



APS Ψ Y^{-v}


unîmes
UNIVERSITÉ


La Région
Occitanie
Pyrénées - Méditerranée

Effects of three Prophylactic Interventions on Middle-Schoolers' Mental Health

A Pilot Study in a French Context

Eugénie Vaillant-Coindard

PhD student in clinical psychology
and psychopathology

Florence Lespiau


Associate Pr. in cognitive psychology

Gaëtan Briet

Associate Pr. in developmental psychology

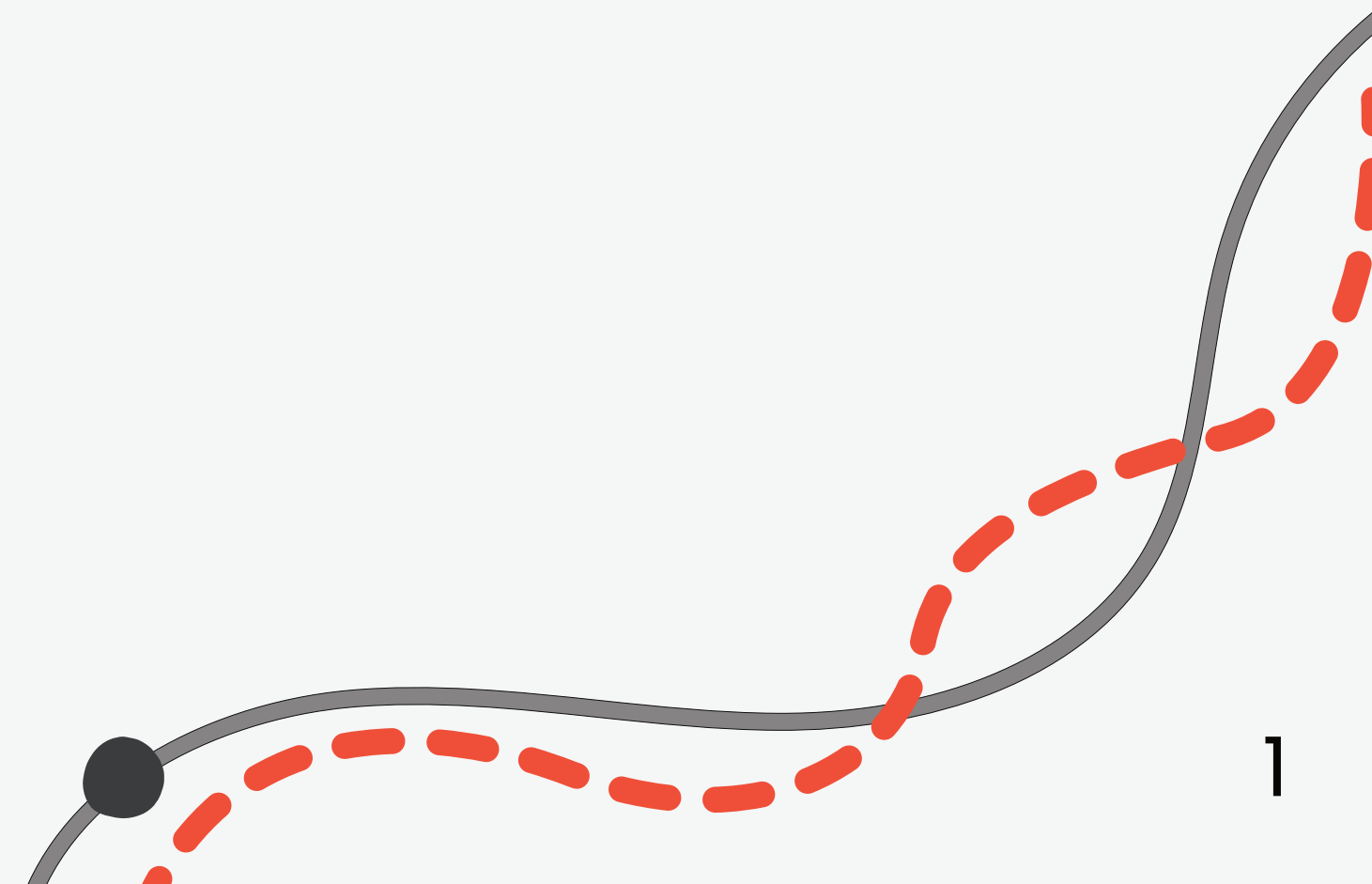
Elodie Charbonnier

Associate Pr. QDR in clinical psychology &
psychopathology, APSY^{-v} lab director



Mental health trajectories in adolescence

risk for increasing vulnerabilities



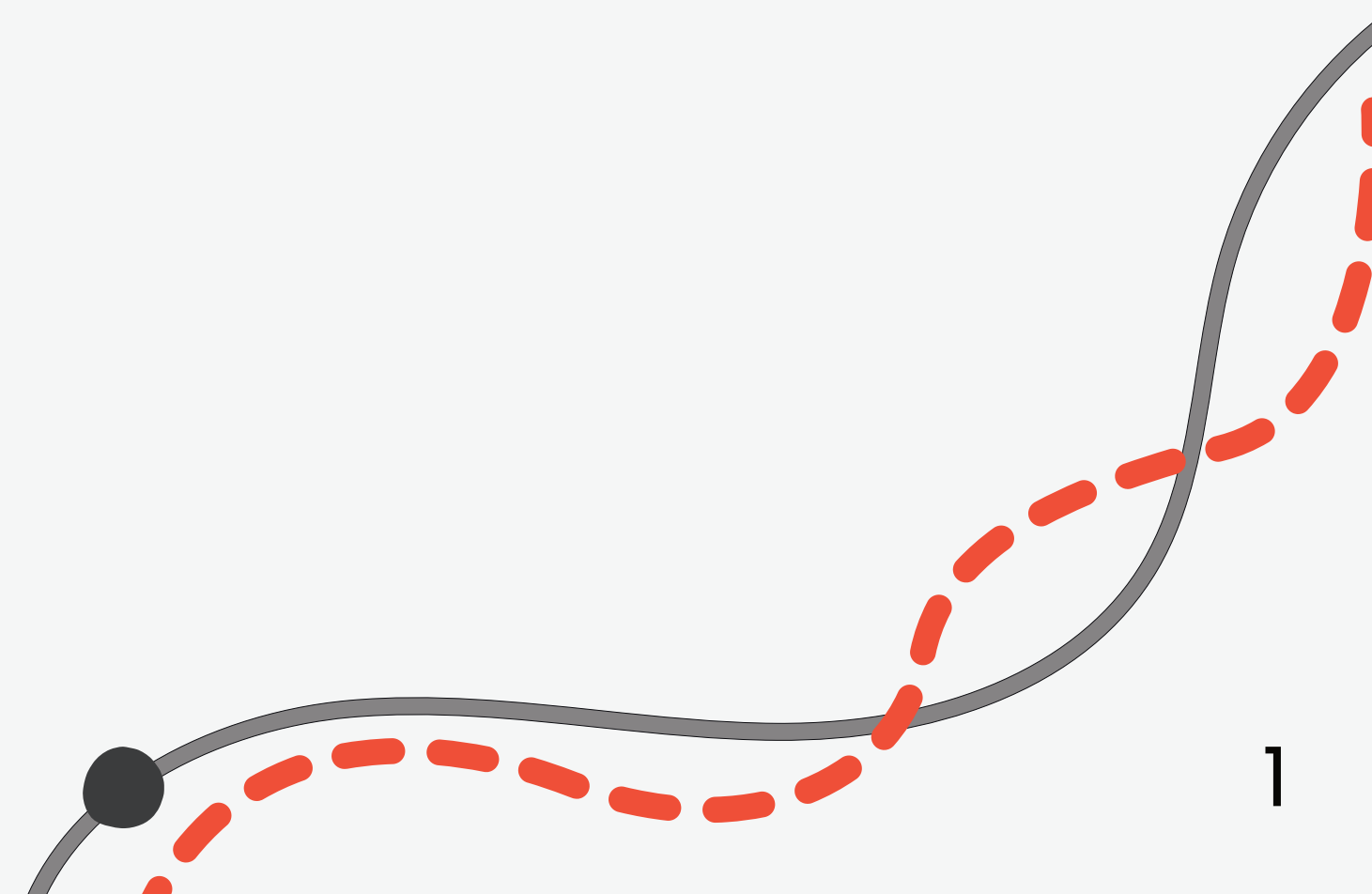
Mental health trajectories in adolescence

risk for increasing vulnerabilities



- Arising mental disorders and premisses

Kessler et al., 2005; Léon et al., 2021; Solmi et al., 2022

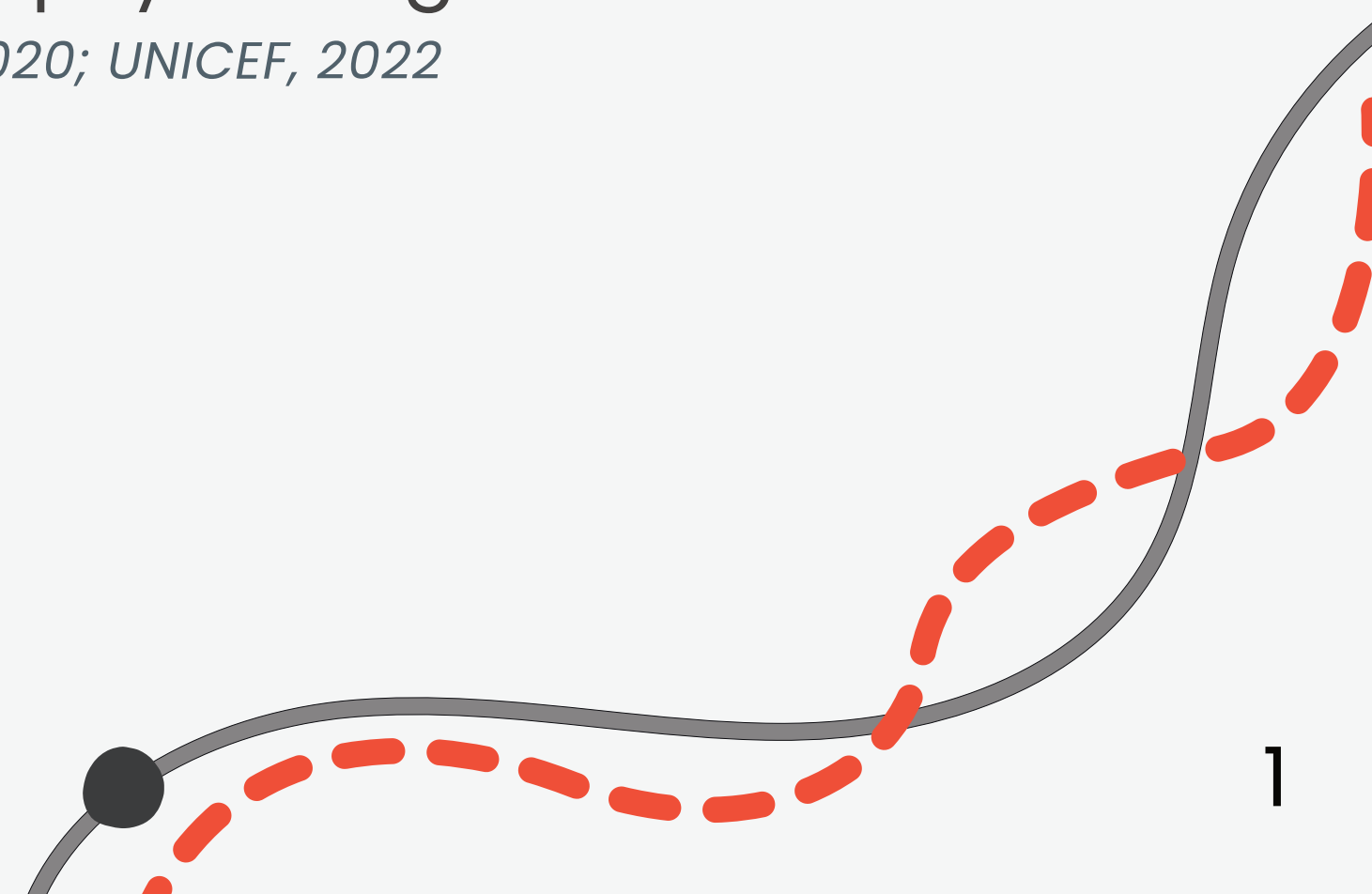


Mental health trajectories in adolescence

risk for increasing vulnerabilities



- Arising mental disorders and premisses
Kessler et al., 2005; Léon et al., 2021; Solmi et al., 2022
- From 10 to 40% of adolescents affected by psychological difficulties
Roques-Lamiroux et al., 2022; Silva et al., 2020; UNICEF, 2022

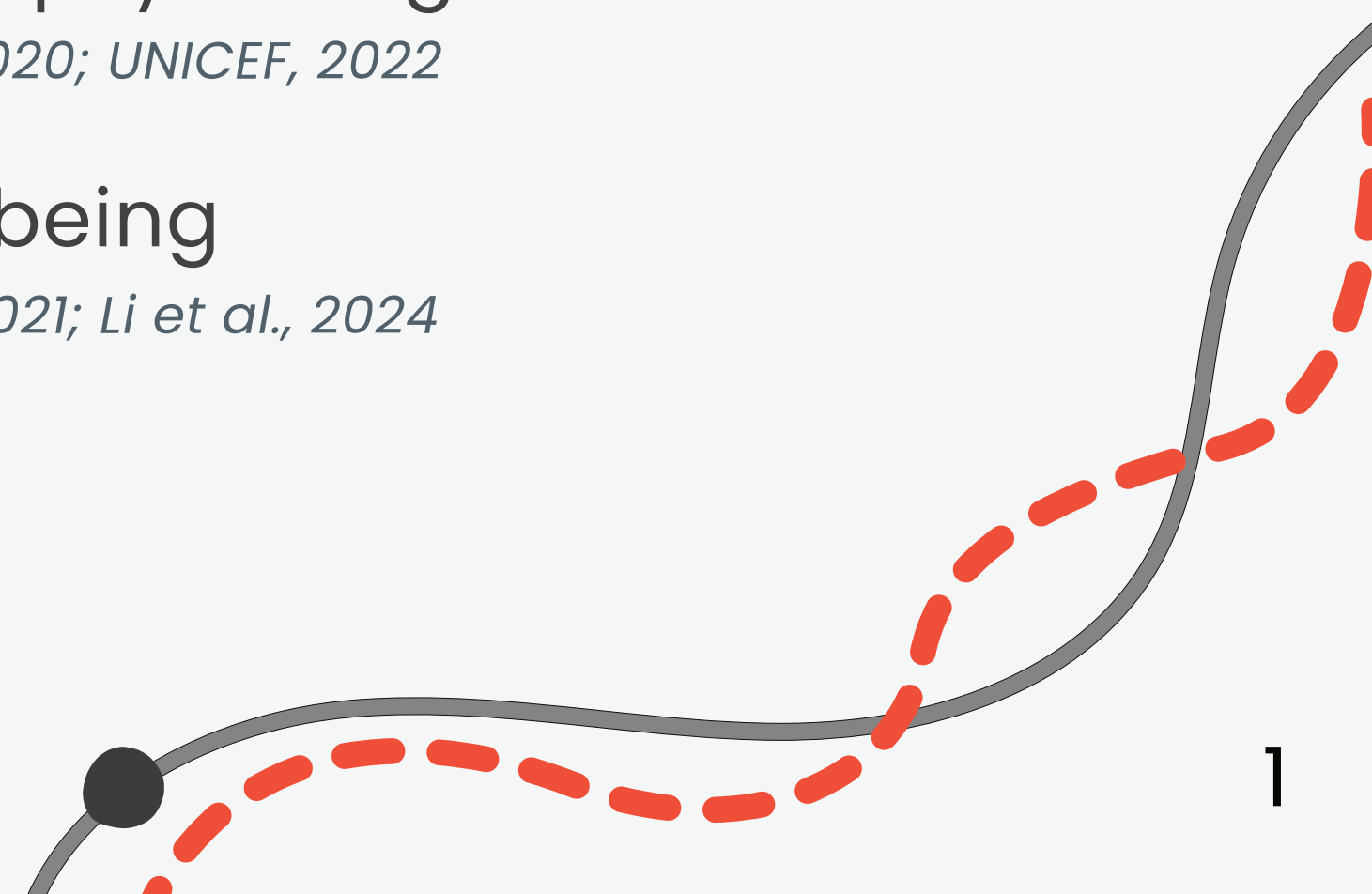


Mental health trajectories in adolescence

risk for increasing vulnerabilities



- Arising mental disorders and premisses
Kessler et al., 2005; Léon et al., 2021; Solmi et al., 2022
- From 10 to 40% of adolescents affected by psychological difficulties
Roques-Lamiroux et al., 2022; Silva et al., 2020; UNICEF, 2022
- Average tendencies for a decreasing wellbeing
Booker et al., 2018; González-Carrasco et al., 2017; Léon et al., 2021; Li et al., 2024



Mental health trajectories in adolescence

risk for increasing vulnerabilities

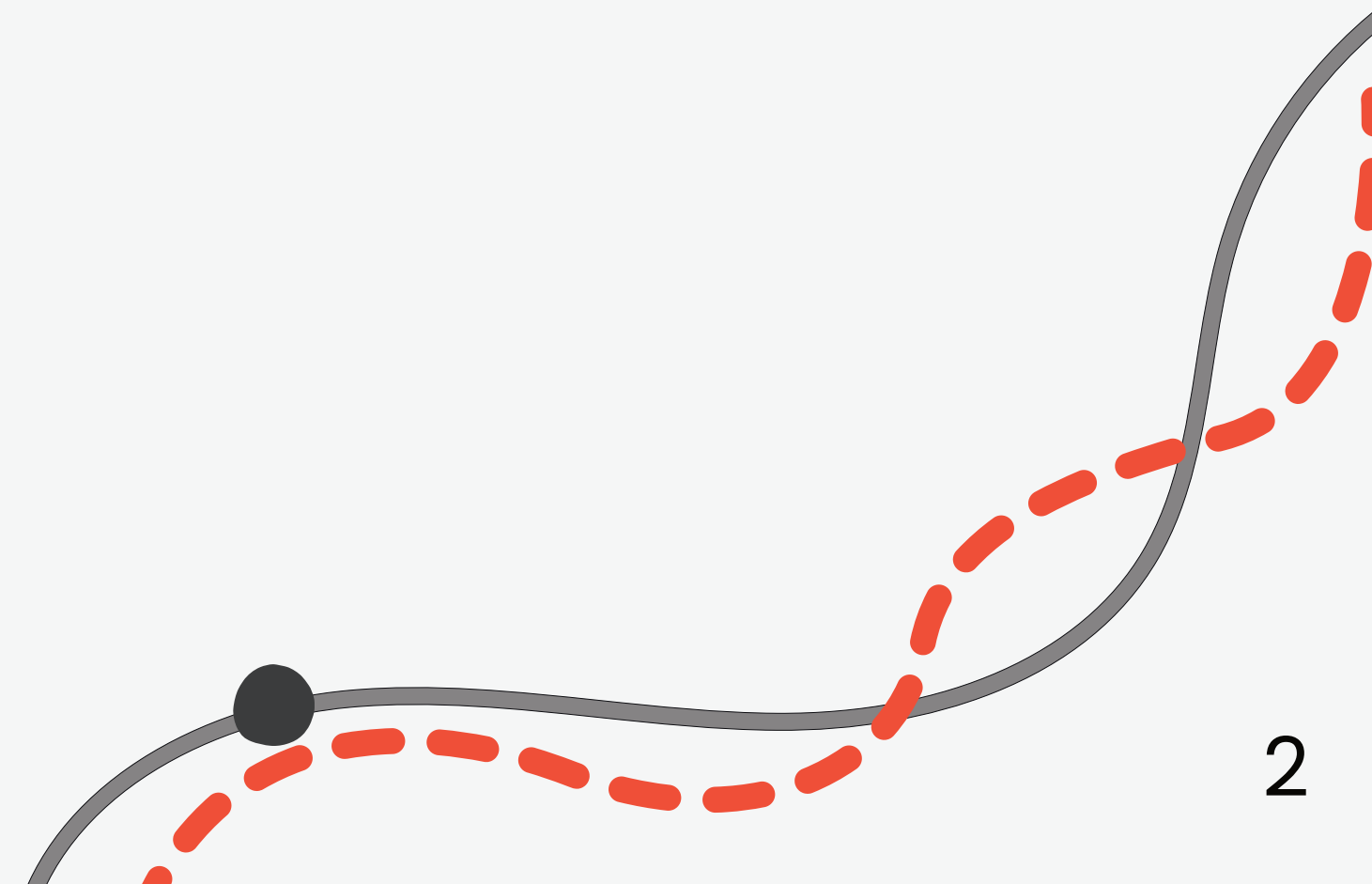
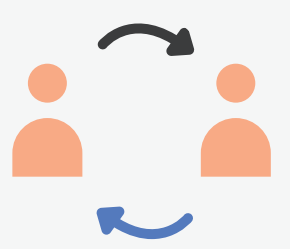
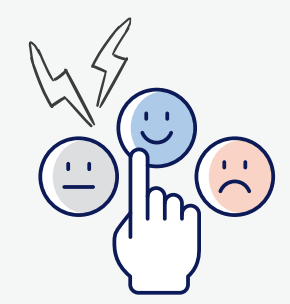


- Arising mental disorders and premisses
Kessler et al., 2005; Léon et al., 2021; Solmi et al., 2022
- From 10 to 40% of adolescents affected by psychological difficulties
Roques-Lamiroux et al., 2022; Silva et al., 2020; UNICEF, 2022
- Average tendencies for a decreasing wellbeing
Booker et al., 2018; González-Carrasco et al., 2017; Léon et al., 2021; Li et al., 2024
- Negative impact on functioning and development
Dooley et al., 2015; Hoff et al., 2017; Swan & Kendall, 2016



Opportunities for building resources

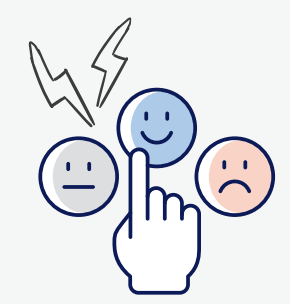
development of key psychological processes





