

# Evaluation of an ACT-Based Program for Managers: A preliminary pre-post test

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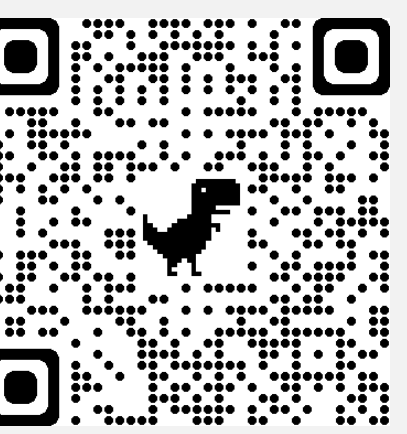
## Introduction

- Introduction
  - This study aimed to examine the effect of a program for managers in a company based on acceptance and commitment therapy.

- Hypothesis
  - 1 In departments to which managers who participated in the group ACT program belong, the performance of the group level will improve after the program.
  - 2 Individual managers who participated in the group ACT program will be less psychologically inflexible after the intervention than before.

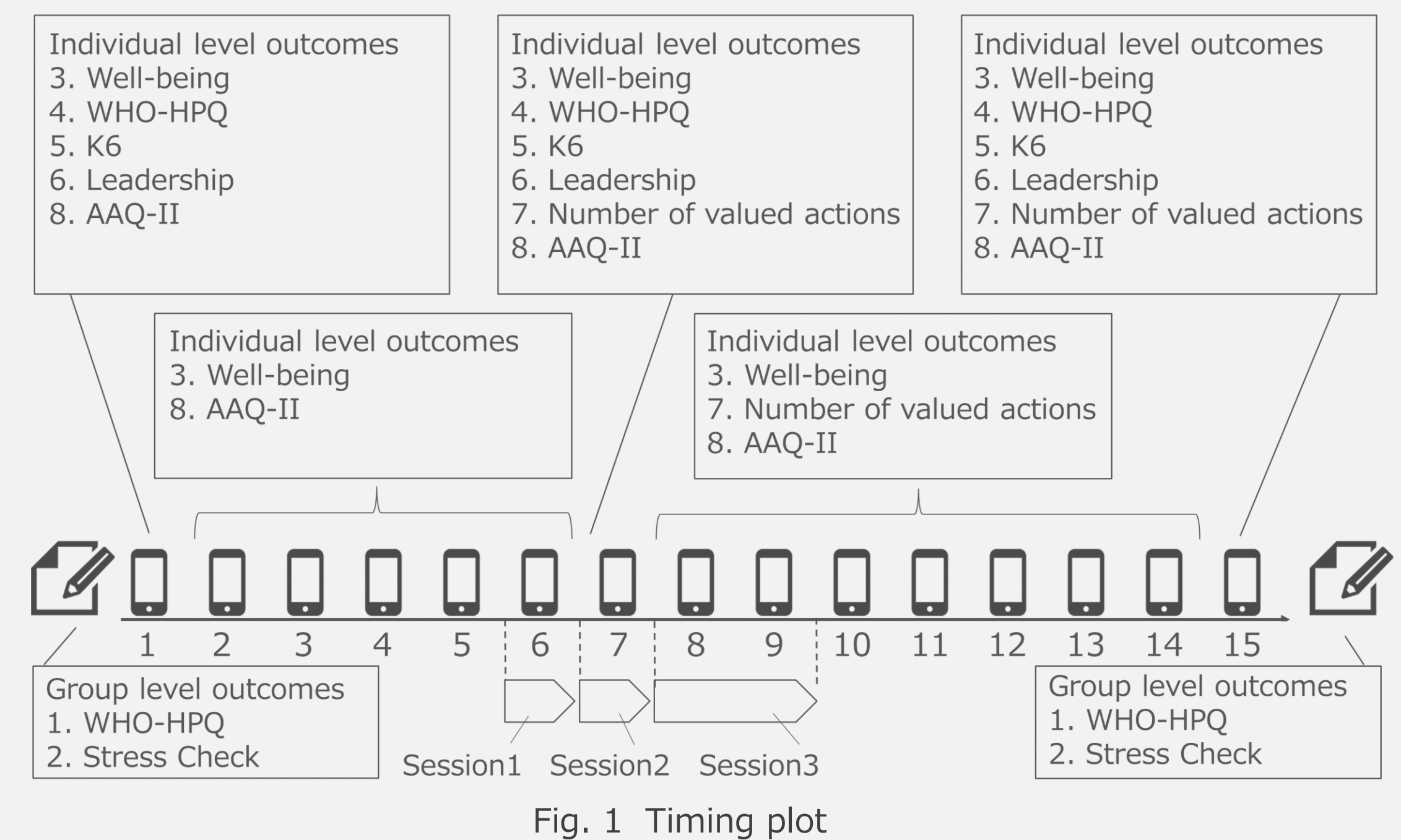
## This study is...

