous as it allowed individuals to learn from other's experiences.

**Keywords:** *Acceptance and Commitment Therapy, College students, Psychological distress, Psychological flexibility, Social media addiction.*

## 1. INTRODUCTION

An estimated 47% of people worldwide had some form of internet access by the end of 2016 (McNicol & Thorsteinsson, 2017) and use of certain platforms such as social media has continued to grow rapidly in the past few

years. Internet usage can simplify many daily tasks and provides multiple forms of entertainment. Social media also provides a platform to socialize and access local information with ease. Facebook, Twitter, Instagram, and YouTube are among the

most popular social networking sites, and have been embraced enthusiastically by young adults, especially college students (Agrawal & Singh, 2018).

However, excessive social media use is considered a form of internet addiction (Griffiths, 2000) in which an individual compulsively views social media at the expense of other activities and obligations (Andreassen & Pallesen, 2014). The Graphic, Visualization & Usability Center, Georgia Institute of Technology, classifies heavy social media use as  $\geq 40$  hours/month or  $\geq 6$  hours/day (cited in Putri, 2018). Potential negative impacts of social media addiction include loss of behavioral control, poor academic performance, and health problems secondary to disturbed quality of sleep (McNicol & Thorsteinsson, 2017). Addiction to online social networks may even lead to severe mental health problems such as anxiety and depression (Agrawal & Singh, 2018). Sariroh et al. (2016, cited in Putri, 2018) concluded that social media addiction degrades academic performance, drains the energy needed to carry out important activities, and reduces direct person-to-person communication, leaving the individual susceptible to anxiety and mood disorders. Indeed, excessive social media use is positively associated with stress, anxiety, and depression (Eraslan-Capan, 2015). A qualitative study by Radovic, Gmelin, Stein, and Miller (2017) concluded that interpersonal conflicts on social media are a major source of psychological distress. Further, Kim, LaRose and Peng (2009) found that loneliness was a major driver of compulsive internet use and could lead to negative life outcomes. Consistent with studies in Western countries, studies in

China found that social media addiction was associated with depression and insomnia (Wang, 2018; Li, 2017 cited in Keles, McCrae, & Grealish, 2020).

One contributing factor to social media addiction is psychological distress, which is the ongoing experience of unhappiness, nervousness, irritability, and discomfort with interpersonal relationships (Chalfant, 1990, cited in Kawa & Shafi, 2015). This emotional suffering can manifest in symptoms of anxiety and depression (Mirowsky & Ross, 2003; Matthews, 2000). According to Matthews (2000), severe psychological distress markedly impedes performance in many spheres of life, including the academic performance of college students. Individuals who experienced anxiety and stress often have problems interacting in a healthy, positive, and meaningful way with others. Kraut et al (1998; cited in Kawa & Shafi, 2015) found that psychological distress can lead to excessive internet use and that conversely, excessive internet use can exacerbate psychological distress, resulting in a vicious circle of increasing usage and psychological dysfunction.

The key to mitigating avoidance behavior is psychological flexibility, a state in which individuals can accept unpleasant experiences and negative emotions without making judgments against self or others. Such individuals do not avoid or fight but instead try to assess the condition as a whole so that they can accept all forms of negative thoughts and feelings and still behave according to their own values or in a way that facilitates goal achievement (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Thus, psychologically flexible individuals will try to establish conscious contact with

unpleasant experiences rather than avoiding or controlling them. When individuals try to avoid or control, all energy is used to support these efforts and there is less focus on behaving in accordance with a life that is meaningful. Several studies have shown that Acceptance and Commitment Therapy (ACT) can increase psychological flexibility and reduce depression, social anxiety, and stress (Fledderus, Bohlmeijer, Fox, Schreurs, & Spinhoven, 2013).