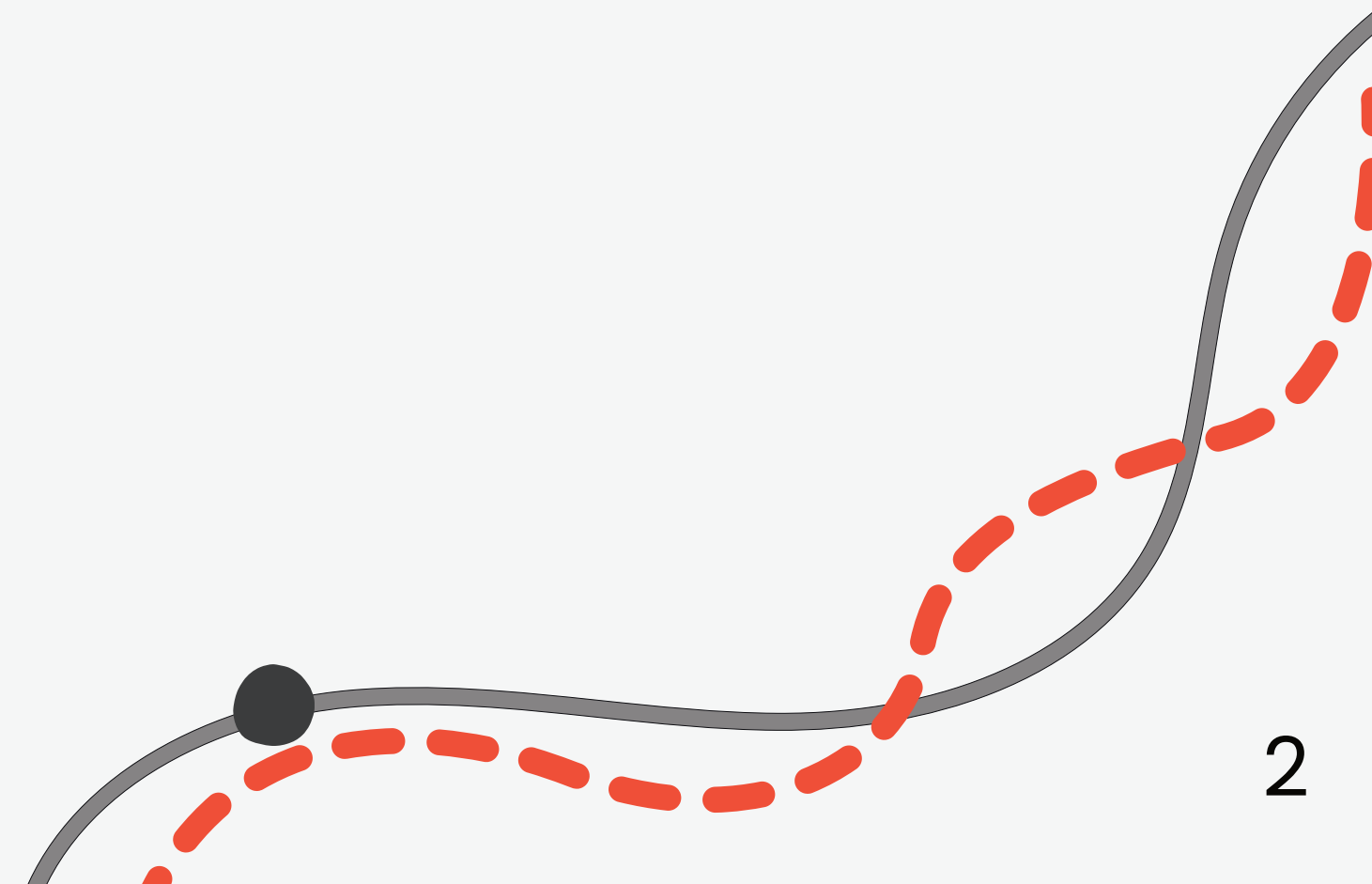
Opportunities for building resources

development of key psychological processes



Reactive adaptation coping with daily stressors

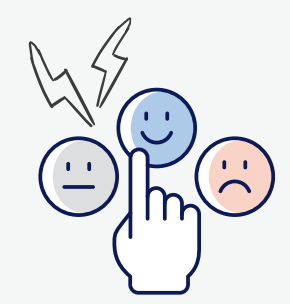
Richardson et al., 2021; Zimmer-Gembeck & Skinner, 2016





Opportunities for building resources

development of key psychological processes



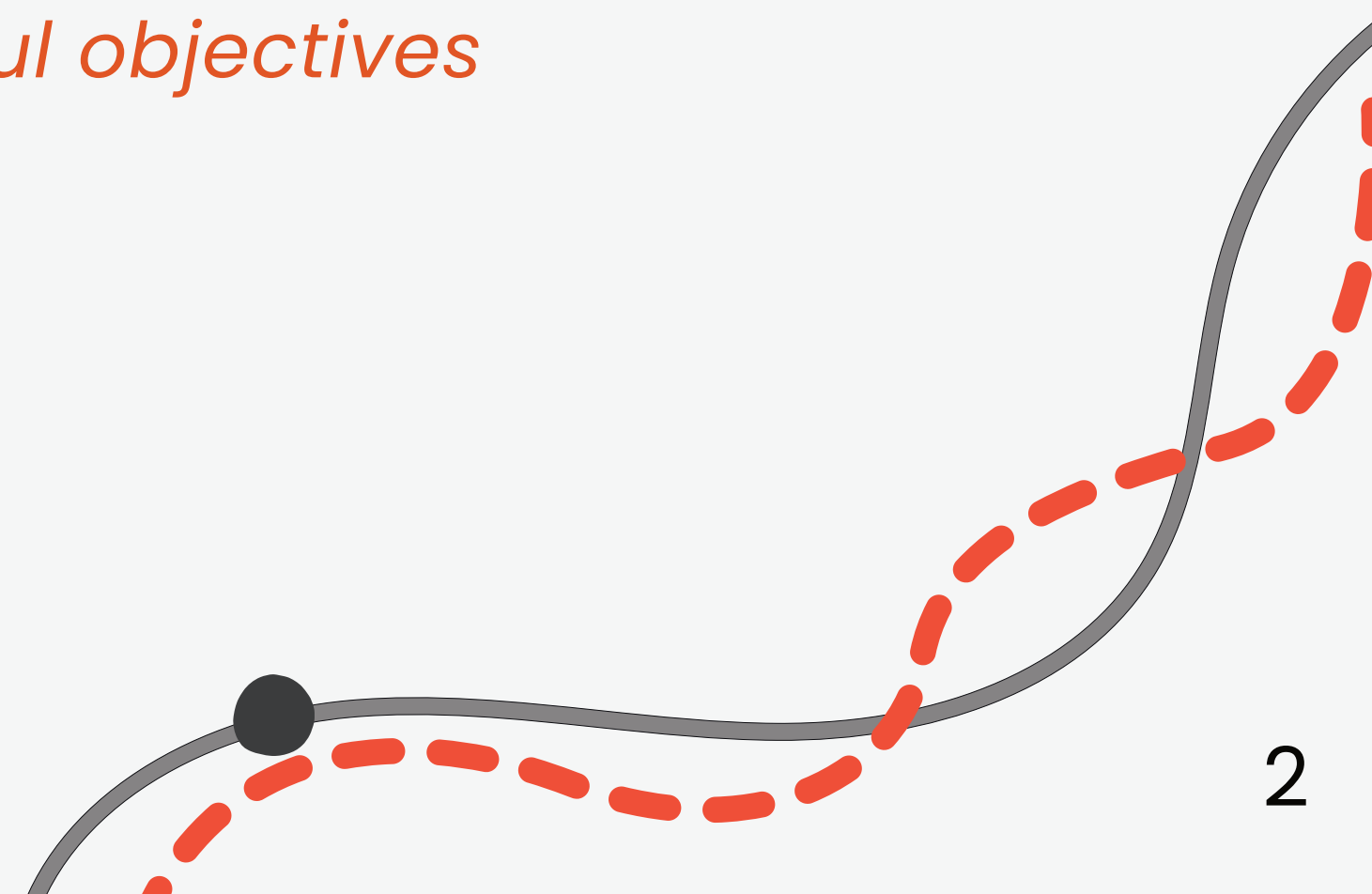
Reactive adaptation *copling with daily stressors*

Richardson et al., 2021; Zimmer-Gembeck & Skinner, 2016



Proactive adaptation *pursuing meaningful objectives*

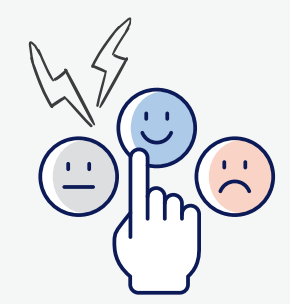
Biggs et al., 2017; Romer et al., 2021; Supervía et al., 2023





Opportunities for building resources

development of key psychological processes



Reactive adaptation *copling with daily stressors*

Richardson et al., 2021; Zimmer-Gembeck & Skinner, 2016



Proactive adaptation *pursuing meaningful objectives*

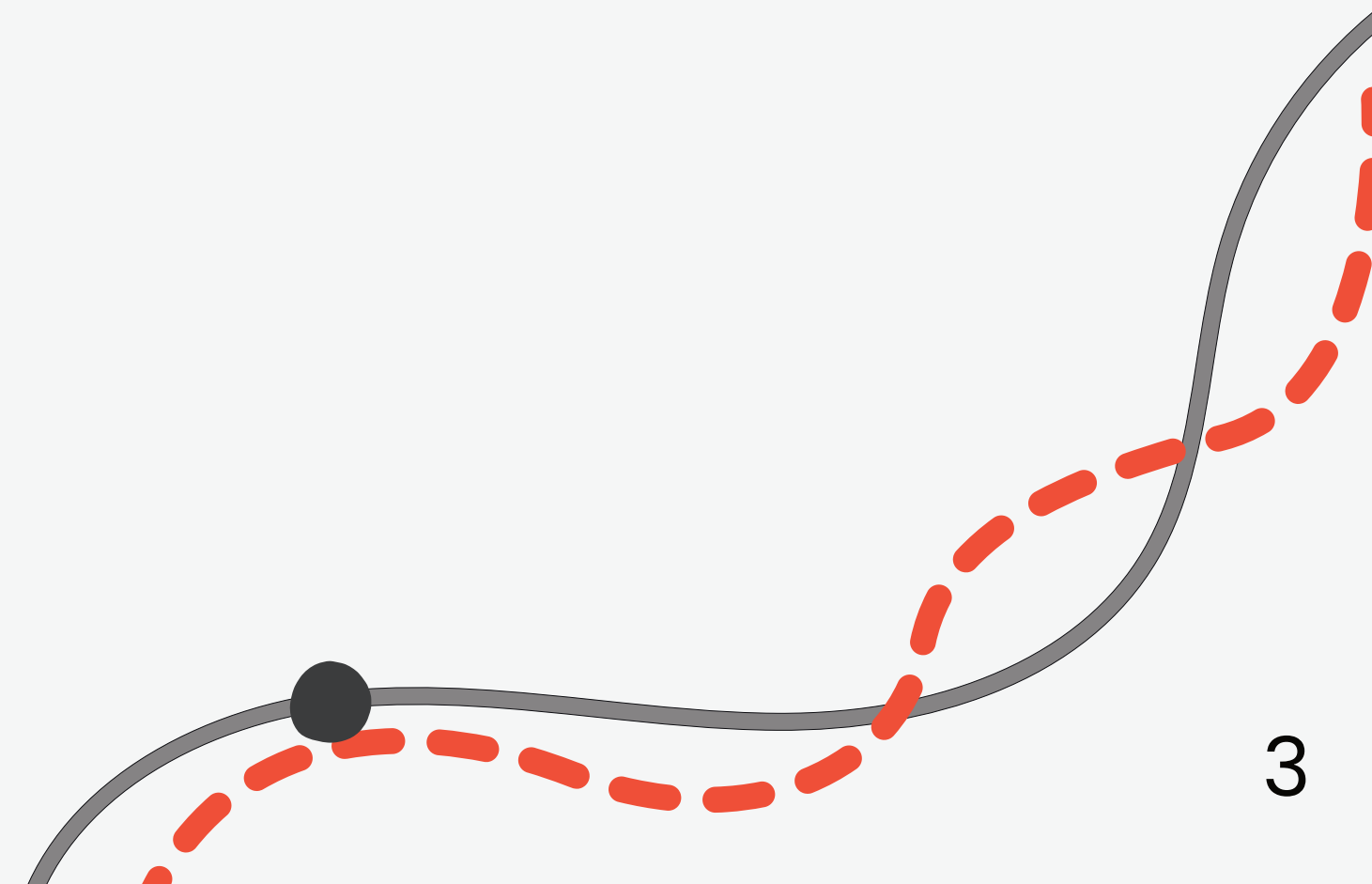
Biggs et al., 2017; Romer et al., 2021; Supervía et al., 2023



Interpersonal adaptation *optimizing interactions & relationships*

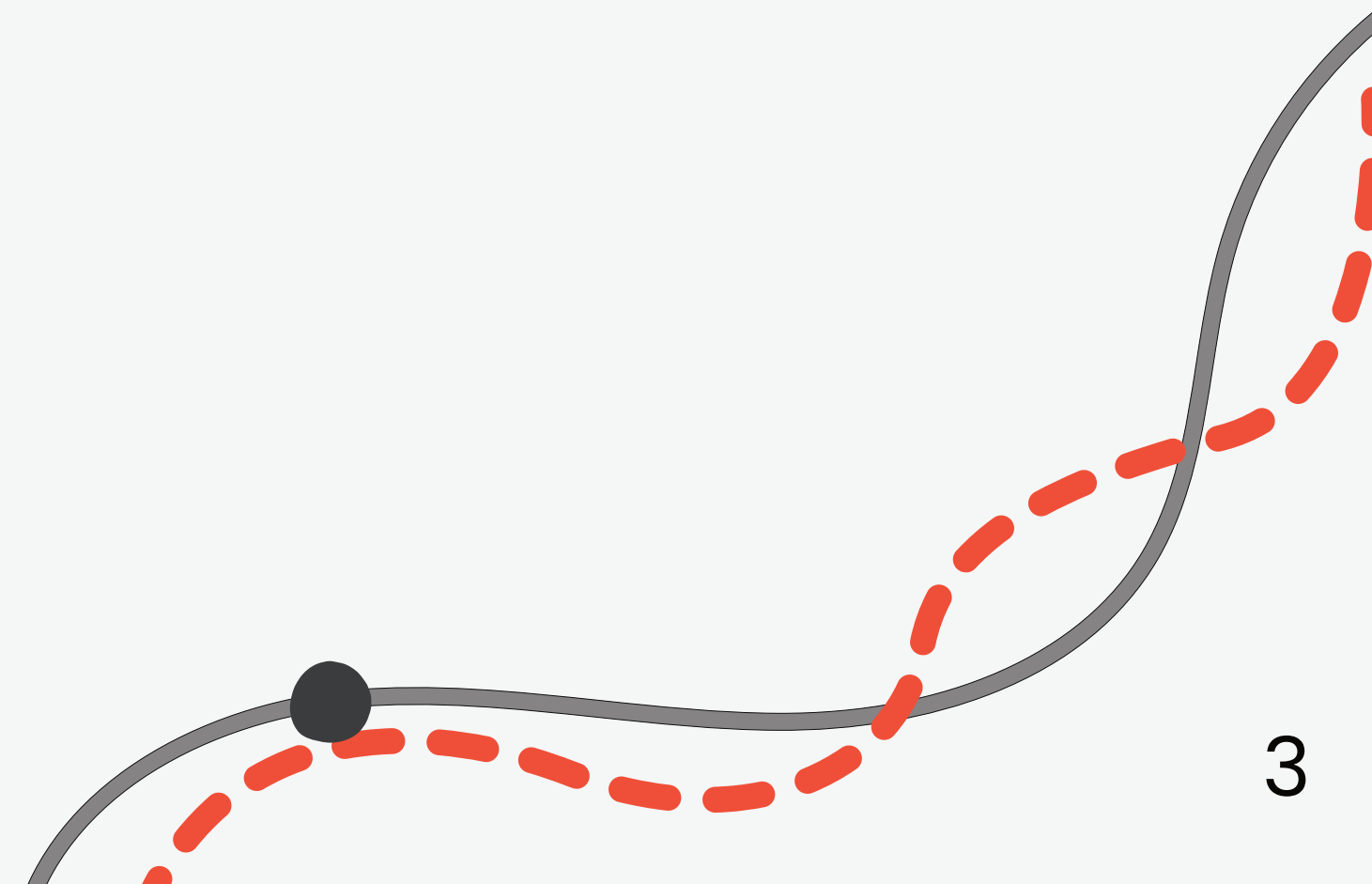
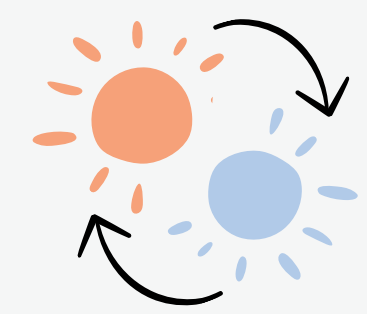
Cavell, 1990; Sánchez-Queija et al., 2017; Son & Padilla-Walker, 2020

Improving mental health trajectories in adolescence



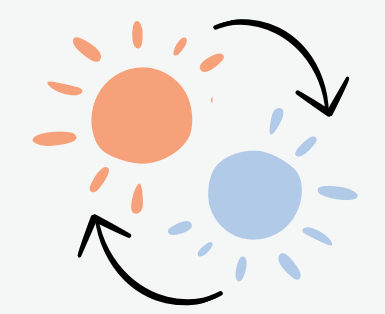
Improving mental health trajectories in adolescence

The rise of mental health prophylaxis in research and public policies
*preventing difficulties **and** promoting wellbeing*



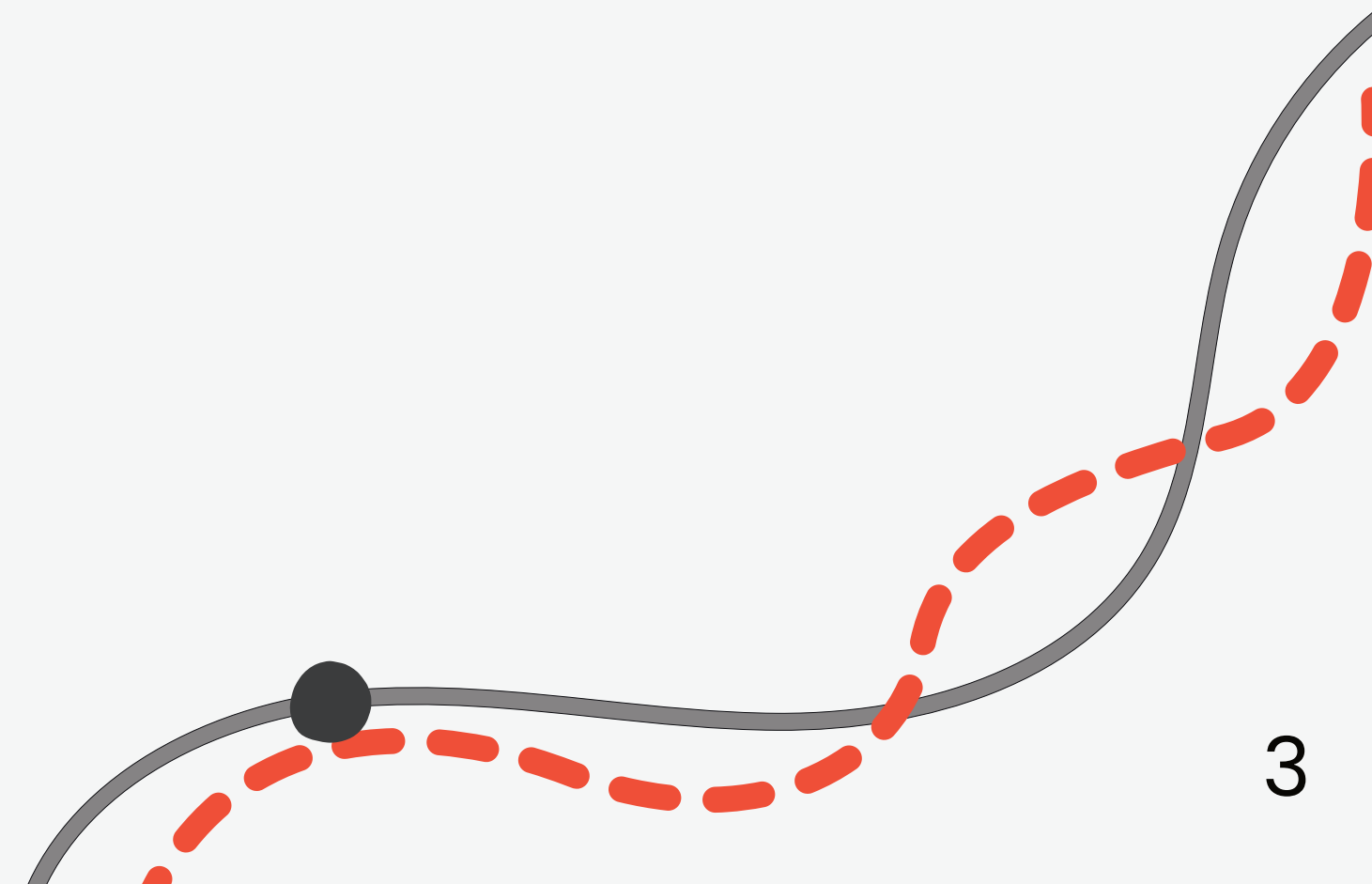
Improving mental health trajectories in adolescence

The rise of mental health prophylaxis in research and public policies
*preventing difficulties **and** promoting wellbeing*



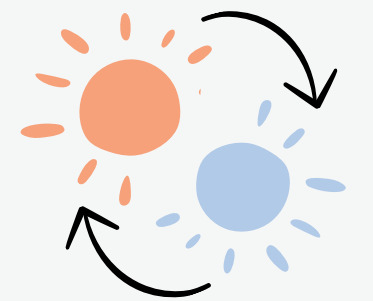
Positive effects following
universal, school-based
prophylactic interventions

Dray et al., 2017; Martínez-García, 2022



Improving mental health trajectories in adolescence

The rise of mental health prophylaxis in research and public policies
*preventing difficulties **and** promoting wellbeing*



Positive effects following universal, school-based prophylactic interventions

Dray et al., 2017; Martínez-García, 2022

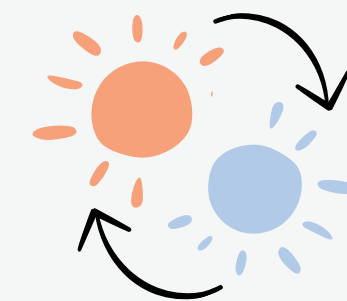


Limited resources stifling implementation and dissemination

Fazel et al., 2014 ; Martin & Arcand, 2005

Improving mental health trajectories in adolescence

The rise of mental health prophylaxis in research and public policies
*preventing difficulties **and** promoting wellbeing*



Positive effects following universal, school-based prophylactic interventions

Dray et al., 2017; Martínez-García, 2022



Limited resources stifling implementation and dissemination

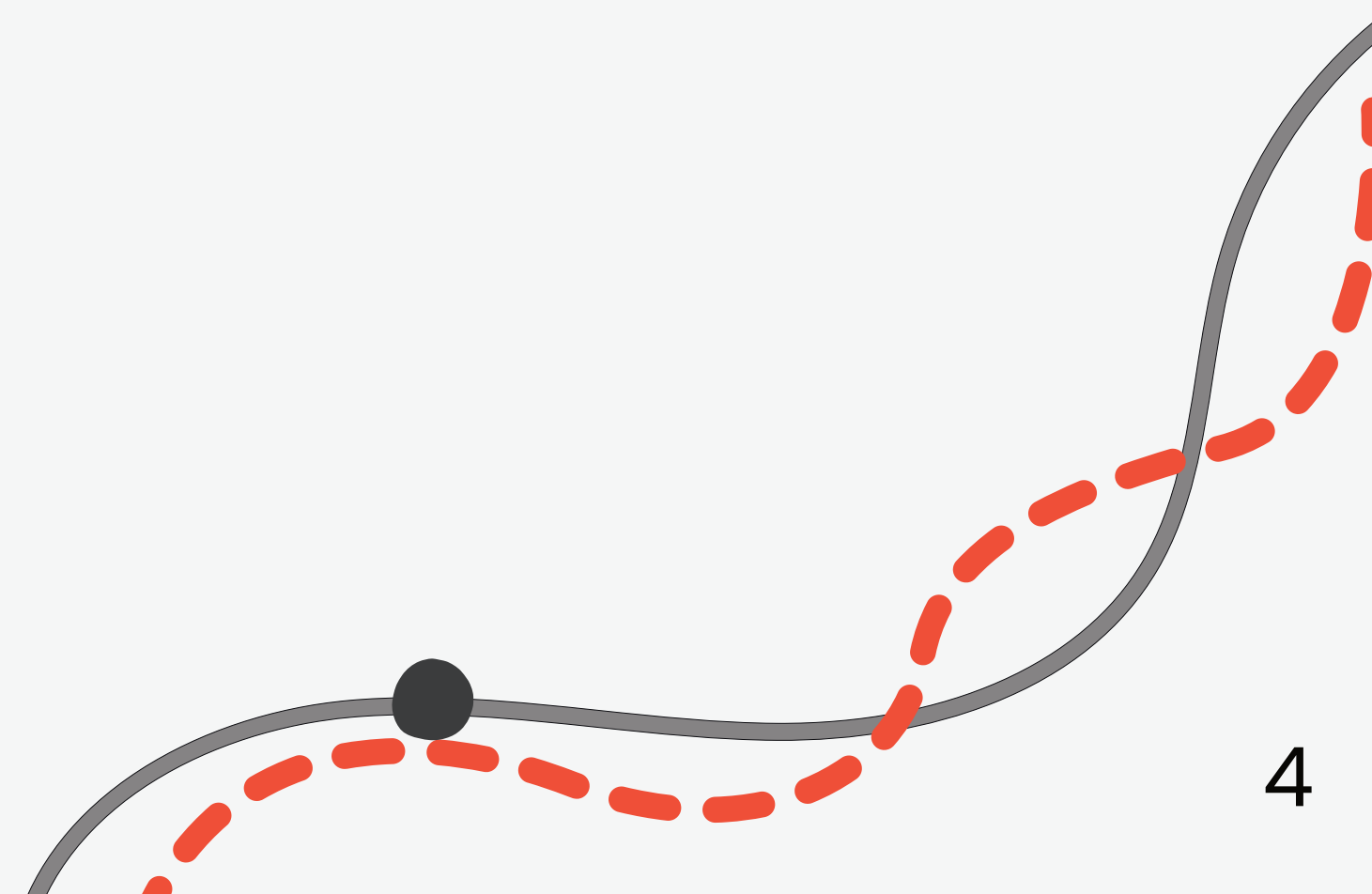
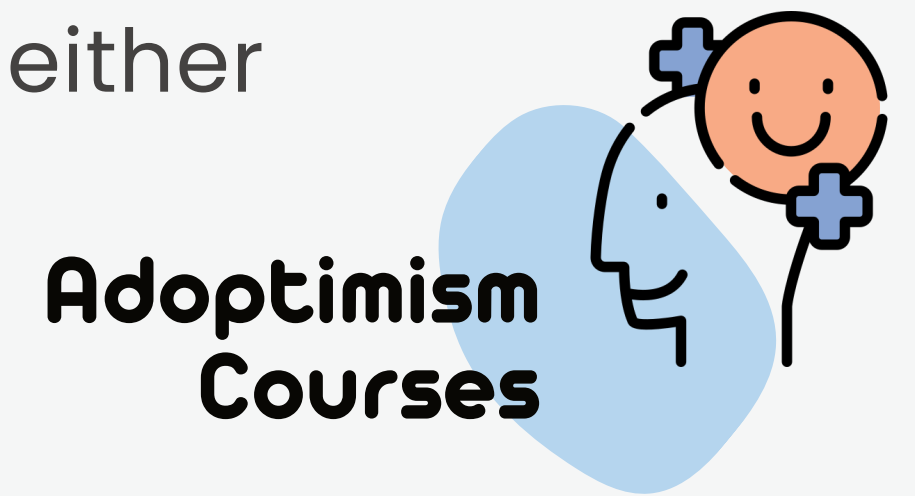
Fazel et al., 2014 ; Martin & Arcand, 2005