- This presentation is to be published in the JAPANESE JOURNAL OF BEHAVIORAL AND COGNITIVE THERAPIES.
- This study has been disclosed at OSF with raw data, analysis codes, and other materials.  
<https://osf.io/er437/>



## Methods

- Participants: 63 managers
- Measures
  - primary outcome
    1. Group level outcome of WHO-HPQ (Kawakami et al., 2020; Kessler et al., 2007)
  - secondary outcomes
    2. Group level outcome of Stress Check: products of Advantage Risk Management Co., Ltd.
    3. Well-being (Economic and Social Research Institute Cabinet Office Tokyo, Japan, 2012)
    4. Individual level outcome of WHO-HPQ
    5. K6 (Furukawa et al., 2008; Kessler et al., 2002)
    6. Leadership: revised based on Inoue et al (2014)
    7. Number of valued actions
  - process outcome
    8. Acceptance and Action Questionnaire-II (Bond et al., 2011; Shima et al., 2013)
- Data Analysis: R (version 4.0.3)
  - t-test by Bayesian First Aid package (Bååth, 2014)
  - multilevel modeling by brms package (Bürkner, 2017)



- Ethical approval
  - Ethical approval: the certificate number is 2019002
  - Trial registration: UMIN000037343
- Contents of the intervention
  - A group program totaling three 90-minute sessions was implemented.

Table 1 Contents of intervention

| Elements of the intervention | Session1  | Session2  | Session3  |
|------------------------------|---|---|---|
| <b>Introduction</b>          | Mindful listening                                   | The Two-Skills Diagram & "Passengers on the bus" metaphor   |   |
| <b>Values-based action</b>   | "Best manager award" exercise                       | "Values, Goals, and Actions Worksheet"  |   |
| <b>Mindfulness</b>           | "Passengers on the bus" metaphor<br>Raisin exercise | Brief body and breath awareness exercise<br>"Switching Perspectives" exercise<br>Capturing unhelpful thoughts | Mindfulness of Breath Practice<br>Physicalizing exercise<br>"Taking your mind for a walk" |
| <b>Home practice</b>         |   | Overview of the home practice   |   |
| <b>Summary</b>               |   | Summary of the session  |   |

Note. The program was developed based on the approach of Flaxman, Bond, and Livheim (2013).

## Results

- This study examined changes in organizational unit indicators and individual unit indicators.
- It should be noted that n is different for each analysis.
- Changes in indicators of **organizational units** before and after the program implementation

Table 2 Estimated outcomes of parameters in organizational units indicators, pre and post

|  | Pre   |      | Post  |      | Mean difference <sup>a</sup><br>[95% HDI <sup>b</sup> ] |
|--|-------|------|-------|------|---|
|  | M     | SD   | M     | SD   |   |
| <b>WHO-HPQ</b>                                   | 6.38  | 0.89 | 6.16  | 0.73 | <b>-0.19 [-0.53, 0.17]</b> ← Primary outcome            |
| <b>Stress Check</b>                              |       |      |       |      |   |
| Psychological stressors                          | 53.89 | 2.35 | 53.78 | 2.37 | -0.14 [-1.26, 0.97]                                     |
| Psychological and physiological stress reactions | 53.44 | 5.49 | 53.11 | 3.55 | -0.42 [-2.76, 1.84]                                     |
| Social support in the workplace                  | 51.06 | 2.65 | 51.44 | 2.83 | 0.38 [-0.88, 1.62]                                      |

Note. n=18. <sup>a</sup> expected a posteriori (EAP) estimation. <sup>b</sup> highest density interval.

- Changes in **individual unit** indicators through the program

Table 3 Estimated outcomes of parameters in individual-based indicators at 15 time points

| Parameter             | Well-being            | AAQ-II                     |
|-----------------------|-----------------------|----------------------------|
|                       | <b>Random Effects</b> |                            |
| SD (Intercept)        | 1.47 [ 1.07, 2.01]    | 3.97 [ 2.97, 5.28]         |
| <b>Fixed Effect</b>   |                       |                            |
| Intercept             | 7.35 [ 6.72, 7.97]    | 15.15 [13.49, 16.78]       |
| <b>Treatment</b>      | -0.17 [-0.60, 0.22]   | <b>-0.94 [-1.91, 0.08]</b> |
| time within baseline  | 0.07 [-0.16, 0.31]    | -0.38 [-1.03, 0.28]        |
| time within treatment | -0.06 [-0.16, 0.03]   | 0.12 [-0.12, 0.37]         |

Process outcome →

Note. n=28, expected a posteriori (EAP) estimation, [95% credible interval].

Table 4 Estimated outcomes of parameters in individual-based indicators at 3 time points

| Parameter              | WHO-HPQ               | K6                 | Leadership         |
|------------------------|-----------------------|--------------------|--------------------|
|                        | <b>Random Effects</b> |                    |                    |
| SD (Intercept)         | 1.30 [ 0.27, 1.82]    | 3.46 [ 1.02, 4.80] | 0.73 [ 0.21, 1.06] |
| <b>Fixed Effect</b>    |                       |                    |                    |
| Intercept              | 6.83 [ 6.27, 7.48]    | 4.68 [ 3.16, 6.18] | 6.39 [ 6.06, 6.72] |
| Time (Time1 vs Time15) | -0.52 [-1.24, 0.12]   | 0.73 [-1.01, 2.44] | 0.19 [-0.27, 0.60] |

Note. n=36, expected a posteriori (EAP) estimation, [95% credible interval].

## Discussion & Conclusion

- Primary outcome showed **no improvement in the performance** of 18 organizations, which did not support the hypothesis.
- Process outcome showed a **decreasing trend in the psychological inflexibility** of 28 managers, supporting the direction of the hypothesis, although the credible interval included 0.
- Secondary outcomes included showing the possibility of increased support around organizational units as well as increased leadership behavior of managers at the individual level.