In light of this notion that excessive internet/social media use represents avoidance behavior potentially treatable by enhancing psychological flexibility (Hayes, Luoma, Bond, Masuda, & Lillis, 2006), the authors examined if ACT is effective against this condition. As stated, the primary purpose of ACT is to reduce psychological distress by promoting

acceptance, mindfulness, and behavioral change. While all ACT programs aim to promote acceptance, cognitive defusion (creating distance between our negative thoughts and ourselves), living in the present and according to personal values, and committed action, Hayes and Smith (2006) proposed that ACT processes can be adjusted to address specific problems, such as to mitigate avoidance of unpleasant experiences and negative emotions contributing to excessive social media use. The purpose of implementing ACT in a group setting is to promote trust and mutual support. In addition, encouraging individuals to follow the group rules may increase openness to suggestions, further enhancing psychological flexibility.

## 2. METHODS

### 2.1. Participants

Participants were recruited by distributing online questionnaires on social media addiction to all undergraduate students of Universitas Indonesia, Depok, Indonesia. Researchers contacted candidates that expressed concern over their use of social media and screened participants meeting inclusion criteria via in-person interviews. Inclusion criteria were as follows: a) current undergraduate student, b) accessing social media for more than hours a day, c) excessive social media

access is disrupting daily life, and d) experiencing pressure or stress that triggers excessive use of social media. Finally, five female students were selected and all provided informed consent to participate in the four-session intervention program and associated psychometric testing. According to pre-intervention testing and interviews, participants spent 7 to 13 hours each day on social media. Participant profiles are summarized in Table 1.

### 2.2. Study Design

The intervention consisted of four weekly sessions, each two to three hours in duration. Prior to the first session, after the last session, and weeks later (follow-up), participants completed the Hopkins

Symptom Checklist-25 (HSCL-25), Bergen Social Media Addiction Scale (BSMAS), and Acceptance and Action Questionnaire-II (AAQ-II). In addition, qualitative data were collected by non-structured interviews

### **2.3. ACT Module**

The therapy module was adapted from the book ‘The mindfulness workbook for addiction’ by Rebecca E. Williams and Julie S. Kraft (2012) and translated into Bahasa Indonesian. In the original module, the complete intervention requires six sessions. In this study, it was reduced to four weekly sessions lasting 120 to 180 minutes.

#### *2.3.1. Session 1-Sharing and Explanation of ACT*

In the opening session, participants share their experiences with social media and distress concerning excessive use in order to establish trust among the group. Participants are then taught that excessive use of social media is a form of avoidance behavior, and that ACT can reduce psychological distress by promoting acceptance of negative emotions or events and a commitment to behave according to one’s values.

#### *2.3.2. Session 2- Choice Point and Values*

Participants learn to recognize their fusions and defusions that give rise to various negative emotions and understand the relationship between thoughts and emotions through a choice point selection. Participants learn to fill in the choice point sheet more comprehensively and determine the objectives to be achieved based on their values.

#### *2.3.3. Session 3- Mindfulness*

Participants learn to analyze thoughts objectively without judgment and realize the importance of being in the present moment. Mindfulness is developed to increase awareness of their distress so they will no longer respond automatically by

accessing social media.

#### *2.3.4. Session 4 – Acceptance and Committed Action*

Participants learn to understand the distress–addiction cycle so that they can withstand a variety of unpleasant experiences and the associated negative thoughts and emotions. Participants learning to identify, develop, and initiate action plans in various areas of life that can help prevent recurrence and maintain acquired skills. Relapse prevention training helps participants commit to values-based behavior so that they can overcome obstacles to prevent recurrence of distress and addiction.

### **2.4. Psychometric Measurements**

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#### *2.4.1. Hopkins Symptoms Checklist-25 (HSCL-25)*

The HSCL-25 was adapted from Parloff, Kelman, and Frank (1954) as a screening tool to detect individual’s psychological distress in the past week. The 25 items are divided into a 10-item subscale for anxiety and 15-item subscale for depression, with each item scored on a Likert scale from 1 (not at all) to 4 (extremely). The cut-off point of this instrument is 1.75.

#### *2.4.2. Bergen Social Media Addiction Scale (BSMAS)*

The 6-item BSMAS adapted from Andreassen, Torsheim, Brunborg, & Pallesen (2012) was used to measure the individual’s addictive use of social media. Items are rated on a 5-point scale ranging from 1 (very rarely) to 5 (very often). A high BSMAS score indicates a higher risk of social media addiction. Addiction is

indicated by a score of 19 or more out of 30.