A lack of evidence-based interventions and validation studies in France

Our research project

To develop 3 prophylactic interventions, each targeting either reactive, **proactive** or **interpersonal** adaptation

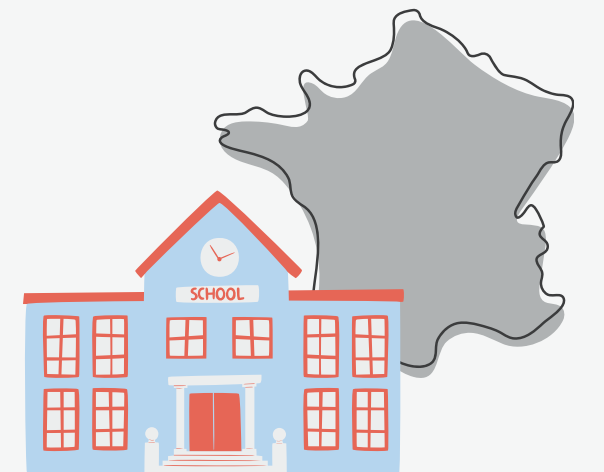
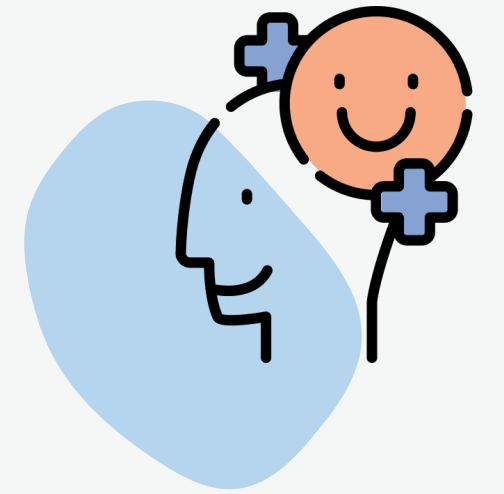


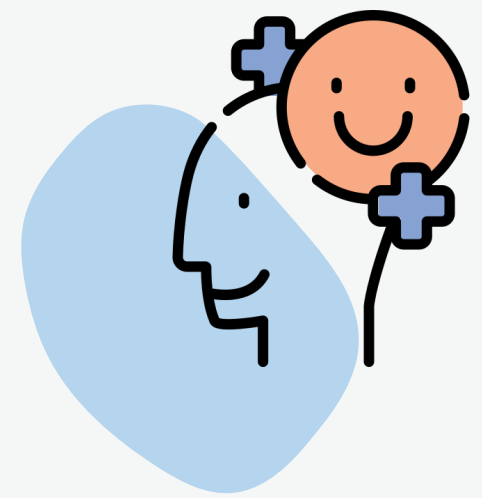
Our research project

To develop 3 prophylactic interventions, each targeting either reactive, **proactive** or **interpersonal** adaptation



To deliver the interventions in French middle schools





Our research project

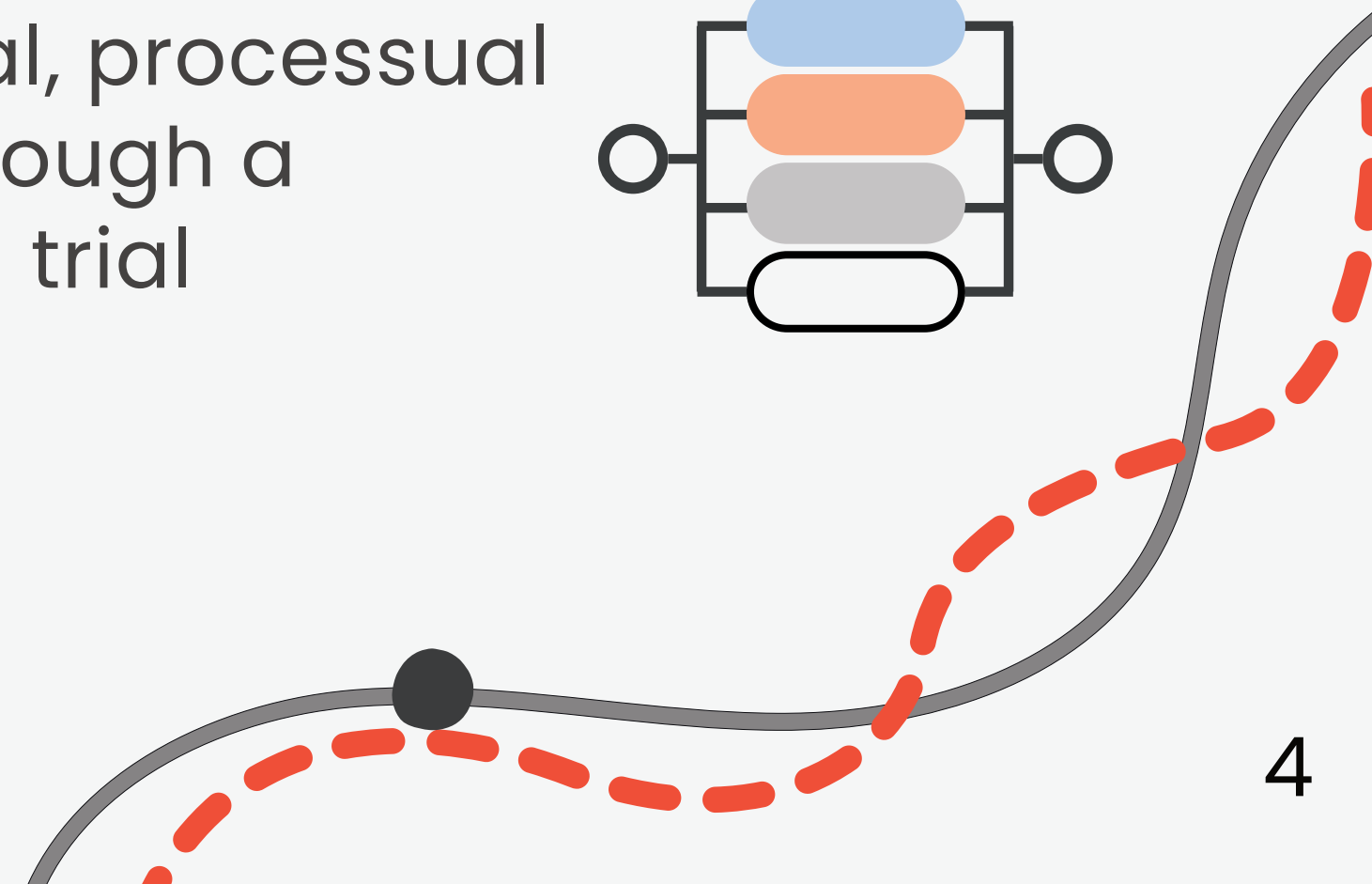
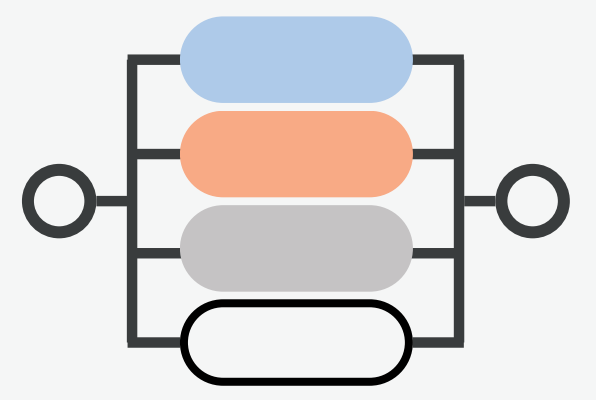
To develop 3 prophylactic interventions, each targeting either reactive, **proactive** or **interpersonal** adaptation

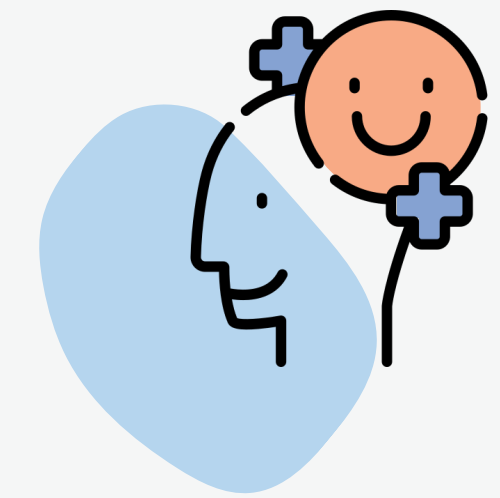


To deliver the interventions in French middle schools



To assess their effects on clinical, processual & user-experience measures through a four-arm randomized controlled trial





Our research project

To develop 3 prophylactic interventions, each targeting either reactive, **proactive** or **interpersonal** adaptation



To deliver the interventions in French middle schools

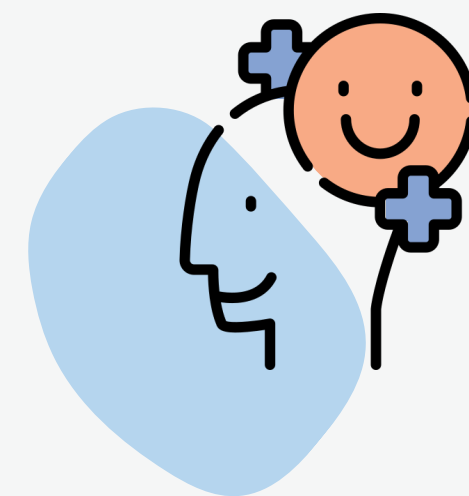


To assess their effects on clinical, processual & user-experience measures through a four-arm randomized controlled trial

⇒ **See the open-access protocol article at:**

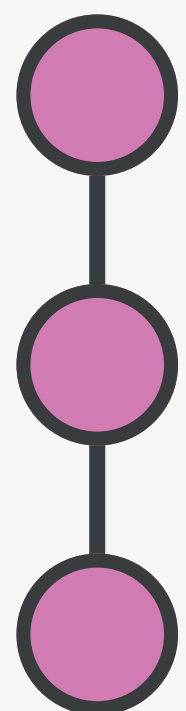
Vaillant-Coindard et al. (2024). Effects of three prophylactic interventions on French middle-schoolers' mental health : protocol for a randomized controlled trial. *BMC Psychology*, 12(1). <https://doi.org/10.1186/s40359-024-01723-8>





The interventions : AdOptimism Courses

General features

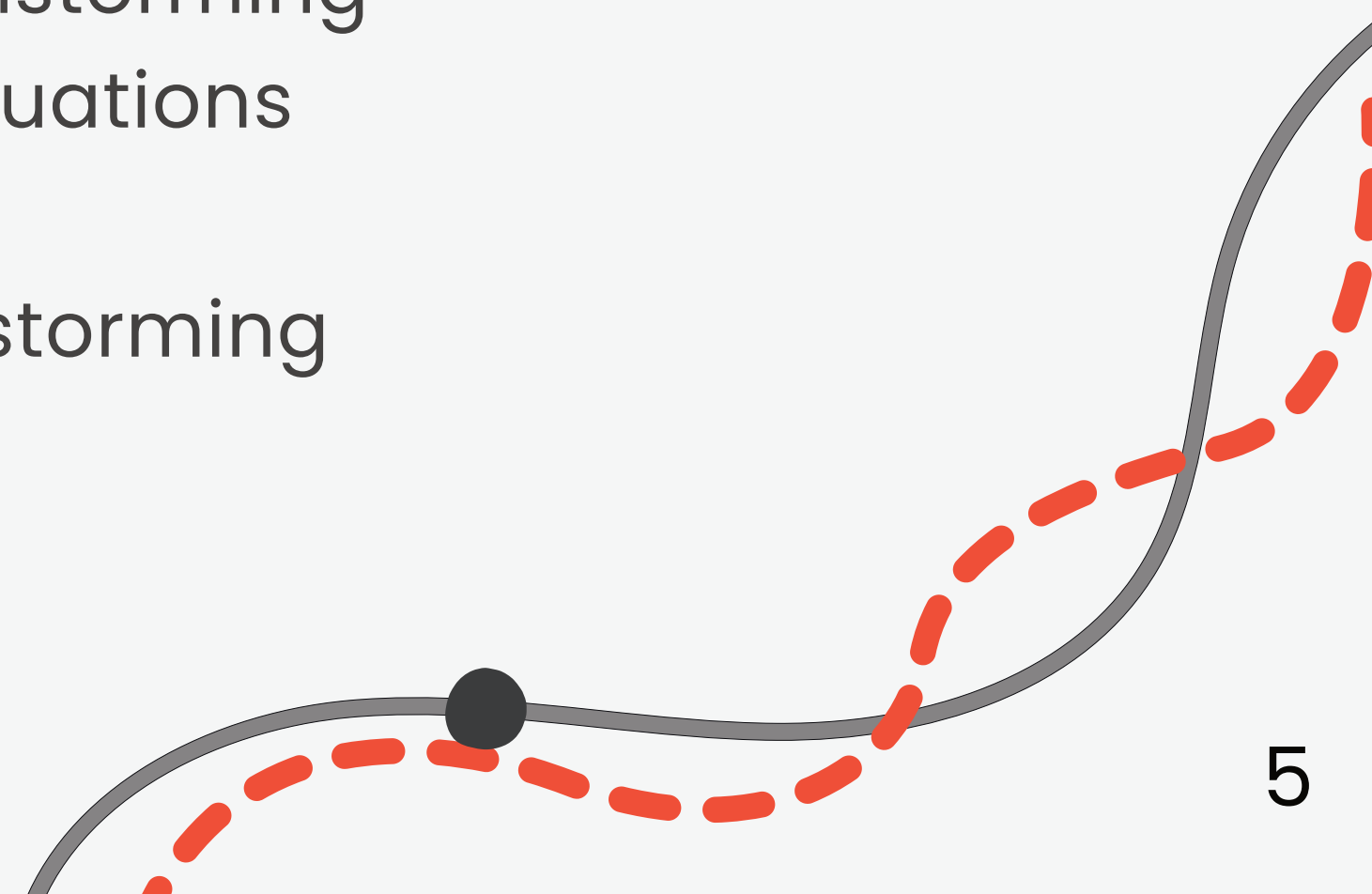


3x 1h weekly sessions

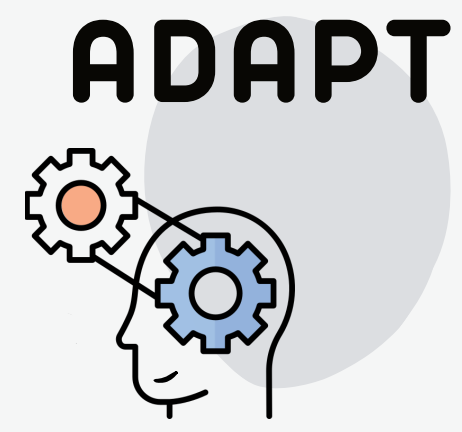
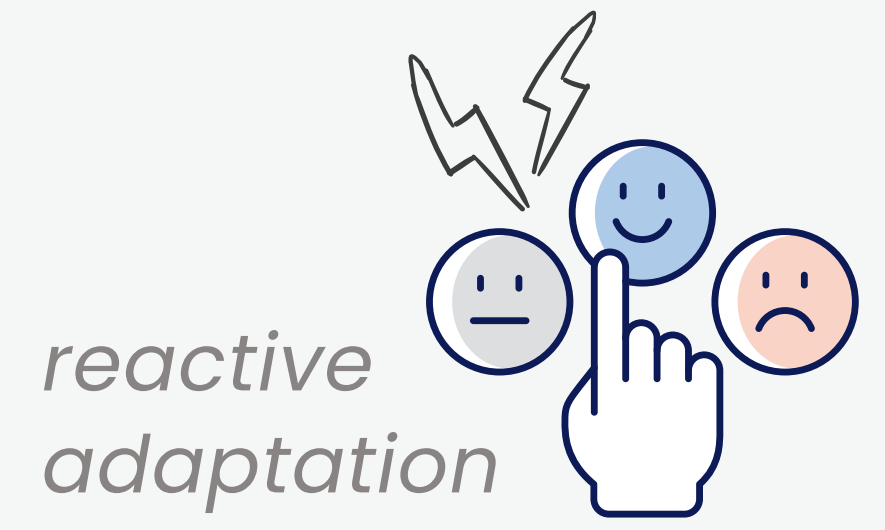
Sessions' format :

1. Introduction : whole-group brainstorming
2. Tools' application on fictional situations
3. Individual activities
4. Conclusion : whole-group brainstorming

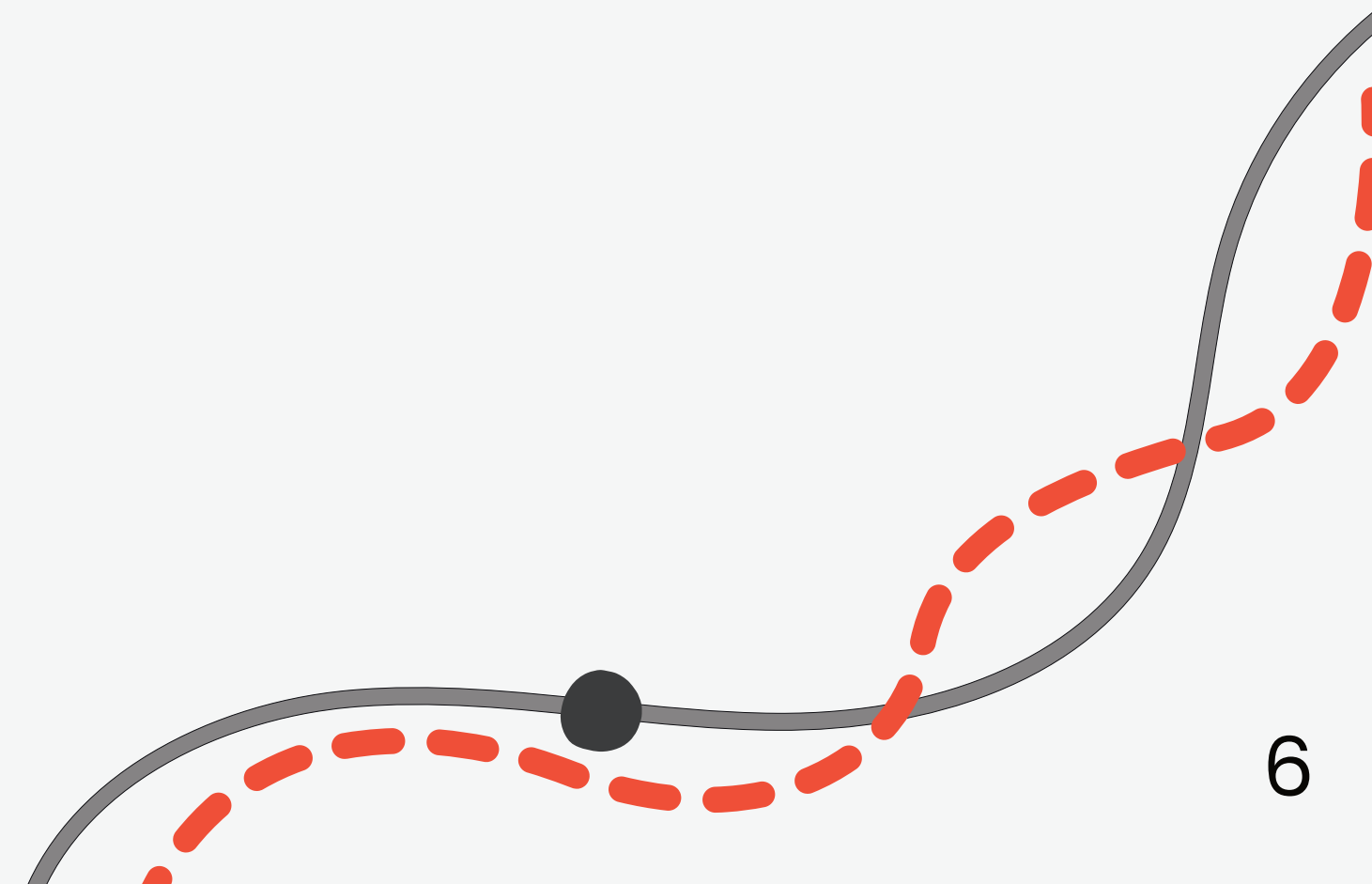
+ 1 booster session one month later



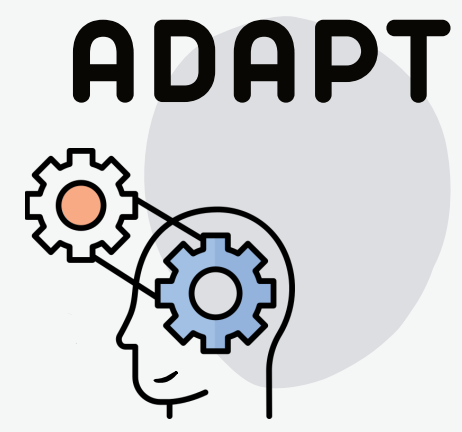
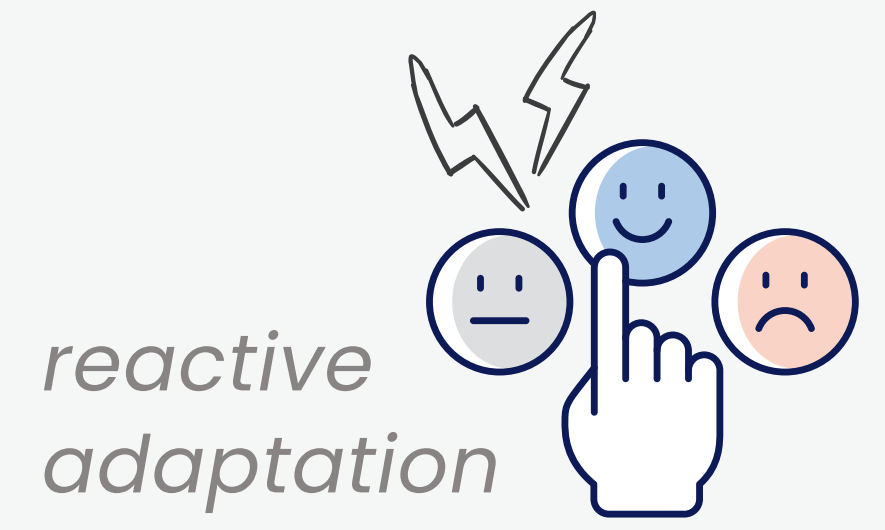
The interventions : AdOptimism Courses



