

# Videoconferencing acceptance and commitment therapy program for academic procrastination in university students

## Introduction · Aim

Academic procrastination is a common maladaptive behavior among university students (Zarick & Stonebraker 2009). Acceptance and Commitment therapy (ACT) is an effective intervention for improving academic procrastination (Glick & Orsillo, 2015). Prior research has suggested that more research should be conducted to measure the effects of ACT on procrastination utilizing behavioral indicators (Imori et al, 2021). This study aims to examine the effects of an ACT program on procrastination utilizing both psychological and behavioral measures.

## Method

### Participants and method

Seven undergraduate and graduate students participated in three sessions of a videoconferencing ACT program. These sessions were conducted after a pre-interview and a two-week baseline period. The program content primarily drew from Chapters 1 to 4 of Polk et al.(2016/2021) and Tani (2016). (Figure 1)

### Measures

#### Behavioral scales/Psychological scales(Outcome/Process)

- 1) Daily self-recordings of tasks participants are prone to procrastinate on (task engagement time & to-do list)
- 2) Academic Procrastination Tendency Scale (APT: Fujita, 2005)
- 3) Scale of Awareness of Procrastination (AP: Kohama, 2010)
- 4) Multidimensional Perfectionism Cognition Inventory (MPCI: Kohori & Tanno, 2004)
- 5) Avoidance and Fusion Questionnaire for Youth, Japanese version (AFQ-Y8: Ishizu et al., 2014)
- 6) Value Questionnaire (VQ: Doi et al., 2017)

### Analysis

- The Tau-U test was utilized to analyze behavioral scales, specifically task engagement time (per session) & to-do achievement rate (number of completed to-dos/number of to-dos × 100).
- The Reliable Change Index (RCI) was utilized to analyze psychological scales.

## Result

The results indicated that the program statistically significantly improved procrastination behavior for one participant. Regarding psychological outcome scales, the AP and MPCI exhibited that four participants experienced a clinically significant reduction in their tendency to procrastinate as a result of the intervention.

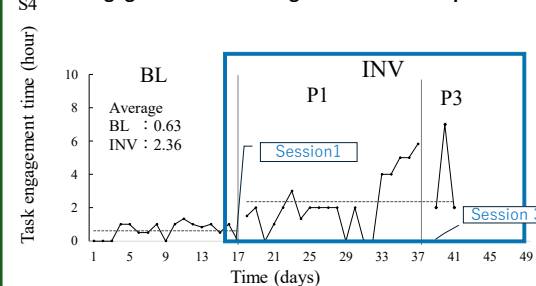
During the self-recording-only phase, VQ progress scores clinically increased for three participants. During the intervention phase, two participants exhibited clinically significant increases. Conversely, no clinically significant changes were observed in scores from the APT and AFQ-Y8 for any of the participants.

## Discussion

This program demonstrated clinically significant effects on procrastination for about half of the participants based on psychological scales. However, actual behavioral changes did not match the psychological improvements for as many participants. Process scales suggested that maintaining to-do lists and participating in the program fostered clarification of values and valued action. According to Gloster et al. (2017), "increasing valued activity is antecedent to reduction in suffering". Therefore, it is believed that this program may reduce the suffering associated with procrastination by encouraging valued activities but may not effectively address the cognitive fusion underlying procrastination, which may have limited the observed behavioral changes.

# Our short-term online ACT program improved psychological indicators of procrastination in several participants, with some also demonstrating improvements in behavioral indicators.

Figure3 Graph of participants with significantly increased task-engagement time during the intervention period.



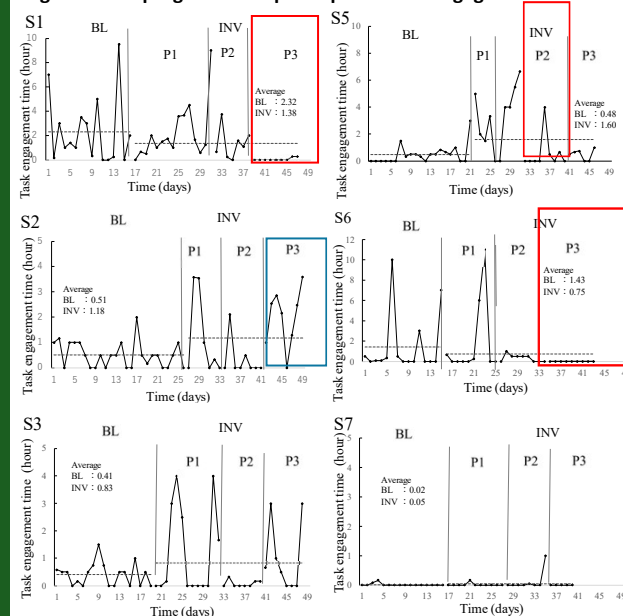
### Note:

- BL stands for Baseline period. INV stands for intervention period.
- P1~P3 refer to sessions 1 to 3 in the program. Blue mark indicates a significant increase compared to BL, while red mark indicates a significant decrease. (Tau-U)
- As a result of insufficient data points for the P2 period, it was omitted from the analysis.