**2.4.3. Acceptance and Action Questionnaire-II (AAQ-II)**

The Acceptance and Action Questionnaire-II (AAQ-II) adapted from Bond et al. (2011) was used to measure the individual's acceptance of past

experiences, various emotions in life, and whether one can live in accordance with their values. Items are rated on a 7-point scale ranging from 1 (never true) to 7 (always true). A score of more than 24 indicates high avoidance and immobility behavior (lack of psychological flexibility).

**3. RESULTS**

The demographic data and current addiction status of the five participants are presented in Table 1. All subjects spent more than 7 hours per day on social media sites such as WhatsApp, YouTube, Instagram, and Twitter. Prior to and following the ACT program, subjects completed the HSCL-25 to measure

psychological distress, the BSMAS to measure the severity of social media addiction, and the AAQ-II to measure psychological flexibility (acceptance of experiences and emotions rather than avoidance and the extent to which the individual is acting in accordance with their own values).

**Table 1.** Participants' Description

<b>Participant</b>	<b>Sex</b>	<b>Age</b>	<b>Social media usage</b>
YN	Female	19 years	YN acknowledged using social media 10–13 hours per day. This behavior began early in the semester, resulting in delayed work completion and poorer grades.
EN	Female	19 years	EN reported using social media 8–10 hours per day, which markedly reduced study time and delayed completion of assignments. In addition, EN also became wasteful because she began purchasing more necessities from an online shop.
AD	Female	21 years	AD reported using social media 7–10 hours per day, which disrupted her sleep patterns. AD also began neglecting basic needs, such as postponing dinner or not eating at all to finish watching YouTube.
MK	Female	20 years	MK reported using social media, especially WhatsApp, 7 to 10 hours per day. MK said that her busy schedule in campus organizations demanded continuous monitoring of social media. Sometimes MK feels disturbed that MK did not want to open WhatsApp and line and open other social media.

EJ	Female	18 years	EJ viewed social media platforms like Instagram, Twitter, and YouTube 7–10 h per day as a diversion from her loneliness. This resulted in her ignoring friends and responsibilities in favor of Smartphone use.
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\*Each participant is assigned a pseudonym

The psychometric test scores before the intervention (pre-test), immediately following the last ACT session (post-test), and at follow-up are summarized in Table

2, while the changes in scores from pre-test baseline and statistical analyses are summarized in Table 3.

**Table 2.** Psychometric test score results before and after Acceptance and Commitment Therapy

Participant	Pre-test			Post-test			Follow-up		
	HSCL-25	BSMAS	AAQ-II	HSCL-25	BSMAS	AAQ-II	HSCL-25	BSMAS	AAQ-II
YN	1.92	21	28	1.64	21	27	1.44	21	25
EN	3.08	23	43	3.04	20	38	1.92	17	23
AD	2.28	23	32	2.24	23	29	1.32	16	12
MK	1.52	27	29	1.52	27	25	1.28	19	24
EJ	2.40	23	32	1.88	21	27	1.80	19	16

HSCL-25: Hoskins Symptom Checklist-25, BSMAS: Bergen Social Media Addiction Scale, AAQ-II: Acceptance and Action Questionnaire-II