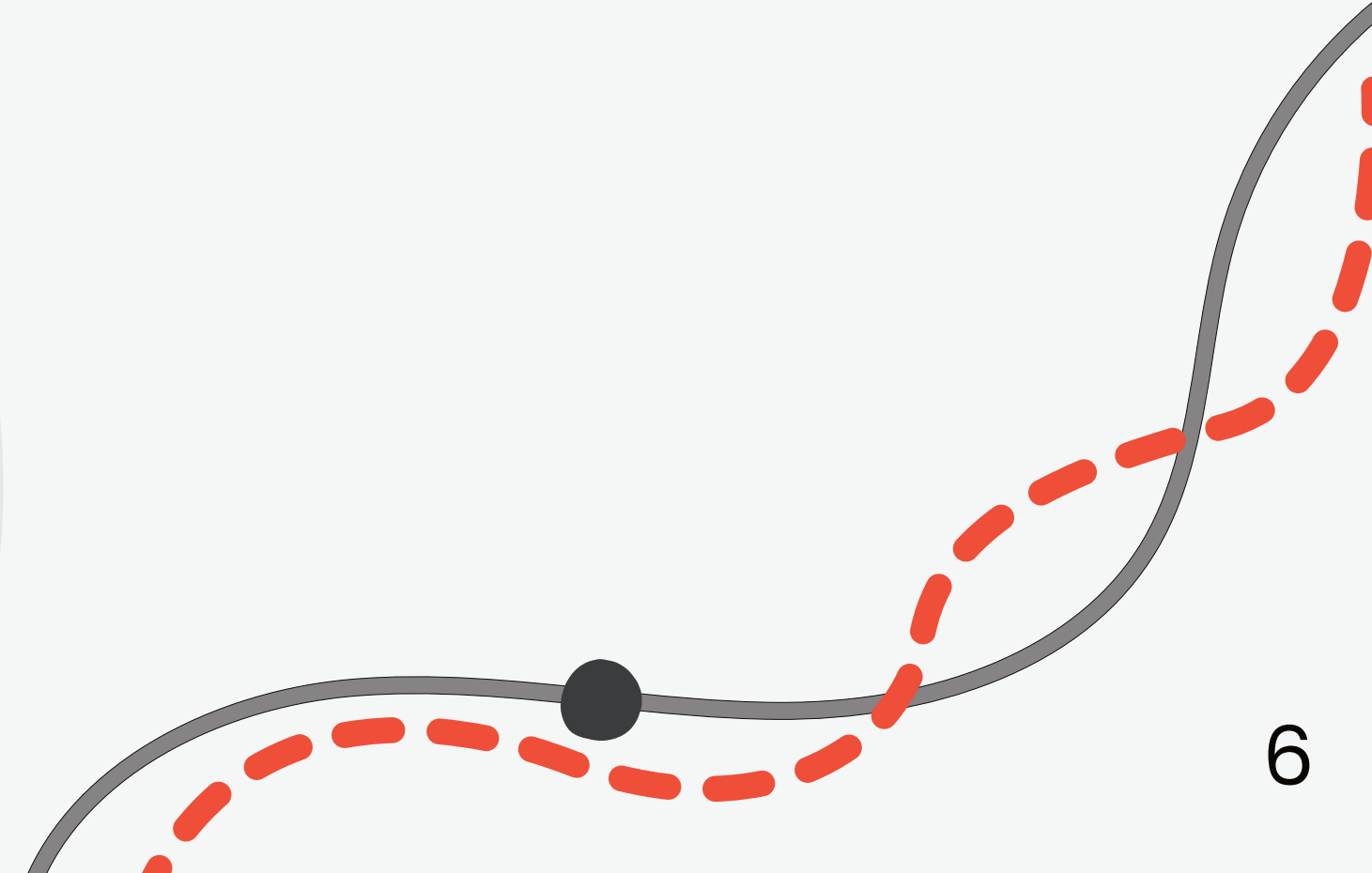
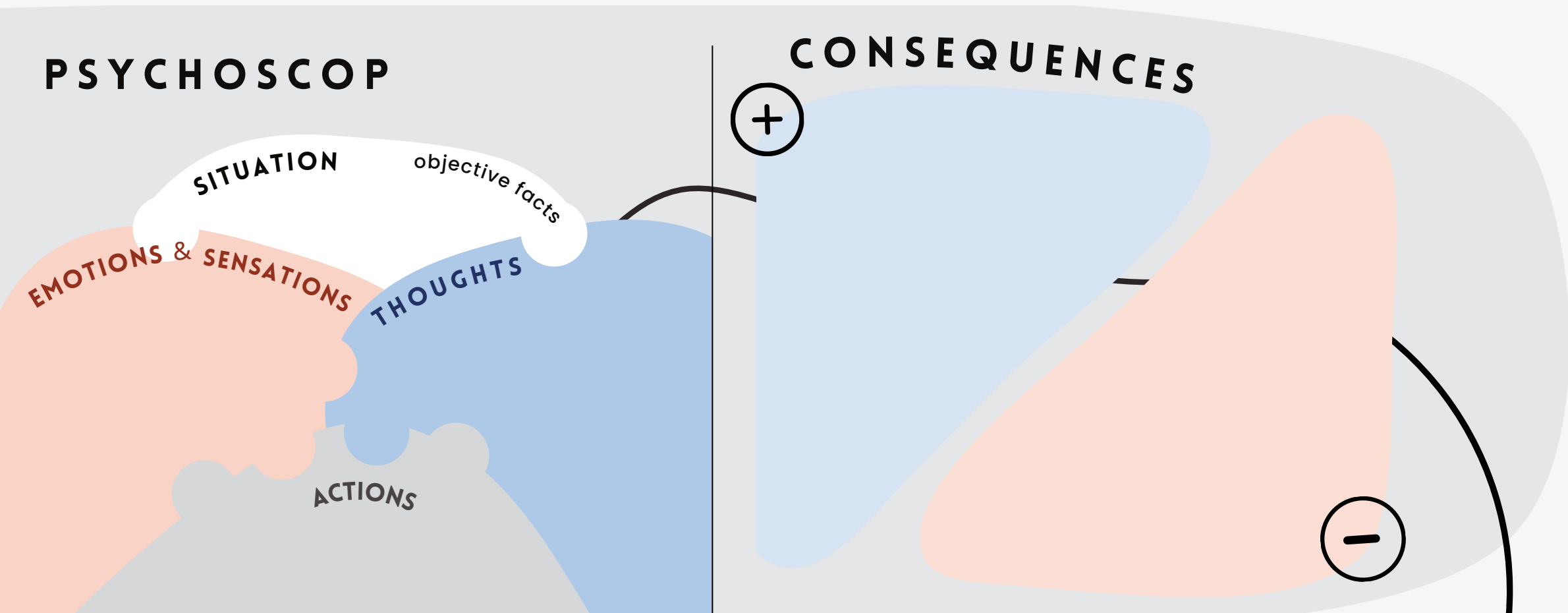
- *Session 1. Psychoscop*
- *Session 2. Coping Strategies, Stratest, Positive strategies*
- *Session 3. Bis Strategies, Positive strategies*

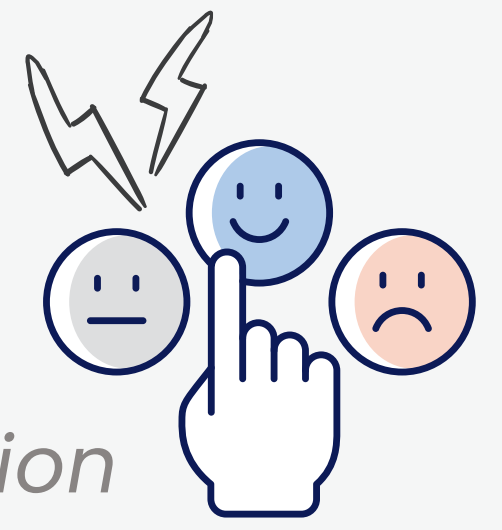


The interventions : AdOptimism Courses



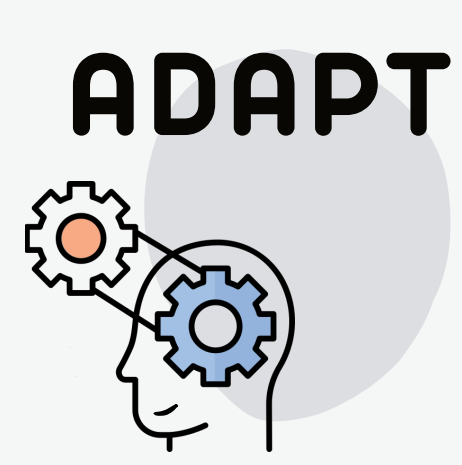
- Session 1. Psychoscop
- Session 2. Coping Strategies, Stratest, Positive strategies
- Session 3. Bis Strategies, Positive strategies





reactive adaptation

The interventions : AdOptimism Courses



- Session 1. Psychoscop
- Session 2. Coping Strategies, Stratest, Positive strategies
- Session 3. Bis Strategies, Positive strategies

STRATEGIES

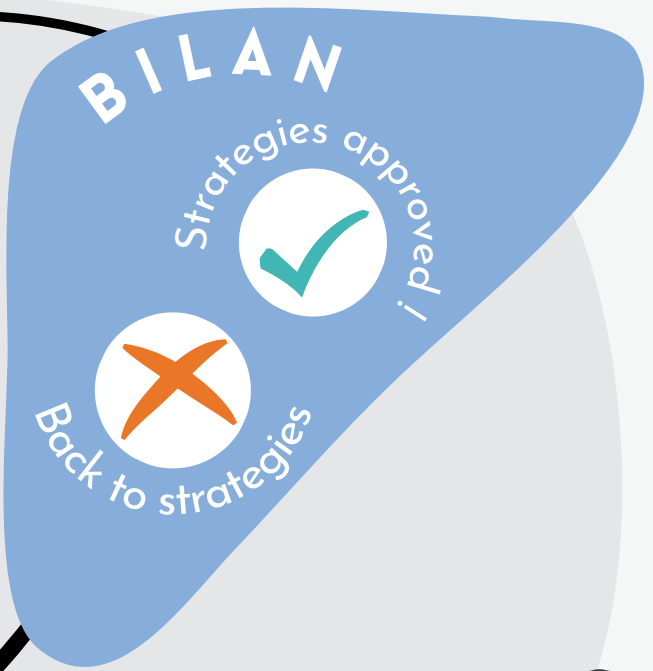
1.			
2.			
3.			
4.			
5.			

MEANWHILE
BEFORE AFTER

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

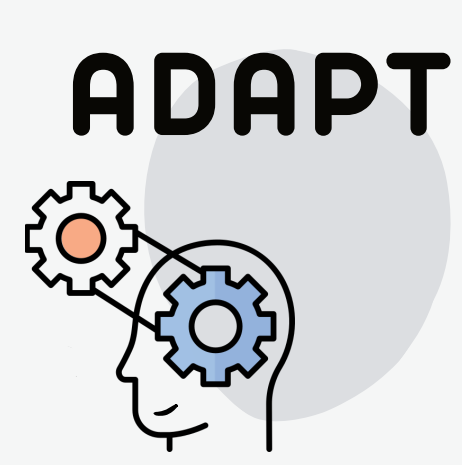
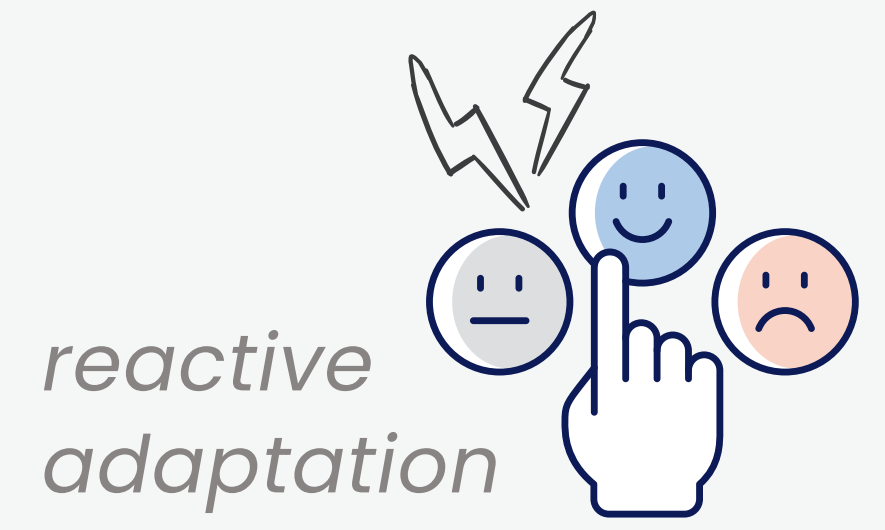
STRATEST

<input type="checkbox"/>	I feel better	-	+
<input type="checkbox"/>	Problem solved	-	+
<input type="checkbox"/>	Situation improved	-	+
<input type="checkbox"/>	I've avoided trouble	-	+
<input type="checkbox"/>	I've won something	-	+
<input type="checkbox"/>	I'm pleased with myself	-	+
<input type="checkbox"/>	Other (detail)	-	+



BIS STRATÉGIES

The interventions : AdOptimism Courses



- *Session 1. Psychoscop*
- *Session 2. Coping Strategies, Stratest, Positive strategies*
- *Session 3. Bis Strategies, Positive strategies*

STRATAID +

LOOKING FOR POSITIVE STUFF

- What's going to go right this week ?
- What went right this week ?

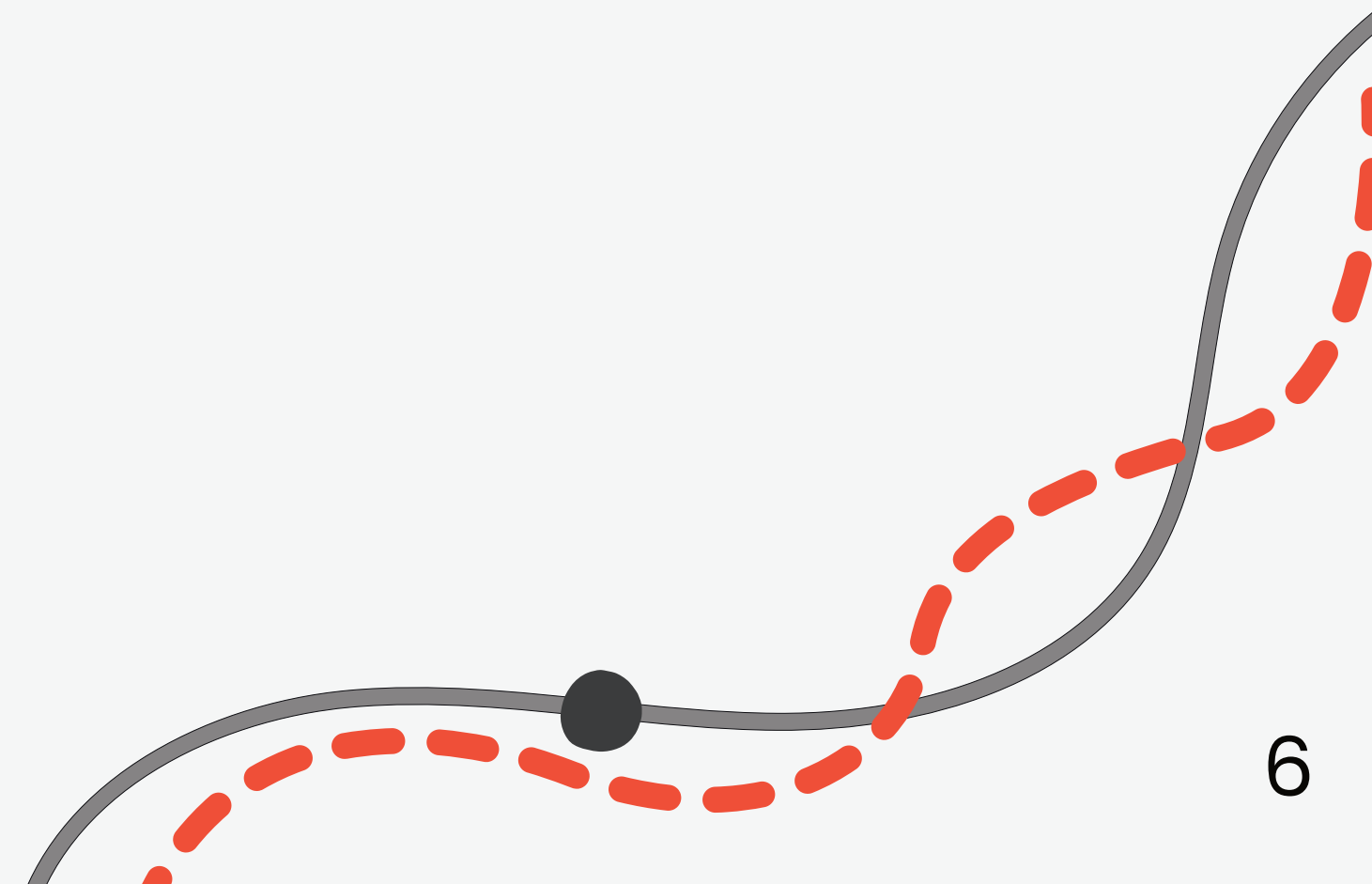
NUGGETS OF GOLD
3 things, moments, feelings that I really enjoyed today

THANKS...

- 3 things I' grateful for
- 3 people I'd like to thank for



MY PRIDE AND JOY
Today/this week, I'm proud of...

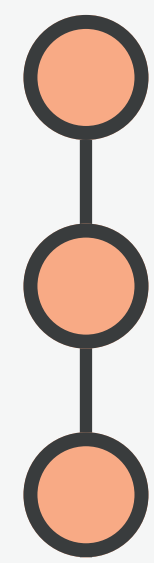
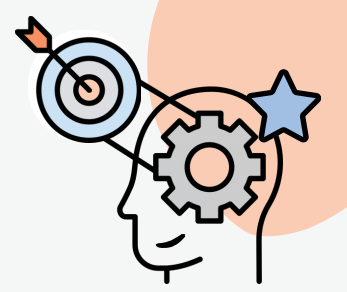




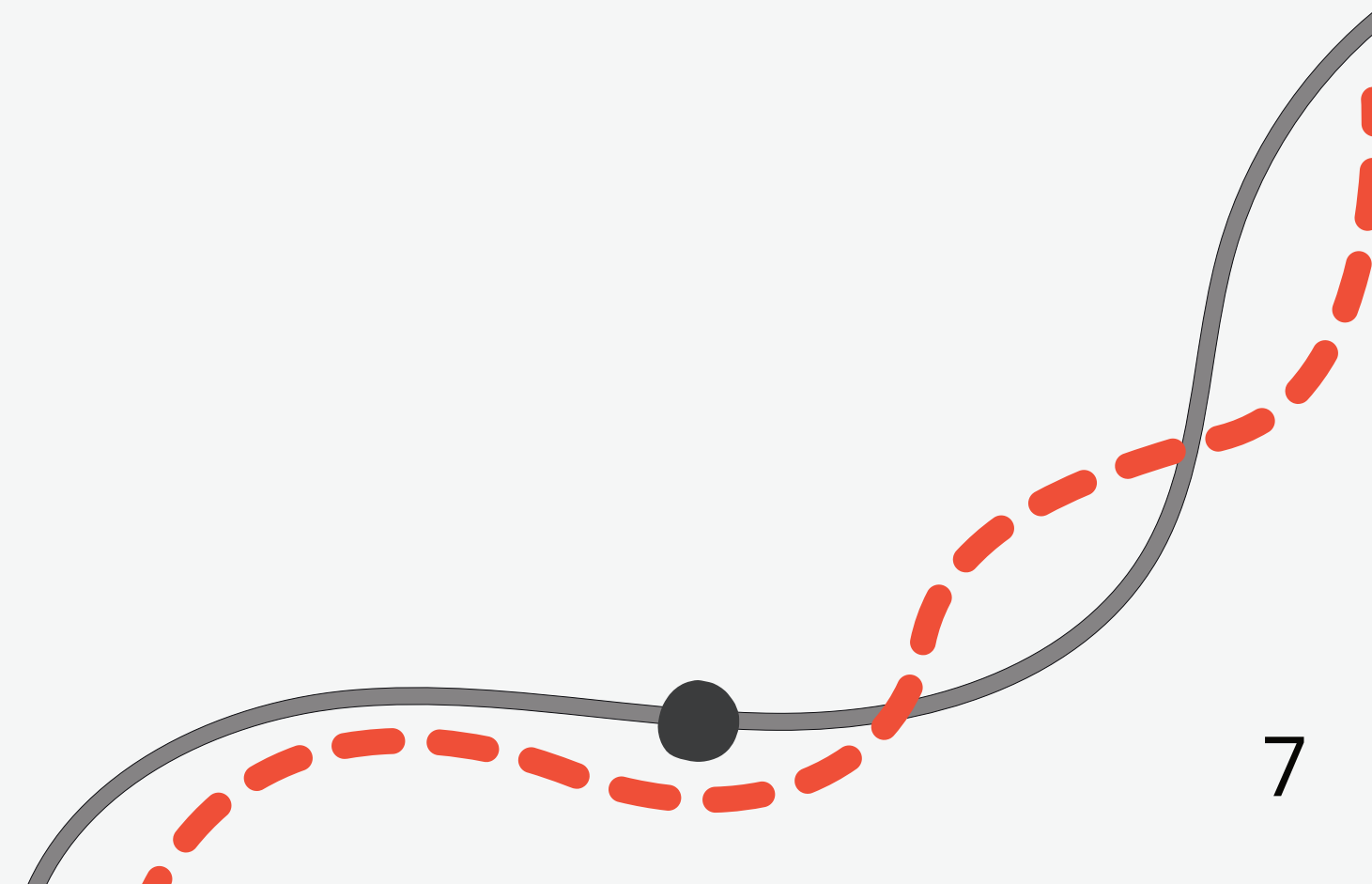
*proactive
adaptation*

The interventions : AdOptimism Courses

ENGAGE



- Session 1.* Macro & microobjectives, Steps to take
- Session 2.* Strengths & Resources, Helpful & Positive Strategies
- Session 3.* Red lights & Obstacles, Green lights & Bis itinerary, Positive strategies

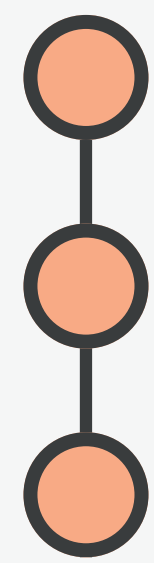
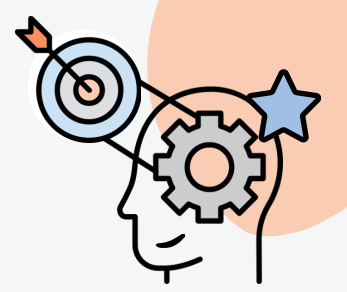