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Figure 2 The progression of participants' task engagement times.



### Note:

- BL stands for Baseline period. INV stands for intervention period.
- P1~P3 refer to sessions 1 to 3 in the program. S1 to S7 represent each participant. The blue mark indicates a significant increase compared to BL, while the red mark indicates a significant decrease (Tau-U).

Table1 The progression of participants' procrastination awareness and perfectionistic tendencies

Scales	S1			S2			S3			S4			S5			S6			S7									
	01	02	03	04	01	02	03	04	01	02	03	04	01	02	03	04	01	02	03	04	01	02	03	04				
NE before PRO	4.2	4.2	3.8	3.7	2.5	2.5	2.7	2.7	3.5	3.2	3.3	3.5	3.3	3.0	2.2*	2.0*	2.3	2.0	1.8	1.5	3.8	5.0	4.3	3.8	4.7	4.2	3.8	3.8
Optimism about situations	2.8	3.3	3.0	3.0	3.2	3.7	4.0	3.5	4.2	3.8	4.0	4.0	4.2	3.3	3.0	3.3	3.0	3.7	2.3	2.5	4.3	5.0	4.7	5.0	3.3	4.5	4.0	3.8
Planning	2.0	2.3	2.9*	3.0*	3.1	2.9	3.6	3.0	3.6	3.0	3.4	2.8*	3.3	3.8	3.8	3.9	3.0	2.9	3.3	3.3	2.5	4.0*	2.9	3.7*	2.0	2.3	2.2	2.1
AP NE during PRO	5.0	5.0	4.6	4.9	1.9	3.1*	2.3	3.0*	4.0	4.1	4.1	5.0*	3.6	3.1	3.4	3.0	2.9	2.6	2.0	2.6	1.9	1.6	1.9	1.1	3.6	3.9	3.7	3.4
PE during PRO	1.6	1.8	2.0	1.8	1.8	4.0*	2.6	2.8	3.0	2.6	2.8	3.4	1.6	1.6	2.4*	1.8	3.8	3.6	3.8	3.8	4.6	4.4	4.2	4.2	2.4	2.8	2.8	2.8
NE after PRO	4.8	4.8	4.4	4.6	2.4	1.8	1.2*	1.8	4.4	4.2	4.6	4.6	4.0	3.6	3.0	2.6*	3.2	3.8	2.0*	2.6	1.8	2.4	3.2*	1.2	4.4	5.0	5.0	4.8
Switching gears for oneself	1.0	1.8	1.0	1.5	4.0	4.5	4.5	4.0	2.0	2.0	2.0	1.0	1.8	2.8	2.5	1.5	3.0	4.0	4.0	3.8	2.0	4.5*	4.8*	4.0*	1.3	1.8	1.5	1.5
PP	17.0	18.0	18.0	16.0	11.0*	7.0*	7.0*	7.0*	10.0	11.0	13.0	10.0	10.0	12.0	9.0	6.0	12.0	9.0	9.0	6.0*	11.0	8.4	5.0*	5.0*	14.0	16.0	13.0	13.0
MPCI CM	16.0	16.0	18.0	19.0	10.0	8.0*	5.0*	5.0*	14.0	13.0	17.0	15.0	13.0	11.0	10.0	6.0*	8.0	9.0	6.0	7.0	5.0	5.0	9.0	5.0	15.0	15.0	11.0	13.0
PS	14.0	18.0	18.0	18.0	14.0	7.0*	12.0	12.0	12.0	12.0	11.0	13.0	15.0	14.0	13.0	12.0*	14.0	11.0	12.0	12.0	7.0	5.0	7.0	7.0	8.0	6.0	11.0	10.0

### Note:

- ①~④ indicate each period of the questionnaire.(Figure 1)
- NE stands for Negative emotion. PE stands for Positive emotion. PRO stands for Procrastination. PP, CM, and PS refer to the subscales of MPCI: Pursuit of perfection (PP), Concern over mistakes (CM), and Personal standards (PS), respectively.
- The blue mark indicates a clinically significant increase, while the red mark indicates a clinically significant decrease (RCI). The orange mark indicates that the participant's reduced psychological outcome scores associate with procrastination throughout the program compared to ①(Baseline).

Figure 1 Procedure of the study