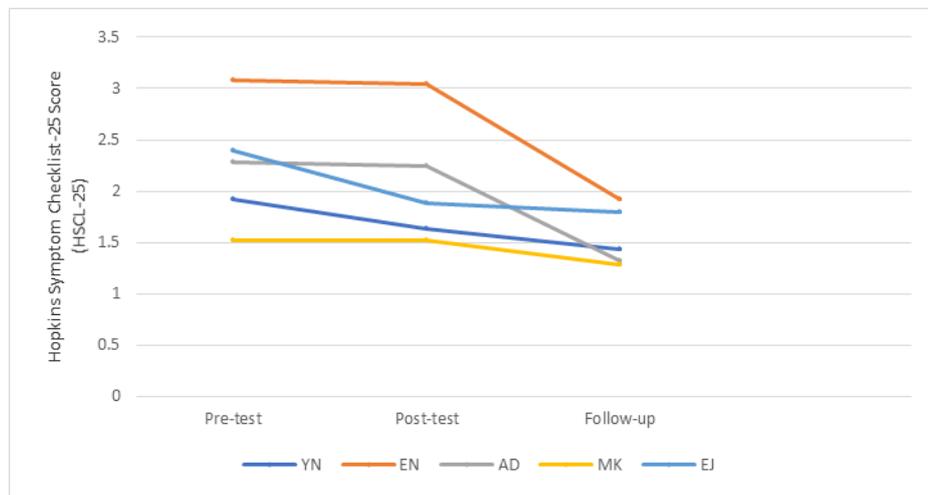
**Table 3.** Differences in psychometric scores following ACT compared to pre-intervention baseline

Test	Minimum	Maximum	Mean	Z	P (two-tailed)
HSCL-25 Pre-Intervention	1.52	3.08	2.2400	-1.841	0.066
HSCL-25 Post-Intervention	1.52	3.04	2.0640		
BSMAS Pre-Intervention	21	27	23.40	-1.342	0.180
BSMAS Post-Intervention	20	27	22.40		
AAQ-II Pre-Intervention	28	43	32.80	-2.032	0.042*
AAQ-II Post-Intervention	25	38	29.20		

Differences were tested using the Wilcoxon sign rank test.

As shown in Table 3, there were no significant group changes in either psychological distress (HSCL-25) score or social media addiction score (BSMAS) immediately following ACT compared to baseline. There was, however, a significant group-level increase in psychological

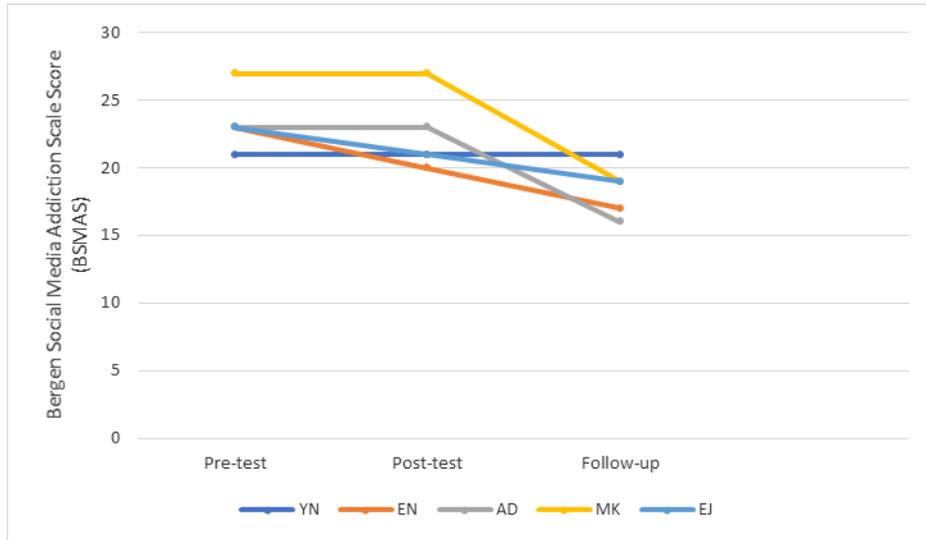
flexibility score (AAQ-II) post-intervention. Analysis of individual participants indicated that all five demonstrated reduced psychological distress at follow-up compared to baseline (Figure 1).