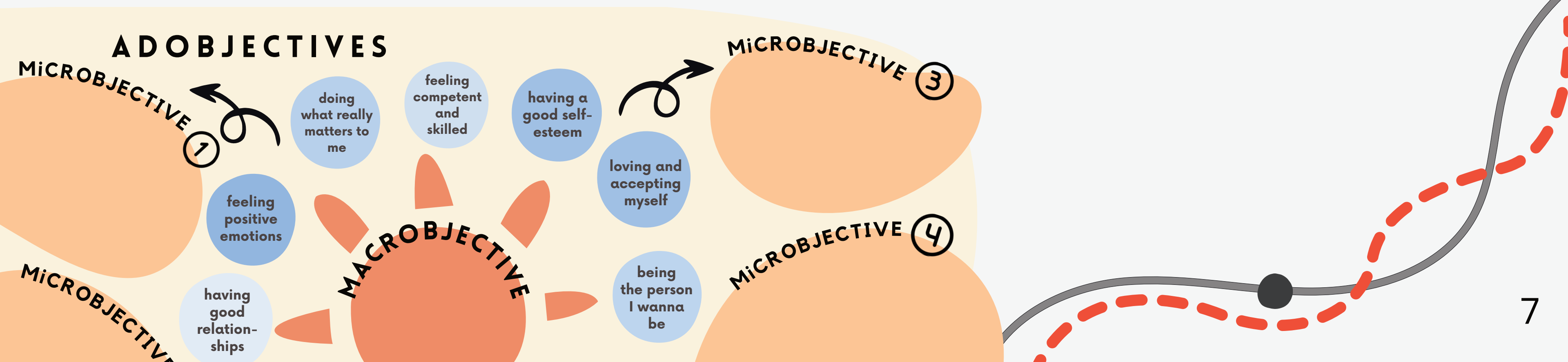
proactive adaptation

The interventions : AdOptimism Courses

ENGAGE



- Session 1.* Macro & microobjectives, Steps to take
- Session 2.* Strengths & Resources, Helpful & Positive Strategies
- Session 3.* Red lights & Obstacles, Green lights & Bis itinerary, Positive strategies

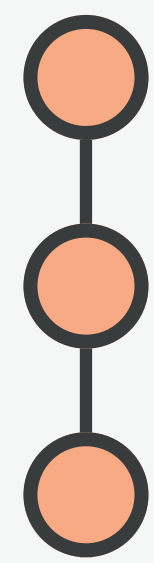
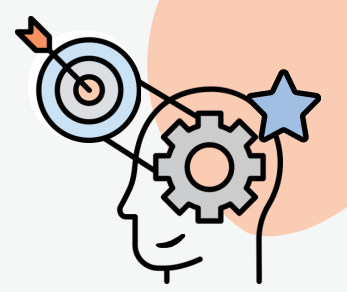




*proactive
adaptation*

The interventions : AdOptimism Courses

ENGAGE



- Session 1.* Macro & microobjectives, Steps to take
- Session 2.* Strengths & Resources, Helpful & Positive Strategies
- Session 3.* Red lights & Obstacles, Green lights & Bis itinerary, Positive strategies

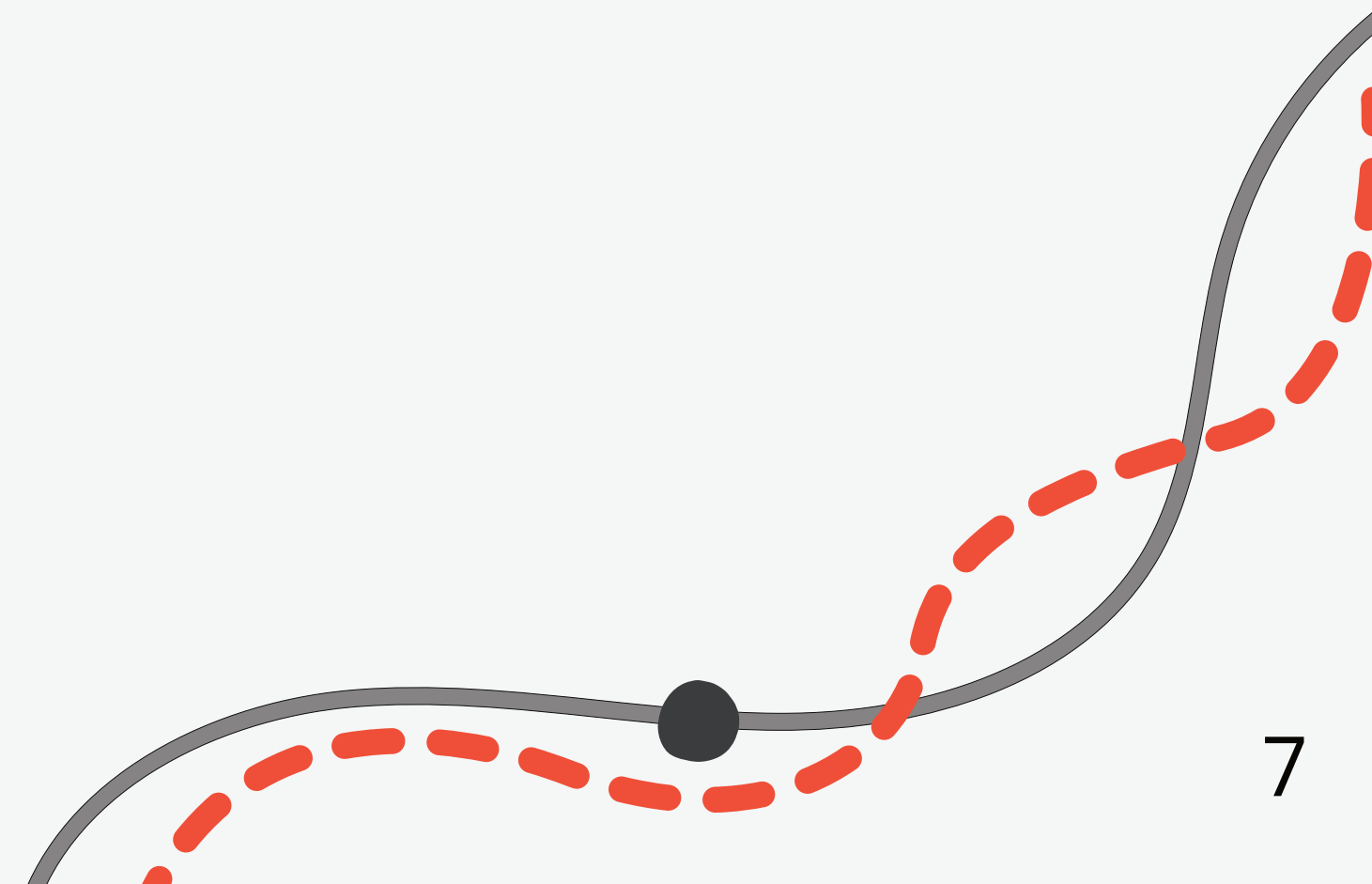
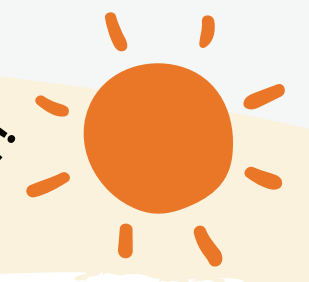
STEPS TO TAKE

MICROOBJECTIVE

step by step

goal achieved!

very first step

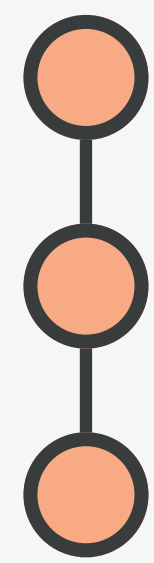
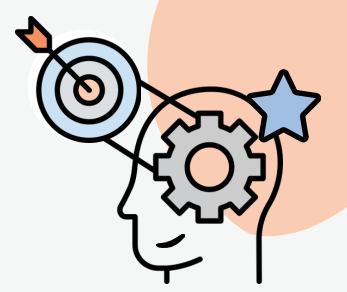




proactive adaptation

The interventions : AdOptimism Courses

ENGAGE



- Session 1. Macro & microobjectives, Steps to take
- Session 2. Strengths & Resources, Helpful & Positive Strategies
- Session 3. Red lights & Obstacles, Green lights & Bis itinerary, Positive strategies

INTERNAL STRENGTHS

✓ that I already have >>> still to develop

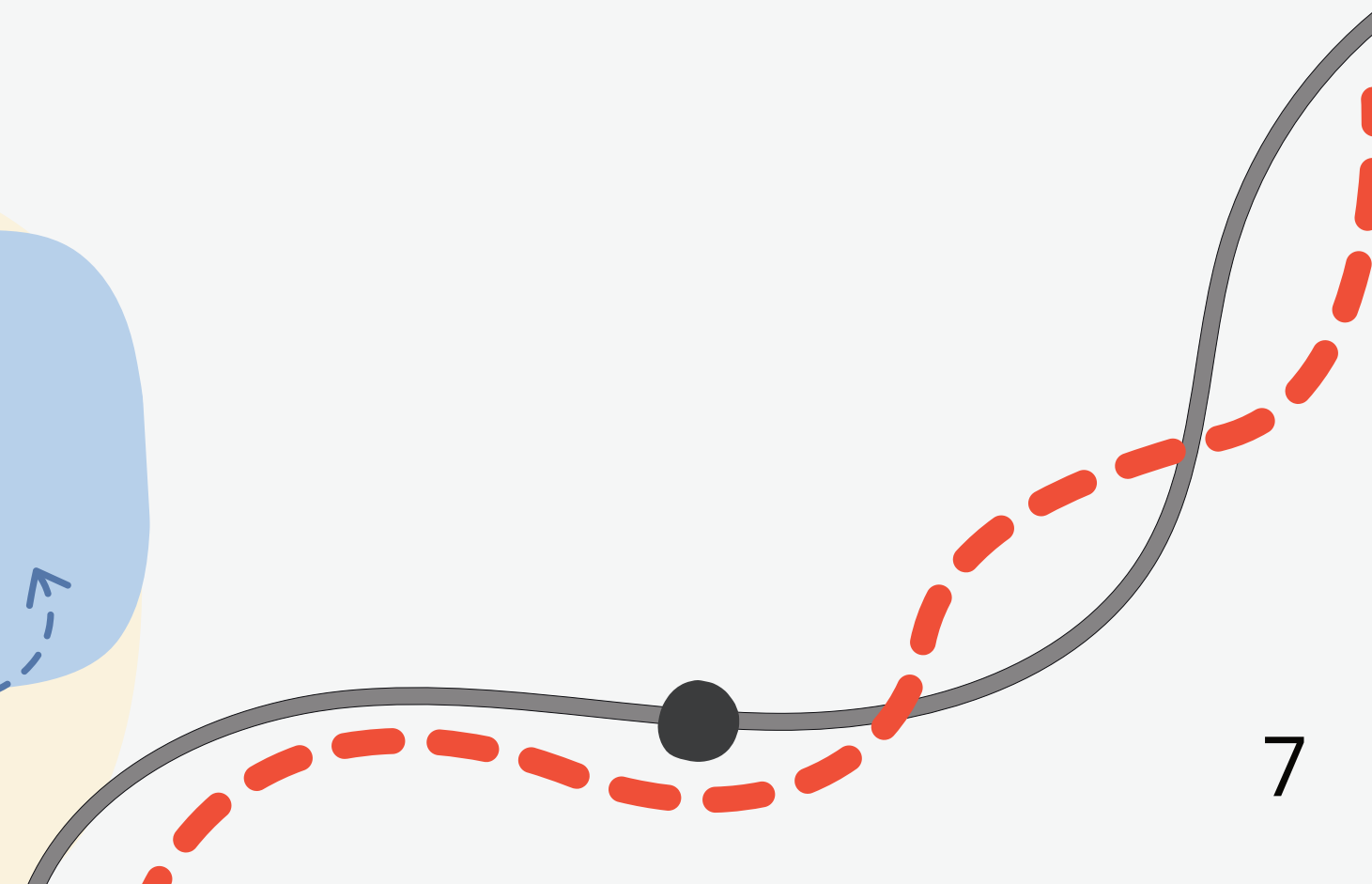
STRATEGIES

BEFORE the step

AFTER the step

MEANWHILE

EXTERNAL RESOURCES

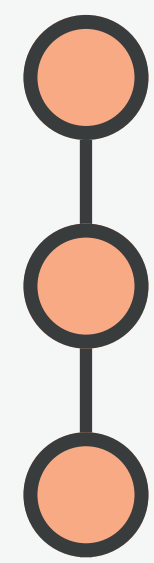
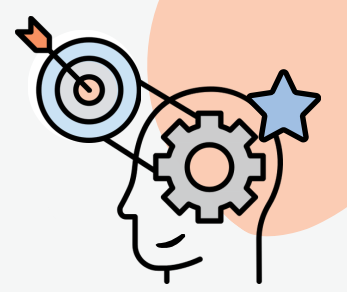




proactive adaptation

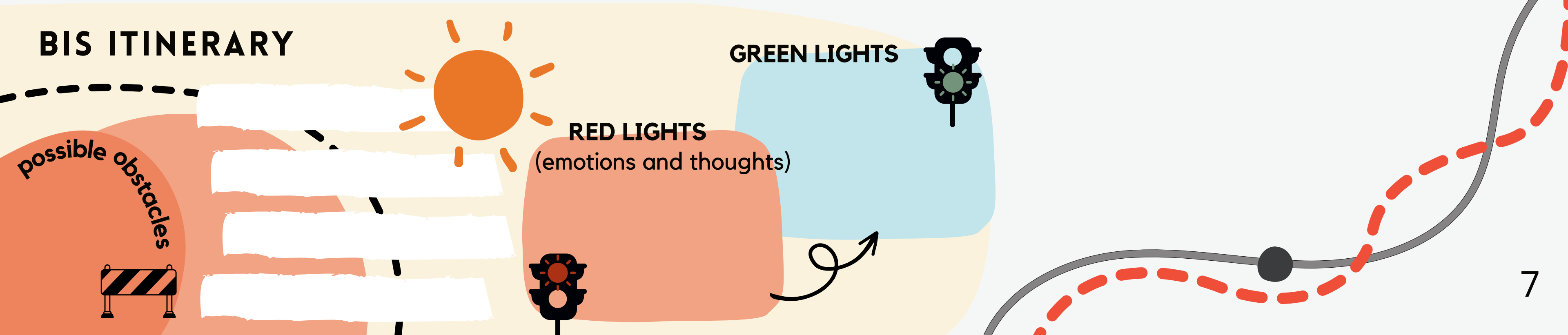
The interventions : AdOptimism Courses

ENGAGE



- Session 1.* Macro & microobjectives, Steps to take
- Session 2.* Strengths & Resources, Helpful & Positive Strategies
- Session 3.* Red lights & Obstacles, Green lights & Bis itinerary, Positive strategies

BIS ITINERARY

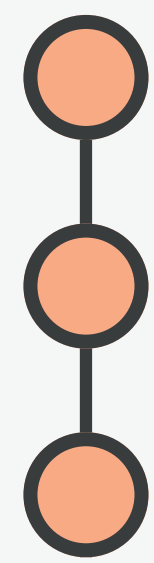
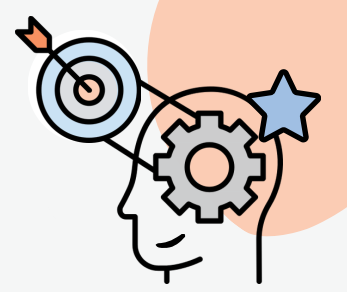




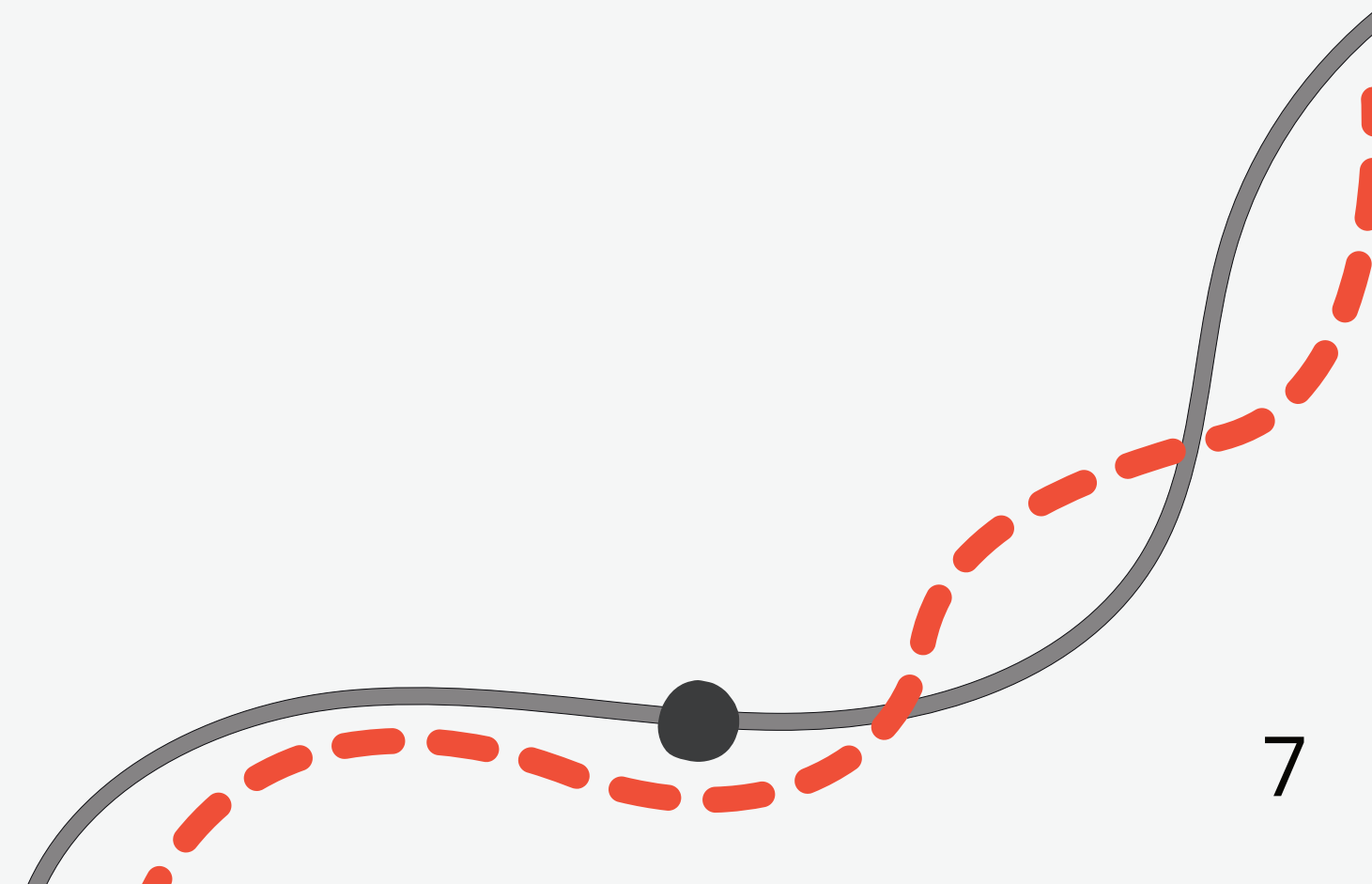
proactive adaptation

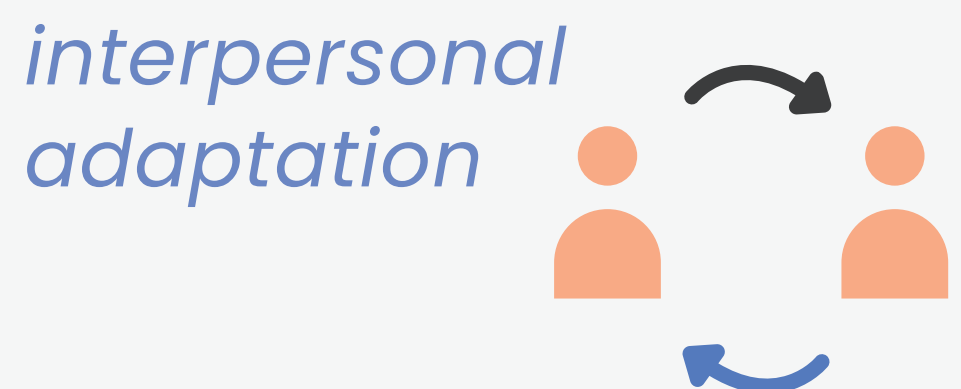
The interventions : AdOptimism Courses

ENGAGE



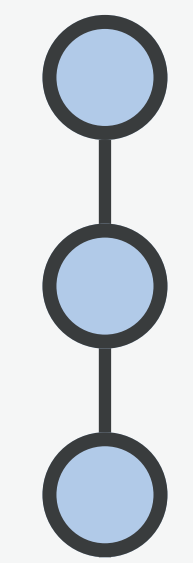
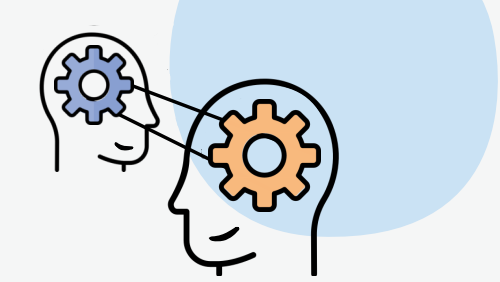
- Session 1.* Macro & microobjectives, Steps to take
- Session 2.* Strengths & Resources, Helpful & Positive Strategies
- Session 3.* Red lights & Obstacles, Green lights & Bis itinerary, Positive strategies



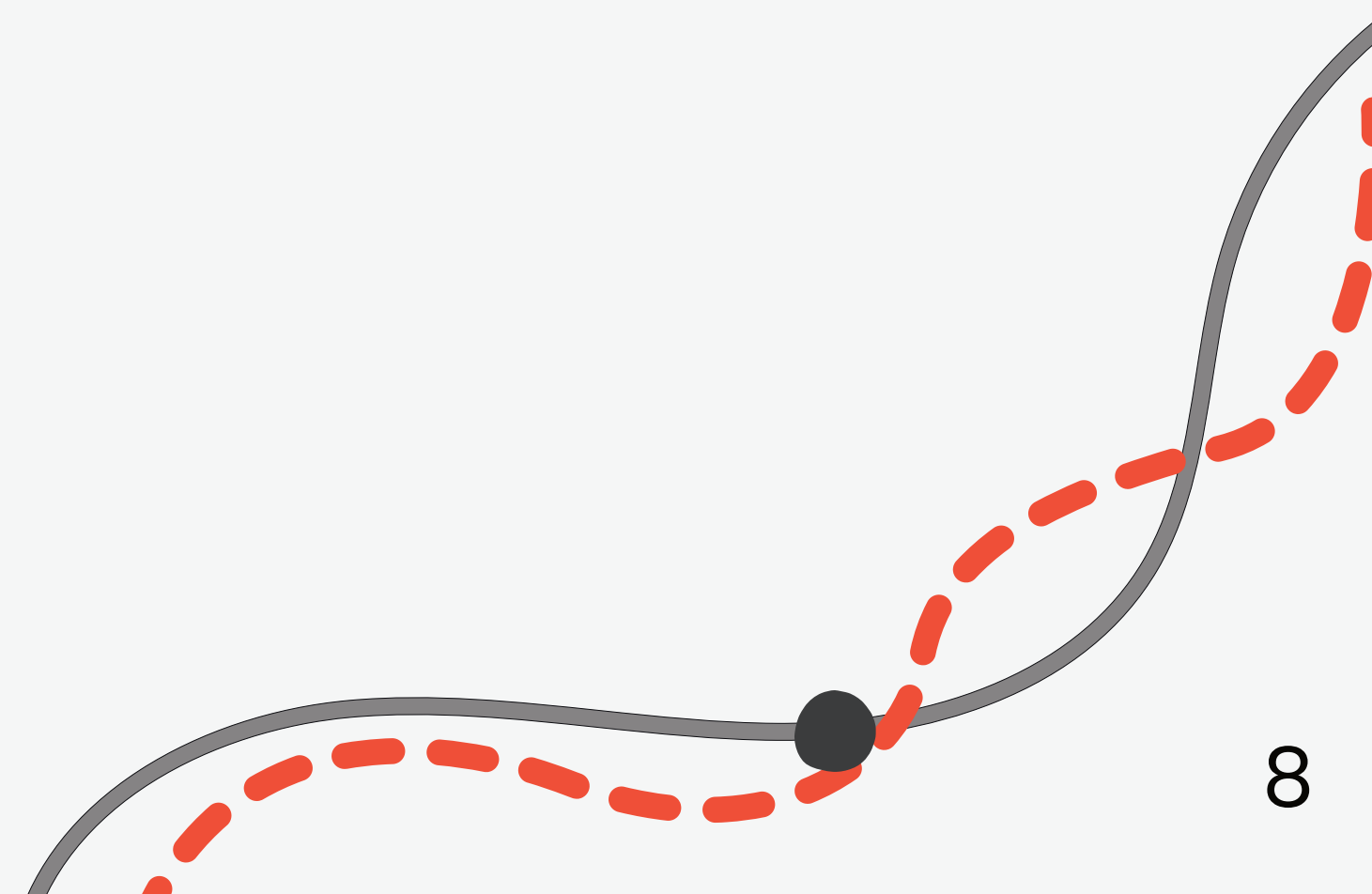


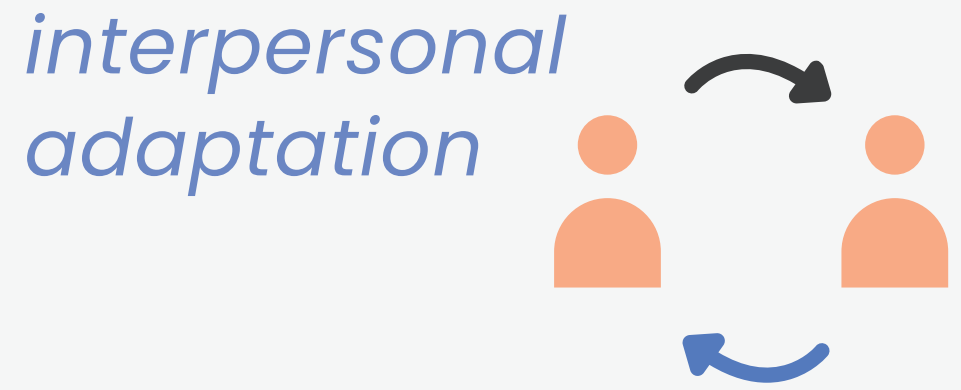
The interventions : AdOptimism Courses

INTERACT



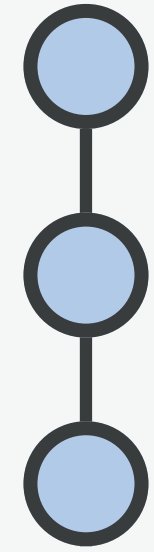
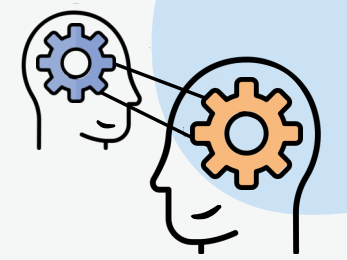
- Session 1. Mirrored-Psychoscop $\pi\Omega$
- Session 2. Assertive strategies, Stratest, Positive Strategies
- Session 3. Bis strategies, Conflict-solving & Positive strategies





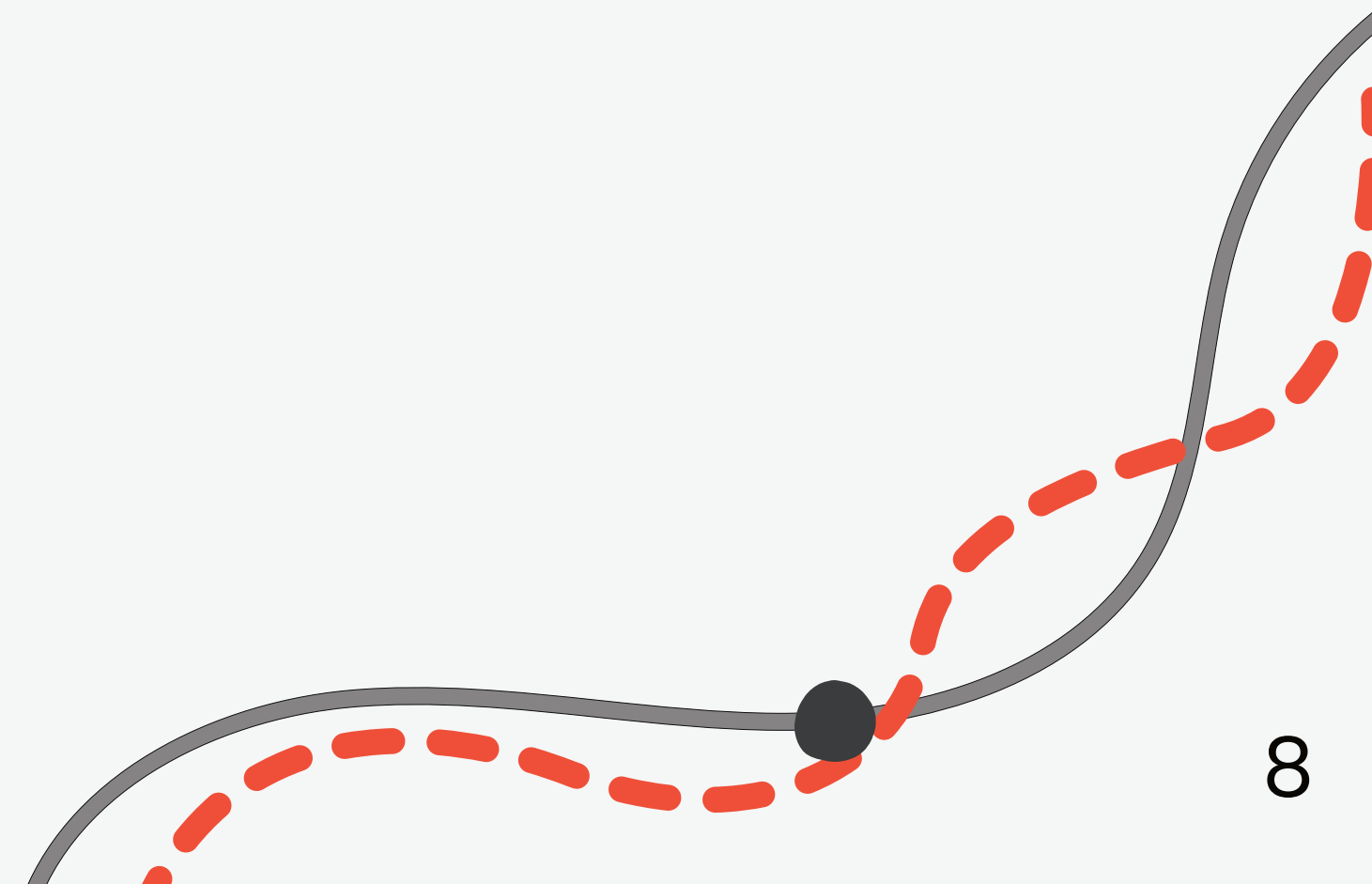
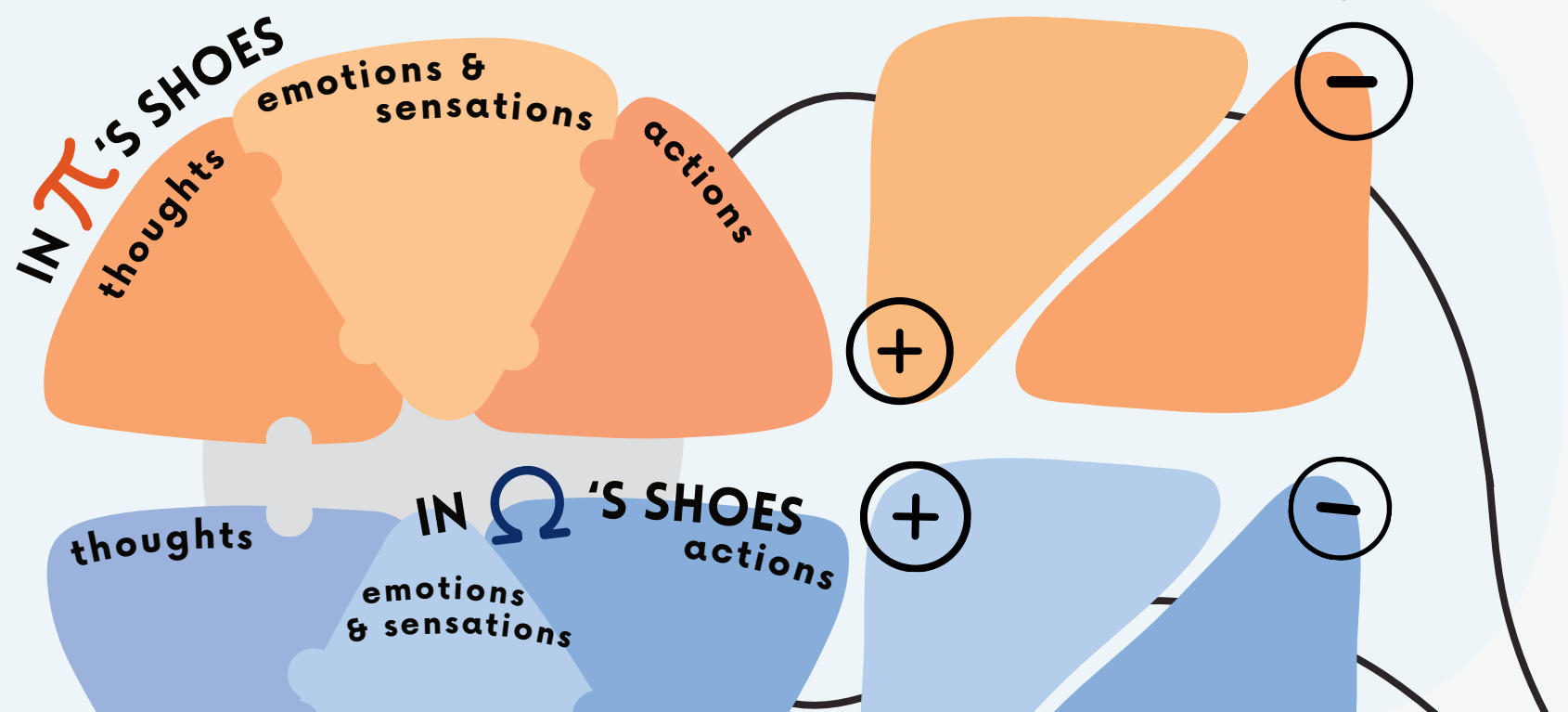
The interventions : AdOptimism Courses

INTERACT

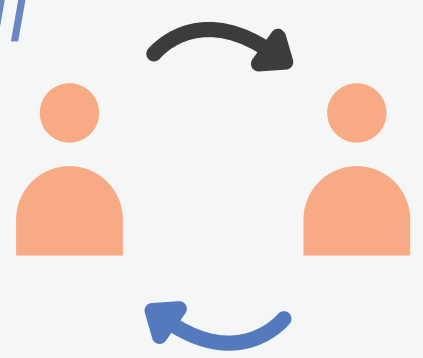


- Session 1. Mirrored-Psychoscop $\pi\Omega$
- Session 2. Assertive strategies, Stratest, Positive Strategies
- Session 3. Bis strategies, Conflict-solving & Positive strategies

MIRRORED-PSYCHOSCOPE CONSEQUENCES

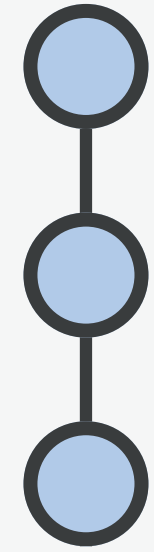
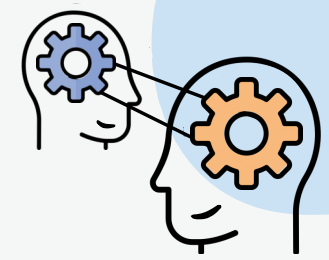


interpersonal adaptation



The interventions : AdOptimism Courses

INTERACT



- Session 1. Mirrored-Psychoscop $\pi\Omega$
- Session 2. Assertive strategies, Stratest, Positive Strategies
- Session 3. Bis strategies, Conflict-solving & Positive strategies

STRATEGIES

1.	[Orange bar]
2.	[Orange bar]
3.	[Orange bar]
4.	[Orange bar]

BEFORE
MEANWHILE
AFTER

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

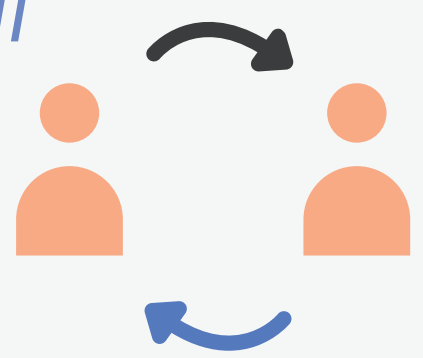
STRATEGIES

1.	[Blue bar]
2.	[Blue bar]
3.	[Blue bar]
4.	[Blue bar]

BEFORE
MEANWHILE
AFTER

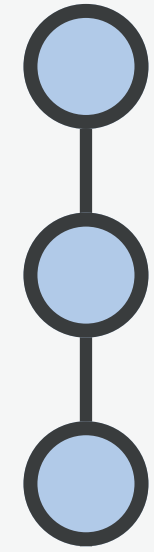
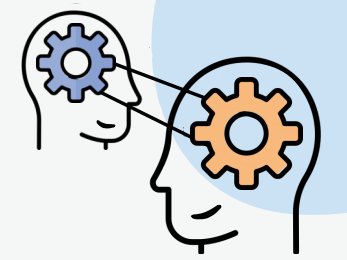
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

interpersonal adaptation

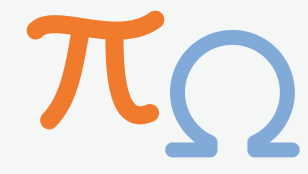


The interventions : AdOptimism Courses

INTERACT



Session 1. Mirrored-Psychoscop



Session 2. Assertive strategies, Stratest, Positive Strategies

Session 3. Bis strategies, Conflict-solving & Positive strategies

STRATAID +

LOOKING FOR POSITIVE STUFF

What do I like about ... ?

SUGGESTING

What would I like to do with ... ?

ACT KIND

Offering help to...
An act of kindness to...

PAYING A COMPLIMENT

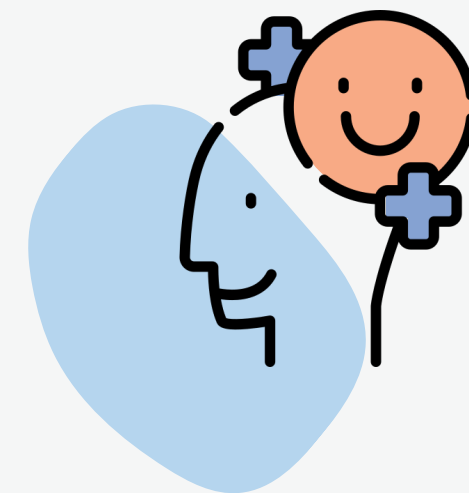
I could tell ... that i've enjoyed ...

USING MY BODY LANGAGE

with a smile, voice, gesture...

THANKS

I could thank ... about what he/she did for me



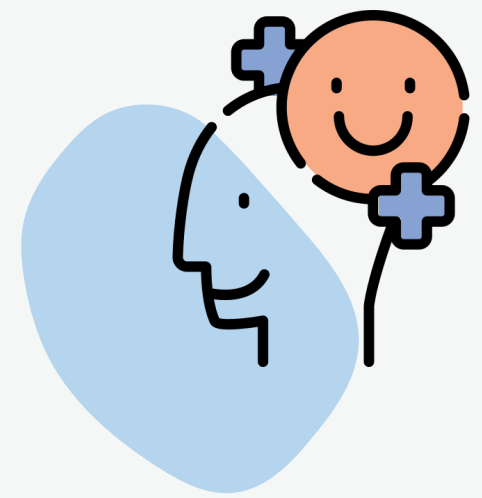
The interventions : AdOptimism Courses

Additional content

- ***A repertoire of local resources***
- ***A personal workbook***
- ***A dedicated website***



<https://parcours-adoptimisme.unimes.fr/>

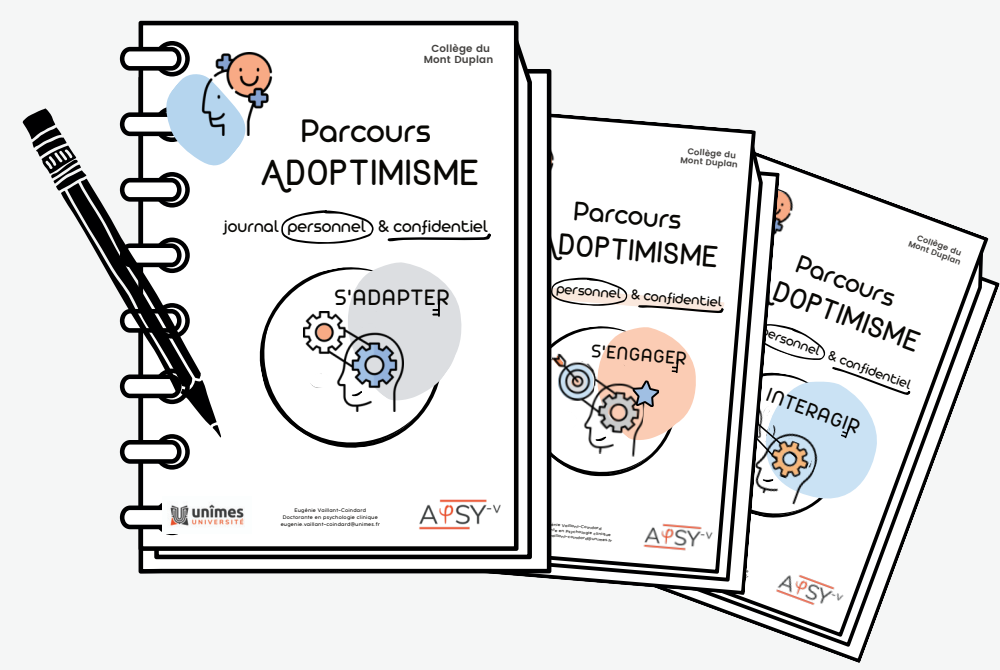


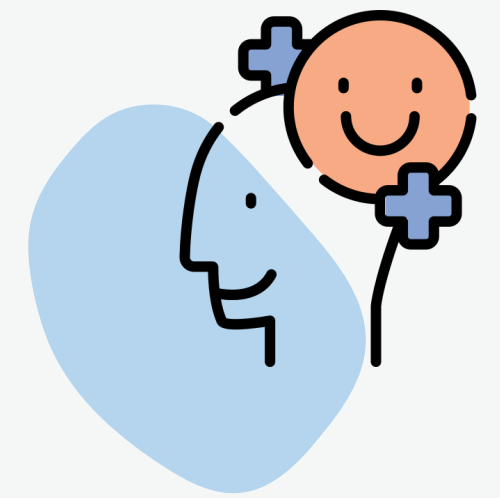
The interventions : AdOptimism Courses

Additional content

- ***A repertoire of local resources***
- ***A personal workbook***
- ***A dedicated website***

<https://parcours-adoptimisme.unimes.fr/>





The interventions : AdOptimism Courses

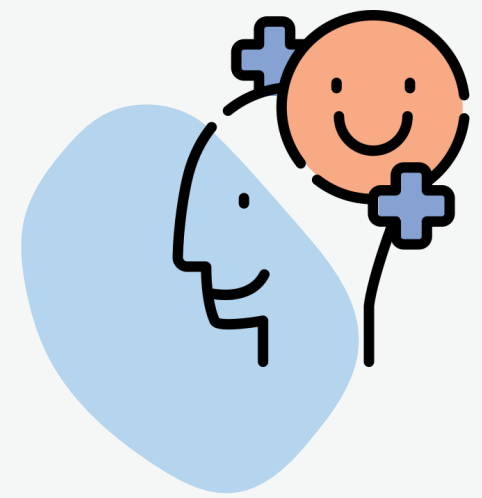
Additional content

- ***A repertoire of local resources***
- ***A personal workbook***
- ***A dedicated website***

<https://parcours-adoptimisme.unimes.fr/>

http://





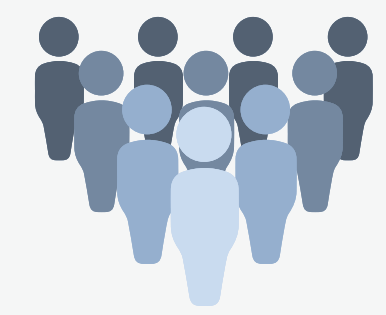
Sample

context

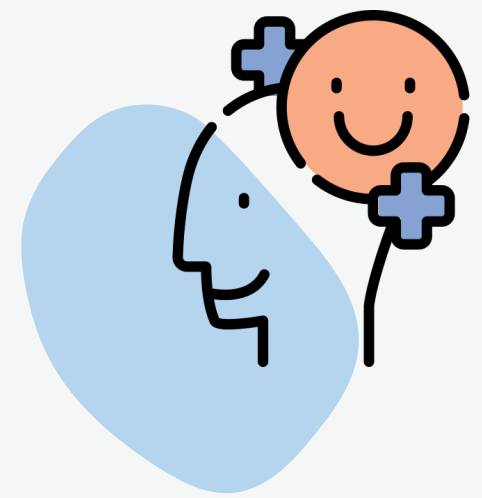


- 2 urban middle-schools
 - 1 secular public school
 - 1 religious private school
- Southern France
- Mixed socioeconomic & cultural backgrounds