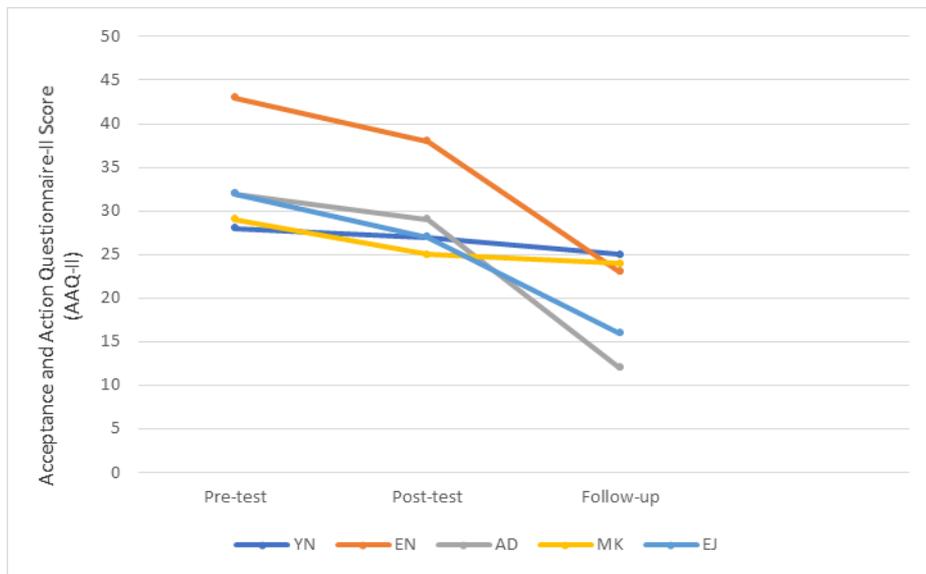
**Figure 1.** Individual changes in HSCL-25 scores after ACT (post-test, follow-up) compared to pre-intervention (pre-test).

Similarly, four of five exhibited reduced addiction severity (BSMAS score) at follow-up (Figures 2 and 3) and five of five showed reduced avoidance behavior (lower AAQ-II score indicating enhanced psychological flexibility). Only participant MK demonstrated no reduction in distress at program end, but did demonstrate a slight reduction at follow-up. Further, three participants (YN, AD, and MK) showed no change in addiction severity

immediately after the intervention, but all participants except one (YN) achieved reduced social media use at follow-up. Finally, three of five demonstrated robust decreases in avoidance (AAQ-II score) while the other two showed more modest reductions. Notably, the participants showing the largest increases in psychological flexibility (EN and AD) also showed the largest changes in psychological distress scores.



**Figure 2.** Individual changes in BSMAS scores following ACT (post-test, follow-up) compared to pre-intervention (pre-test).



**Figure 3.** Individual changes in AAQ-II scores after ACT (post-test, follow-up) compared to pre-intervention (pre-test).

In addition to these quantitative changes, we also found qualitative changes in psychological stress and behavior as summarized in Table 4.

**Table 4.** Qualitative changes post-intervention

Participant	Post-Intervention Changes
YN	Excessive use of social media decreased from 10 to 13 hours per day before ACT to 4 to 7 hours per day post-intervention. YN gained an understanding that her excessive social media use was due to academic stress, which caused symptoms of depression and anxiety. YN felt that the group setting provided her several advantages, such as gaining knowledge from others, developing new friendships, learning ways of coping with other participants, and providing mutual support to overcome the distress and excessive use of social media. The introduction of values was one of the exercises that helped YN set behavioral goals to lead a more meaningful life.

EN	EN discovered that academic stress was the major factor underlying her anxiety. One of the skills that had a significant impact on EN was the practice of choosing the opposite (responding in a way that was opposite to normal), which reduced her over-reactivity to negative emotions. In addition, identifying values and mindfulness exercises helped EN reduce distress and better control her use of social media.
AD	Interpersonal and academic stresses were the main causes of AD's psychological distress. The group setting helped AD understand that she was not alone in experiencing the negative experiences contributing to social media addiction. Breathing relaxation exercise helped reduce her anxiety, allowing her to better focus on academic tasks and daily activities and thus control social media use.
MK	MK learned that excessive use of social media is an experiential avoidance form of psychological distress. Group therapy provided new knowledge regarding psychological distress and therapeutic techniques. In addition, MK felt better able to share her experiences and distress with others even though the participants had just met. Breathing relaxation exercises allowed MK to reduce over-reaction to negative emotions.
EJ	EJ learned that the cycle of distress and addiction stems from loneliness and fear of being left behind. Using social media excessively made EJ feel very distant from the real world. Through mindfulness exercises, EJ became more aware of the 'here and now', thereby reducing distress and her compensatory over-use of social media.