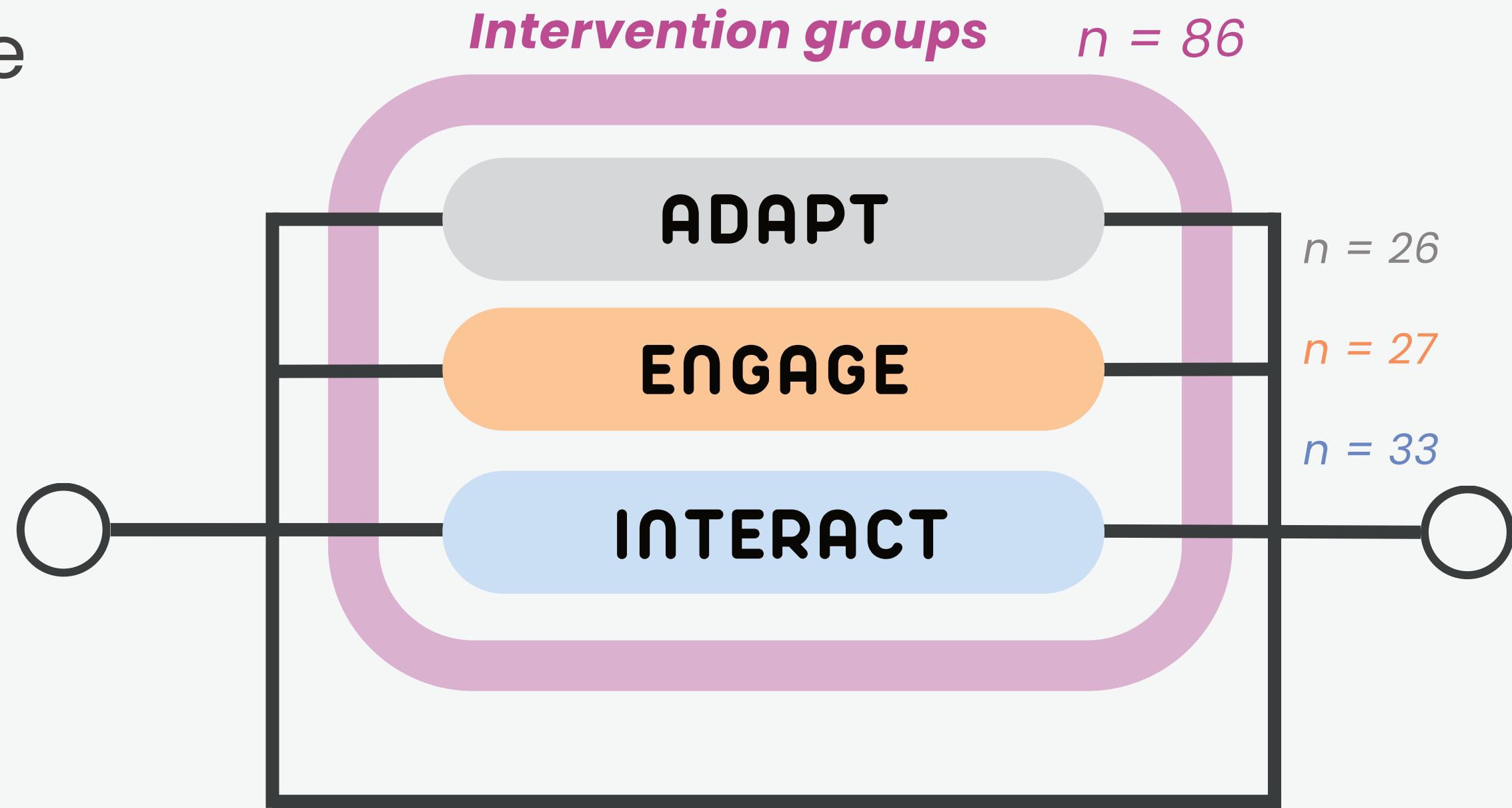
participants

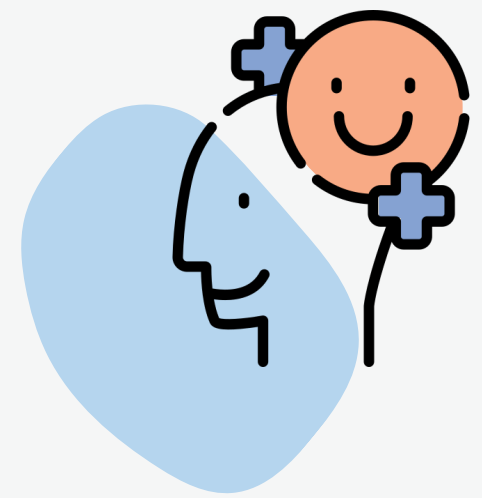


- 162 consenting students
- 3rd middle-school year
- ~13y
- ♀ 45.6 %

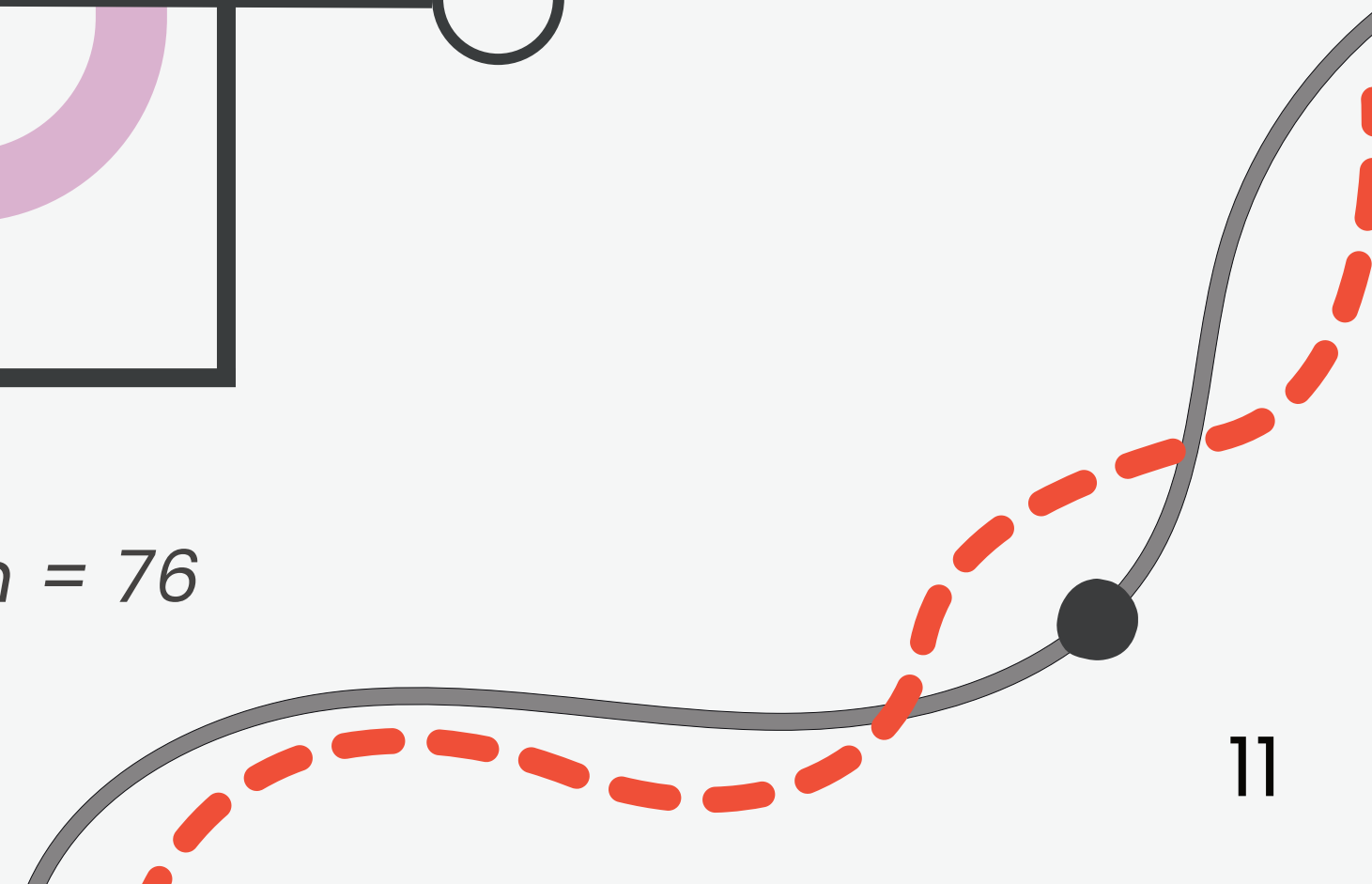
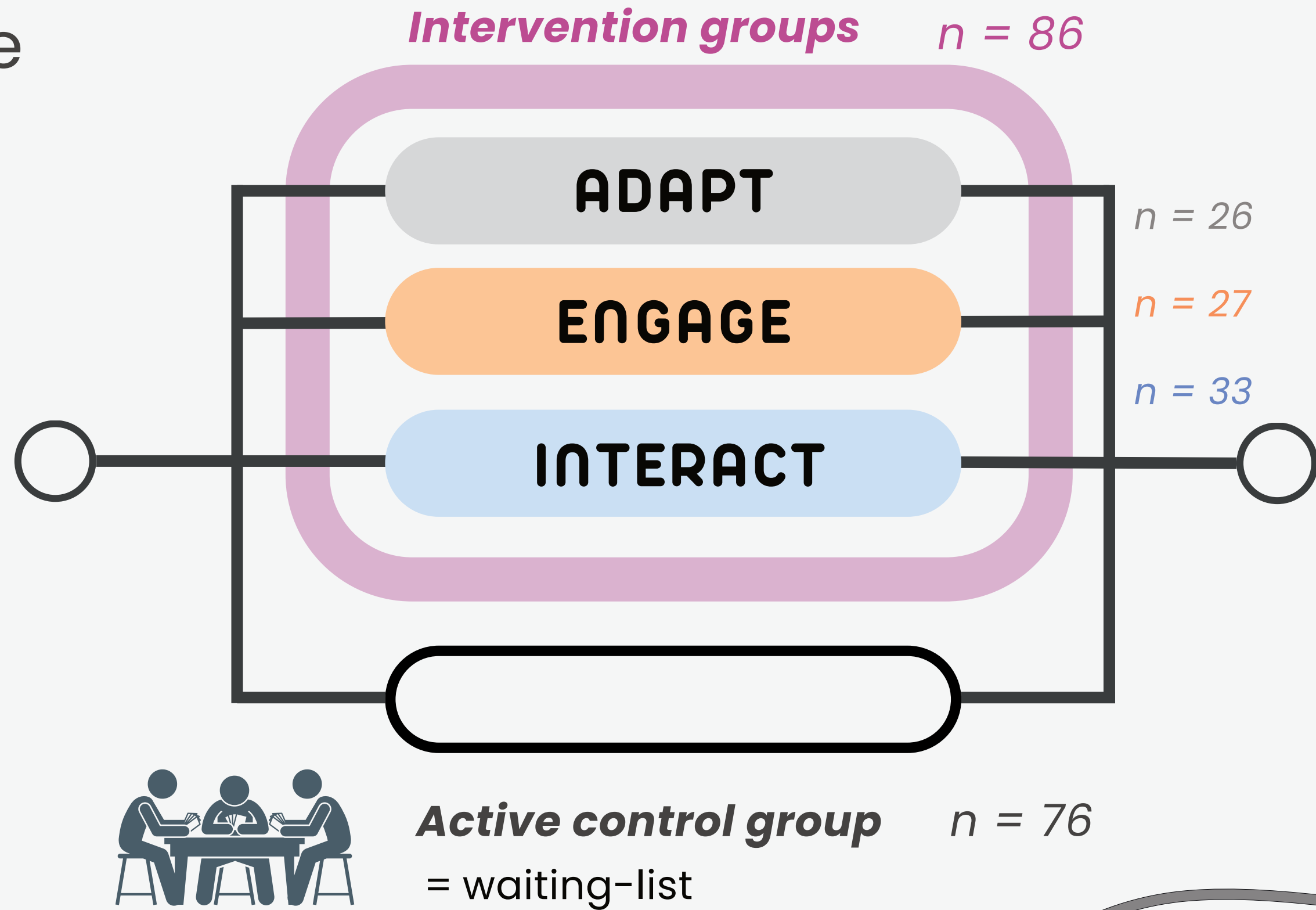


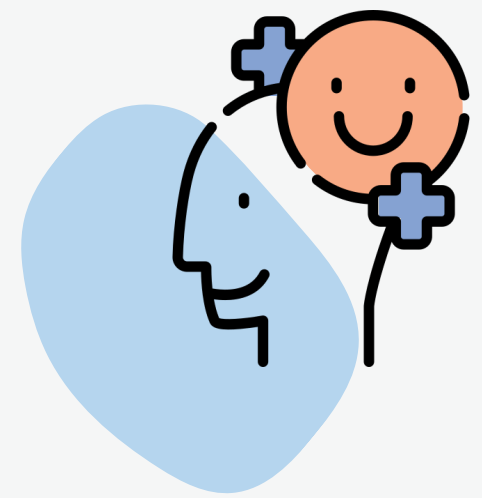
Procedure



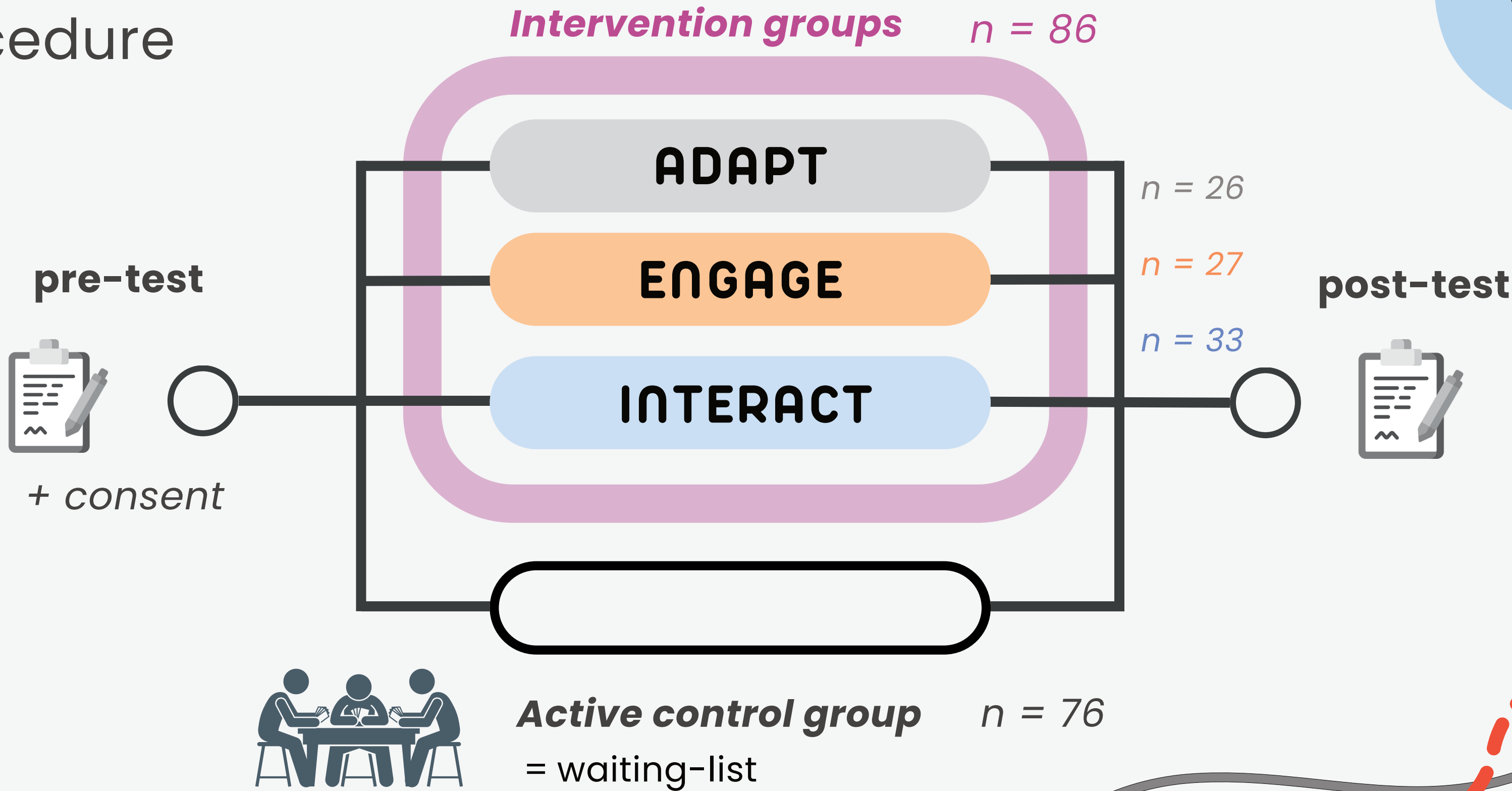


Procedure



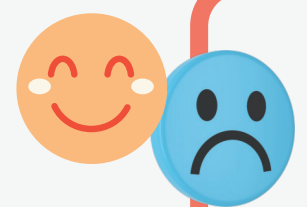


Procedure





Outcome measures



Mental health outcomes

- **HADS** : anxiety & depressive symptoms
- **WSAS-Y-SR** : functional impairment
- **MHC-SF** : wellbeing



+ **USER EXPERIENCE** questionnaire
appreciation - acceptability - utility - usability

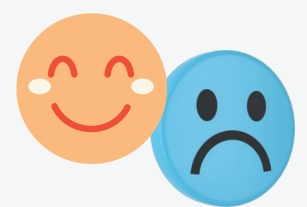


Processual outcomes

- **CFS** : coping flexibility
- **Brief-COPE** : coping strategies
- **WAM-C/a** : committed actions
- **GSES** : general self-efficacy
- **AFQ** : assertiveness



Outcome measures



Mental health outcomes

- **HADS** : anxiety & depressive symptoms
- **WSAS-Y-SR** : functional impairment
- **MHC-SF** : wellbeing



+ **USER EXPERIENCE** questionnaire
appreciation - acceptability - utility - usability

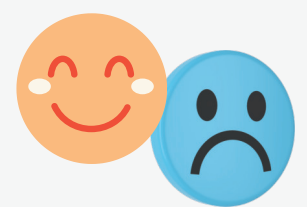


Processual outcomes

- **CFS** : coping flexibility
- **Brief-COPE** : coping strategies
- **WAM-C/a** : committed actions
- **GSES** : general self-efficacy
- **AFQ** : assertiveness

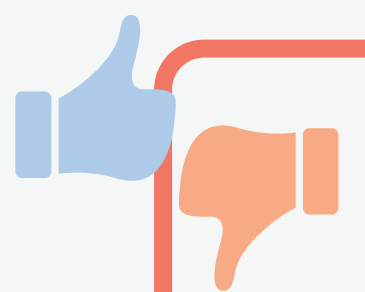


Outcome measures



Mental health outcomes

- **HADS** : anxiety & depressive symptoms
- **WSAS-Y-SR** : functional impairment
- **MHC-SF** : wellbeing



+ **USER EXPERIENCE** questionnaire
appreciation - acceptability - utility - usability



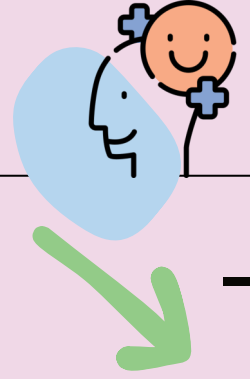

Processual outcomes

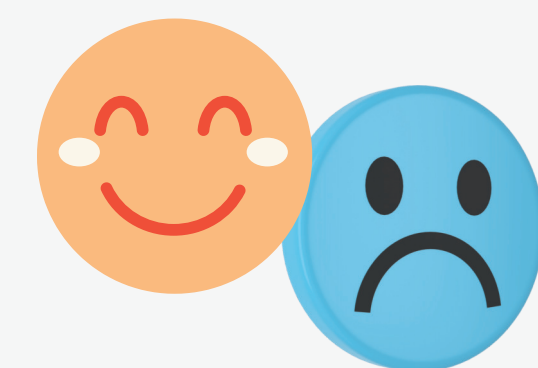
- **CFS** : coping flexibility
- **Brief-COPE** : coping strategies
- **WAM-C/a** : committed actions
- **GSES** : general self-efficacy
- **AFQ** : assertiveness



Group-level clinical outcomes

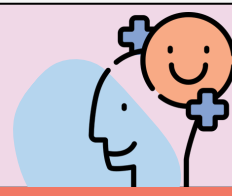



Table 1. Within- and between-group comparisons depending on clinical outcomes (%).

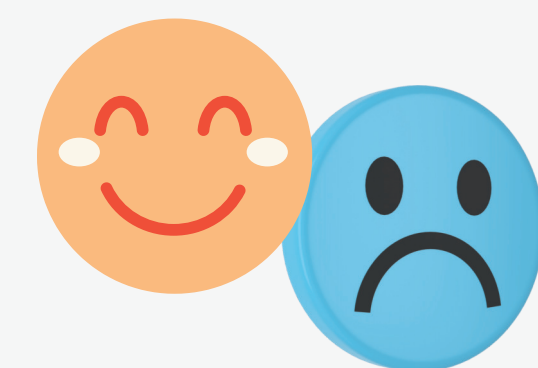
	 Intervention groups		Control group		Post-test between-group comparisons
depressive symptoms	-4.0 % <i>p</i> = .004, <i>rrb</i> = .41		-1.0 % <i>p</i> = .59		<i>p</i> = .15
anxiety symptoms	+0.1 % <i>p</i> = .75		-0.2 % <i>p</i> = .90		<i>p</i> = .25
functional impairment	- 2.4 % <i>p</i> = .19		 + 2.2 % <i>p</i> = .54		<i>p</i> = .004, <i>rrb</i> = .28
wellbeing	+ 1.6 % <i>p</i> = .91		- 3.1 % <i>p</i> = .39		<i>p</i> = .16



Group-level clinical outcomes

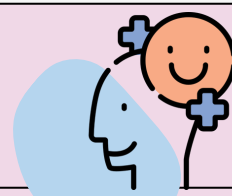



Table 1. Within- and between-group comparisons depending on clinical outcomes (%).

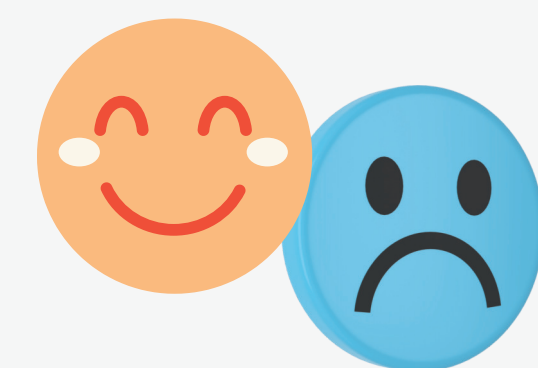
	 Intervention groups		Control group		Post-test between-group comparisons
depressive symptoms	 -4.0 % $p = .004, rrb = .41$		-1.0 % $p = .59$		$p = .15$
anxiety symptoms	+0.1 % $p = .75$		-0.2 % $p = .90$		$p = .25$
functional impairment	 - 2.4 % $p = .19$	 + 2.2 % $p = .54$			$p = .004, rrb = .28$
wellbeing	+ 1.6 % $p = .91$		- 3.1 % $p = .39$		$p = .16$



Group-level clinical outcomes

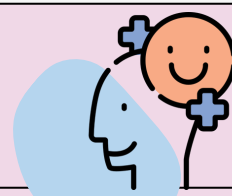



Table 1. Within- and between-group comparisons depending on clinical outcomes (%).

	 Intervention groups	Control group	Post-test between-group comparisons
depressive symptoms	 -4.0 % $p = .004, rrb = .41$	-1.0 % $p = .59$	$p = .15$
anxiety symptoms	+0.1 % $p = .75$	-0.2 % $p = .90$	$p = .25$
functional impairment	 - 2.4 % $p = .19$	 + 2.2 % $p = .54$	$p = .004, rrb = .28$
wellbeing	+ 1.6 % $p = .91$	- 3.1 % $p = .39$	$p = .16$



Group-level clinical outcomes

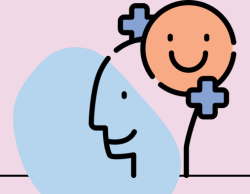



Table 1. Within- and between-group comparisons depending on clinical outcomes (%).

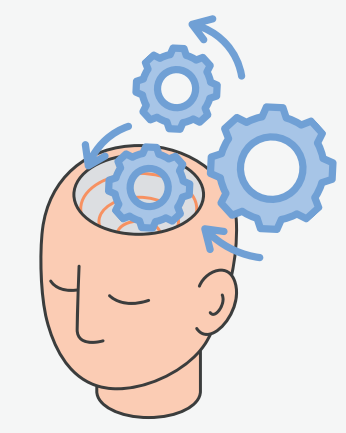
	 Intervention groups	Control group	Post-test between-group comparisons
depressive symptoms	 -4.0 % $p = .004, rrb = .41$	-1.0 % $p = .59$	$p = .15$
anxiety symptoms	+0.1 % $p = .75$	-0.2 % $p = .90$	$p = .25$
functional impairment	 - 2.4 % $p = .19$	 + 2.2 % $p = .54$	$p = .004, rrb = .28$
wellbeing	+ 1.6 % $p = .91$	- 3.1 % $p = .39$	$p = .16$



Group-level clinical outcomes

Table 1. Within- and between-group comparisons depending on clinical outcomes (%).

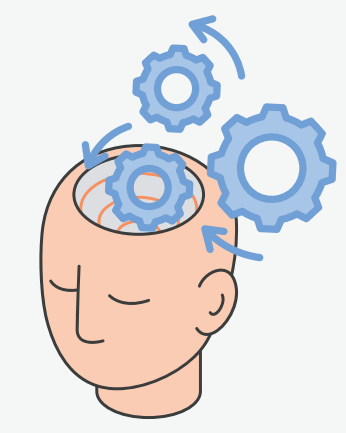
	 Intervention groups	Control group	Post-test between-group comparisons
depressive symptoms	 -4.0 % $p = .004, rrb = .41$	-1.0 % $p = .59$	$p = .15$
anxiety symptoms	+0.1 % $p = .75$	-0.2 % $p = .90$	$p = .25$
functional impairment	 - 2.4 % $p = .19$	 + 2.2 % $p = .54$	$p = .004, rrb = .28$
wellbeing	+ 1.6 % $p = .91$	- 3.1 % $p = .39$	$p = .16$



Group-level processual outcomes




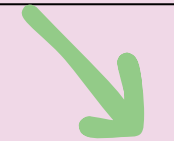



Table 2. Within- and between-group comparisons depending on processual outcomes (%).