#### **4. DISCUSSION**

Group ACT helped reduce psychological distress among university students with social media addiction (>7 h of daily use). The techniques and exercises learned during the ACT program helped participants reduce the experiential avoidance underlying this compulsive behavior. Specifically, by helping these individuals to accept negative experiences, create meaningful lives based on values, and commit to effective actions despite unpleasant experiences (Hayes & Smith, 2006), most of the group was able to gain some lasting control of their social media compulsion. Further, the group setting promoted openness, sharing of experiences, mutual support, trust, and friendship. Group members felt that they could share experiences with other group members without judgment, which is essential for ACT success in this setting.

Excessive use of social media can be explained as an emotional coping mechanism for personal, academic, and social difficulties (McNicol & Thorsteinsson, 2017). Three participants demonstrated reduced psychological distress as measured by the HSCL-25 at post-intervention and follow-up, while two showed no decrease immediately post-intervention but did demonstrate reductions at follow-up. This immediate lack of efficacy may stem from the particular time of the program, which took place during the final examination period and Ramadan (a fasting month observed by four of the participants). These conditions could have exacerbated their anxiety despite learning the program contents, resulting in no significant HSCL-25 change at the group level. Similarly, the group change in addiction score was not-significant, possibly for the same reasons.

Nonetheless, all participants showed some reduction in HSCL-25 score and all but one a reduction in BSMAS (addiction) score at follow-up. All participants also stated that examination week increased their distress, indicating that their psychological distress stemmed from a variety of factors. This is in accord studies showing that academic stress or academic burden is a major driver of individual psychological distress among college students (Abiola, Lawal, and Habib, 2015), and this distress may have been further compounded by poor study habits due to social media addiction. Unique intrapersonal factors and personality traits, such as neuroticism (Matthews, 2000), may also account for the variability in therapeutic efficacy. Indeed, we noted trait neuroticism in some of the participants based on attitudes, gestures, and communication styles during the sessions. Also, females are more vulnerable to psychological distress (Ventevogel, 2007) as well as social media addiction (Young, 2010).

The decrease in social media addiction score was accompanied by reductions in avoidance (increased psychological flexibility) and psychological distress. The post-intervention interview revealed that participants still felt that social media was a convenient outlet to deal with distress, but realized that addiction was a form of experiential avoidance, and so became more mindful of excessive use. When dealing with negative emotions, mindfulness can help the individual act in ways that promote a meaningful life (like reading or listening to music). These behavioral changes arose because participants became more psychologically flexible as evidenced by the reduction in

AQQ-II scores. However, the skills learned may take some time to internalize such that they can be applied in daily life. As use of social media is a habitual behavior, prolonged training may be required to regain control.

## 5. CONCLUSION

When individuals experience psychological distress, one way of coping is experiential avoidance, which can manifest as social media addiction. Acceptance and Commitment Therapy includes exercises that promote acceptance, mindfulness, and cognitive defusion (distancing), which allows the individual to gain control over social media use. Although changes in psychological distress and addiction scores were not significant at the group level, the majority of participants found ACT to be effective for reducing psychological distress and excessive social media use. The benefits of this therapy may increase with time as the exercises are applied in daily life. In fact, most participants showed further improvements at follow-up compared to immediately post-program.

This study has several limitations. First, the ACT module was developed for addiction in general and was not specifically tailored to the needs of social media addicts. Further study is required to develop targeted exercises for incorporation into ACT. Also, the sample size was small, limiting statistical power. Further, all participants were females within a narrow age range so it is unclear if these results apply to males and older or younger females. The absence of a control group also limits the statistical power. A variety of factors contributing to psychological distress and thus to internet

addiction were not considered in this study, such as problems with interpersonal relationships, poor self-control, low self-esteem, pre-existing psychological conditions, and risk-associated personality

traits. Nonetheless, this study suggests that ACT may be a useful psychological intervention to help wider populations reduce distress and social media addiction by increasing psychological flexibility.

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