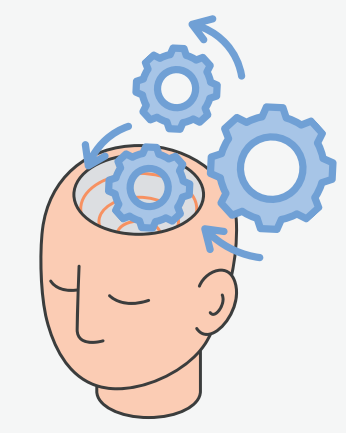
	Intervention groups		Control group		Post-test between-group comparisons
 coping flexibility 	↗ + 4.7 %	$p = .01, rrb = -0.36$	↗ + 4.5 %	$p = .17$	$p = .42$
 active coping 	↗ + 4.7 %	$p = .07$	+ 0.6 %	$p = .94$	$p = .66$
 disengagement 	↘ - 3.4 %	$p = .14$	↗ + 2.9 %	$p = .34$	$p = .34$
 substance use 					
 self-efficacy 					
 assertiveness 					



Group-level processual outcomes

Table 2. Within- and between-group comparisons depending on processual outcomes (%).

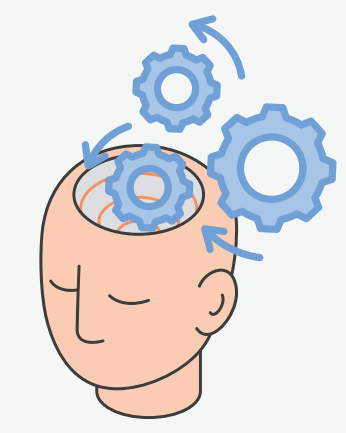
	Intervention groups		Control group		Post-test between-group comparisons
coping flexibility	 + 4.7 %	$p = .01, rrb = -0.36$	 + 4.5 %	$p = .17$	$p = .42$
active coping	 + 4.7 %	$p = .07$	+ 0.6 %	$p = .94$	$p = .66$
disengagement	 - 3.4 %	$p = .14$	 + 2.9 %	$p = .34$	$p = .34$
substance use	 + 2.9 %	$p = .02, rrb = -0.80$	 - 3.6 %	$p = .03, rrb = .86$	$p = .11$
self-efficacy					
assertiveness					



Group-level processual outcomes

Table 2. Within- and between-group comparisons depending on processual outcomes (%).

	Intervention groups		Control group		Post-test between-group comparisons
 coping flexibility	↗	+ 4.7 % $p = .01, rrb = -0.36$	↗	+ 4.5 % $p = .17$	$p = .42$
 active coping	↗	+ 4.7 % $p = .07$		+ 0.6 % $p = .94$	$p = .66$
 disengagement	↘	- 3.4 % $p = .14$	↗	+ 2.9 % $p = .34$	$p = .34$
 substance use	↗	+ 2.9 % $p = .02, rrb = -0.80$	↘	- 3.6 % $p = .03, rrb = .86$	$p = .11$
 self-efficacy		+ 0.3 % $p = .98$	↗	+ 4.2 % $p = .06, rrb = -.032$	$p = .03, rrb = 0.21$
 assertiveness					



Group-level processual outcomes

Table 2. Within- and between-group comparisons depending on processual outcomes (%).

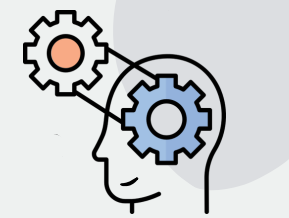
	Intervention groups		Control group		Post-test between-group comparisons
coping flexibility	↗	+ 4.7 % $p = .01, rrb = -0.36$	↗	+ 4.5 % $p = .17$	$p = .42$
active coping	↗	+ 4.7 % $p = .07$		+ 0.6 % $p = .94$	$p = .66$
disengagement	↘	- 3.4 % $p = .14$	↗	+ 2.9 % $p = .34$	$p = .34$
substance use	↗	+ 2.9 % $p = .02, rrb = -0.80$	↘	- 3.6 % $p = .03, rrb = .86$	$p = .11$
self-efficacy		+ 0.3 % $p = .98$	↗	+ 4.2 % $p = .06, rrb = -.032$	$p = .03, rrb = 0.21$
assertiveness	↗	+ 16.4 % $p < .001, rrb = -0.86$	↗	+ 13.5 % $p < .001, rrb = -.074$	$p = .57$



Module-level

clinical outcomes

ADAPT



▶ Stronger effect on functional impairment



ENGAGE



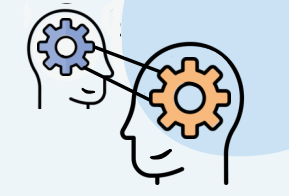
▶ Stronger effect on functional impairment



and wellbeing



INTERACT



▶ Stronger effect on **depressive symptoms**



and wellbeing

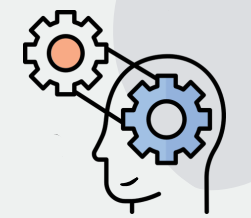




Module-level

clinical outcomes

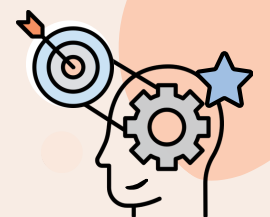
ADAPT



▶ Stronger effect on functional impairment



ENGAGE



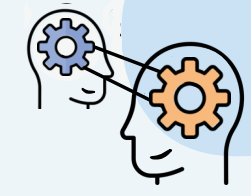
▶ Stronger effect on functional impairment



and wellbeing



INTERACT

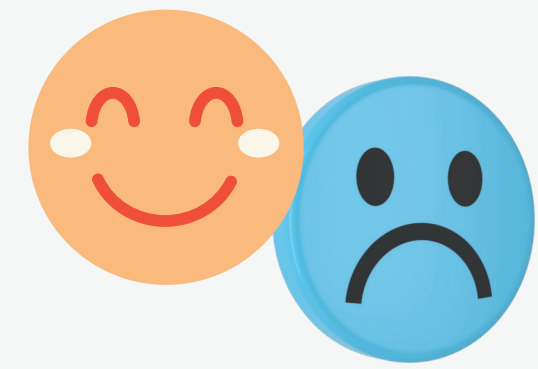


▶ Stronger effect on **depressive symptoms**



and wellbeing

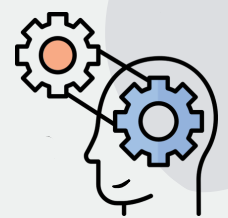




Module-level

clinical outcomes

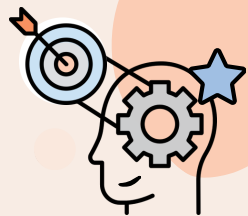
ADAPT



▶ Stronger effect on functional impairment



ENGAGE



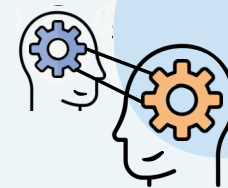
▶ Stronger effect on functional impairment



and wellbeing



INTERACT

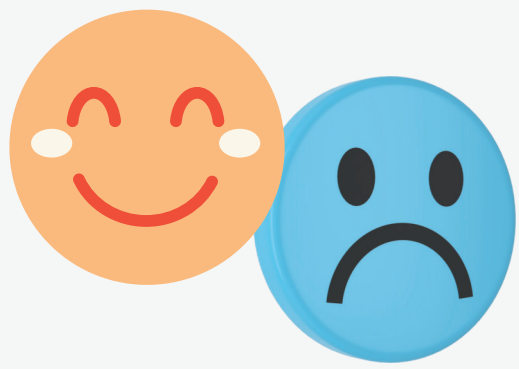


▶ Stronger effect on **depressive symptoms**



and wellbeing

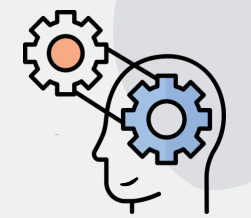




Module-level

clinical outcomes

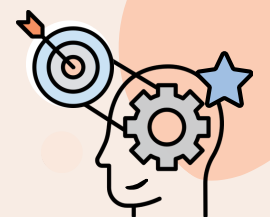
ADAPT



▶ Stronger effect on functional impairment



ENGAGE



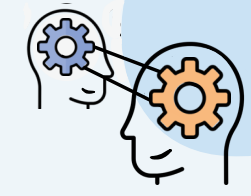
▶ Stronger effect on functional impairment



and wellbeing



INTERACT

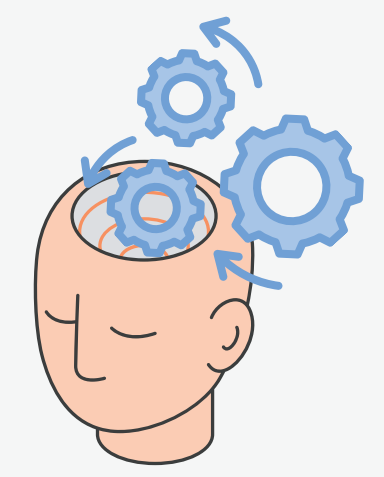


▶ Stronger effect on **depressive symptoms**

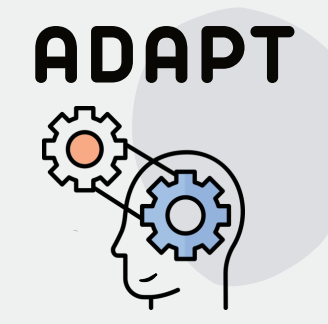


and wellbeing





Module-level *processual outcomes*



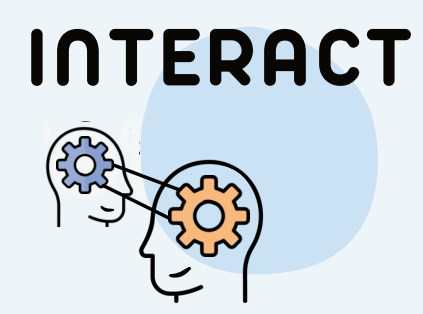
ADAPT

▶ Stronger effect on instrumental support ↗



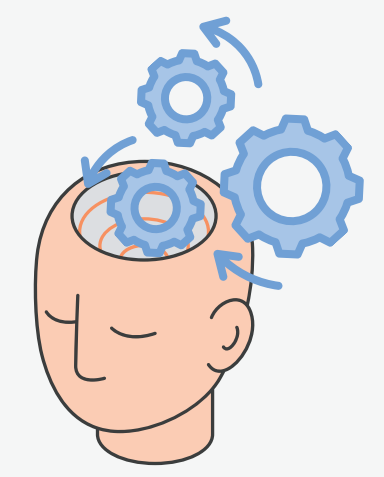
ENGAGE

▶ Stronger effect on **coping flexibility** and **active coping** ↗

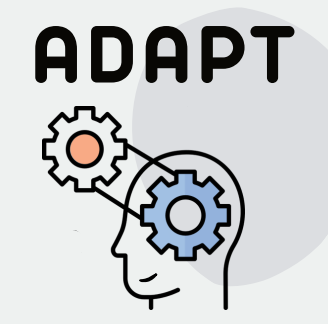


INTERACT

▶ Stronger effect on **assertiveness** ↗



Module-level *processual outcomes*



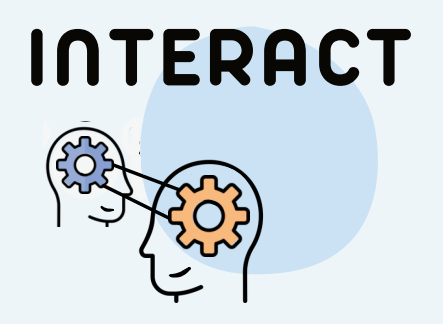
ADAPT

▶ Stronger effect on instrumental support ↗



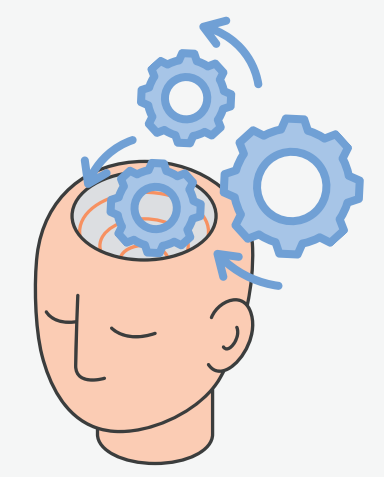
ENGAGE

▶ Stronger effect on **coping flexibility** and **active coping** ↗

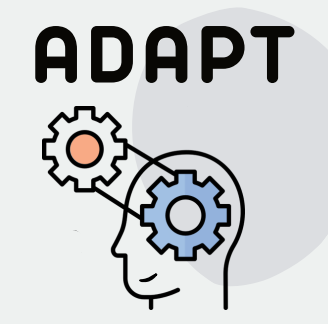


INTERACT

▶ Stronger effect on **assertiveness** ↗



Module-level *processual outcomes*



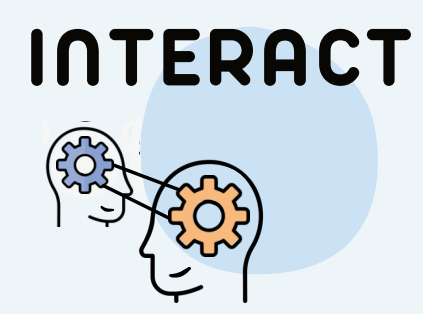
ADAPT

▶ Stronger effect on instrumental support ↗



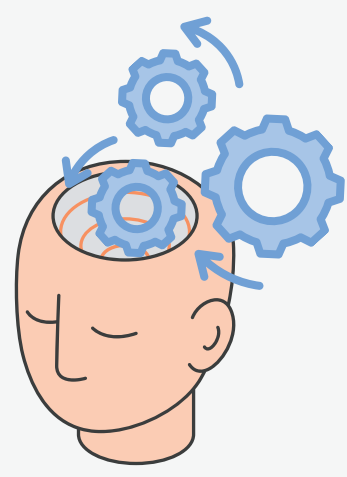
ENGAGE

▶ Stronger effect on **coping flexibility** and **active coping** ↗

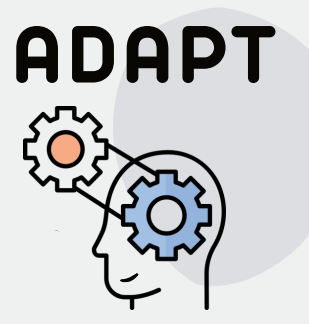


INTERACT

▶ Stronger effect on **assertiveness** ↗

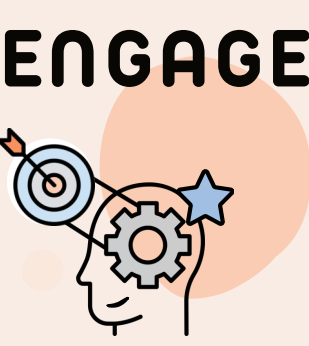


Module-level *processual outcomes*



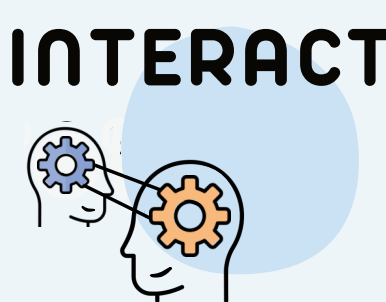
ADAPT

▶ Stronger effect on instrumental support ↗



ENGAGE

▶ Stronger effect on **coping flexibility** and **active coping** ↗



INTERACT

▶ Stronger effect on **assertiveness** ↗



User experience-related outcomes

Table 3. *User experience indicators depending on subscales in the intervention groups.*

	Score / 100	Rates of positive evaluation (% , N = 75)
General appreciation	62.7	73.7
Perceived acceptability	61.8	56.6
Perceived utility	40.1	32.9
Perceived usability	63.9	73.7



User experience-related outcomes

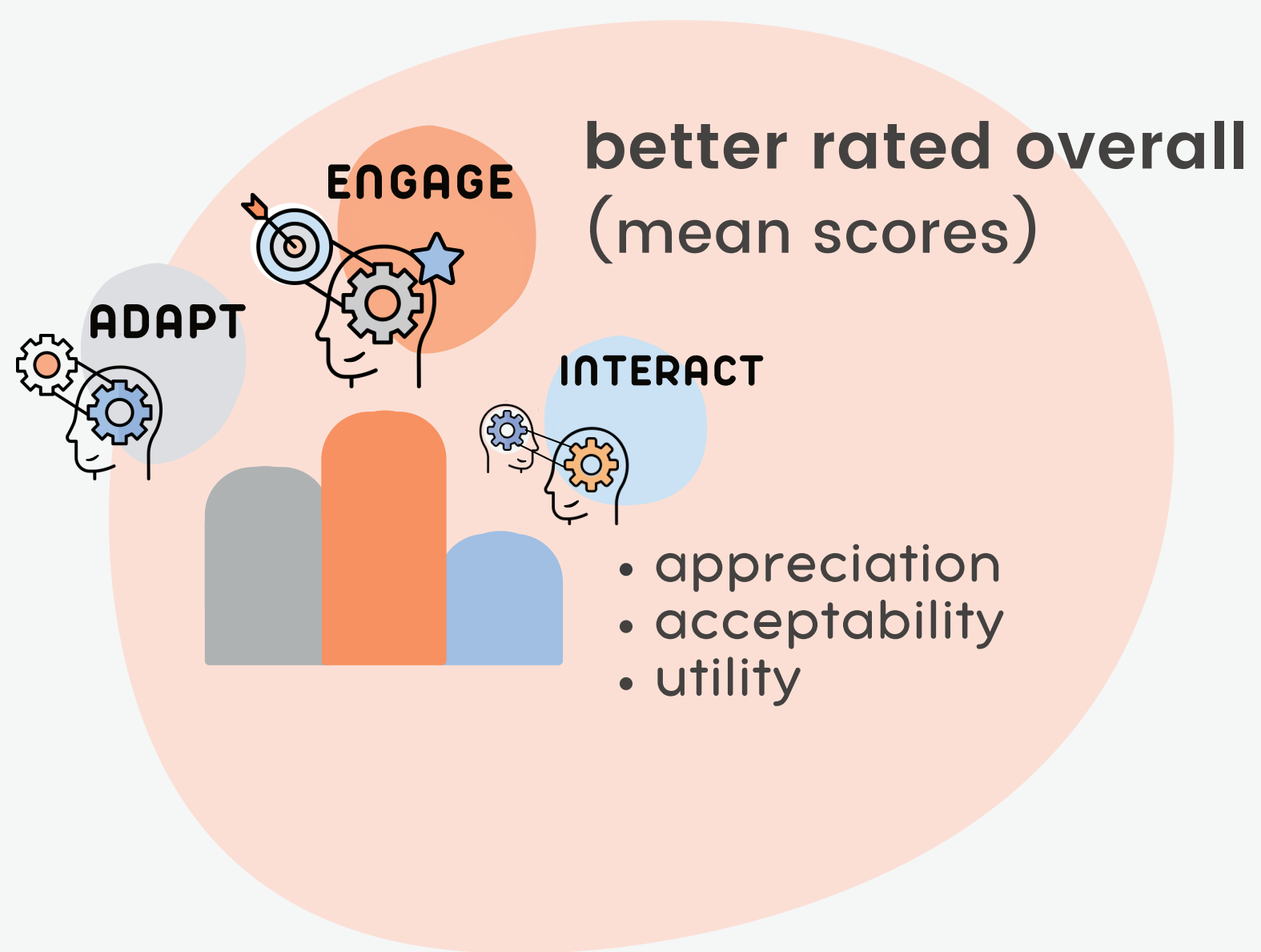
Table 3. *User experience indicators depending on subscales in the intervention groups.*

	Score / 100	Rates of positive evaluation (% , N = 75)
General appreciation	62.7	73.7
Perceived acceptability	61.8	56.6
Perceived utility	40.1	32.9
Perceived usability	63.9	73.7

⇒ No significant differences between modules

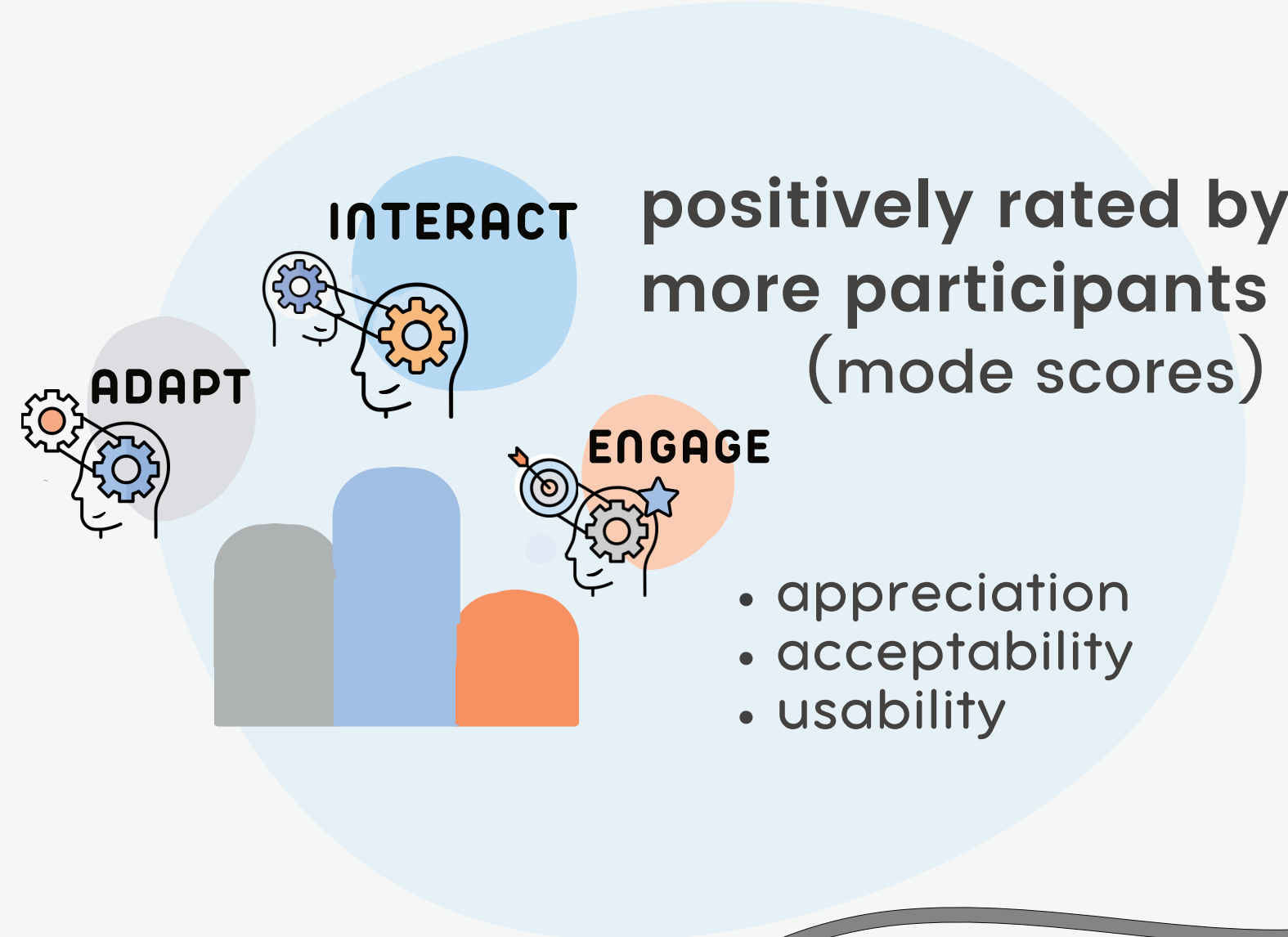
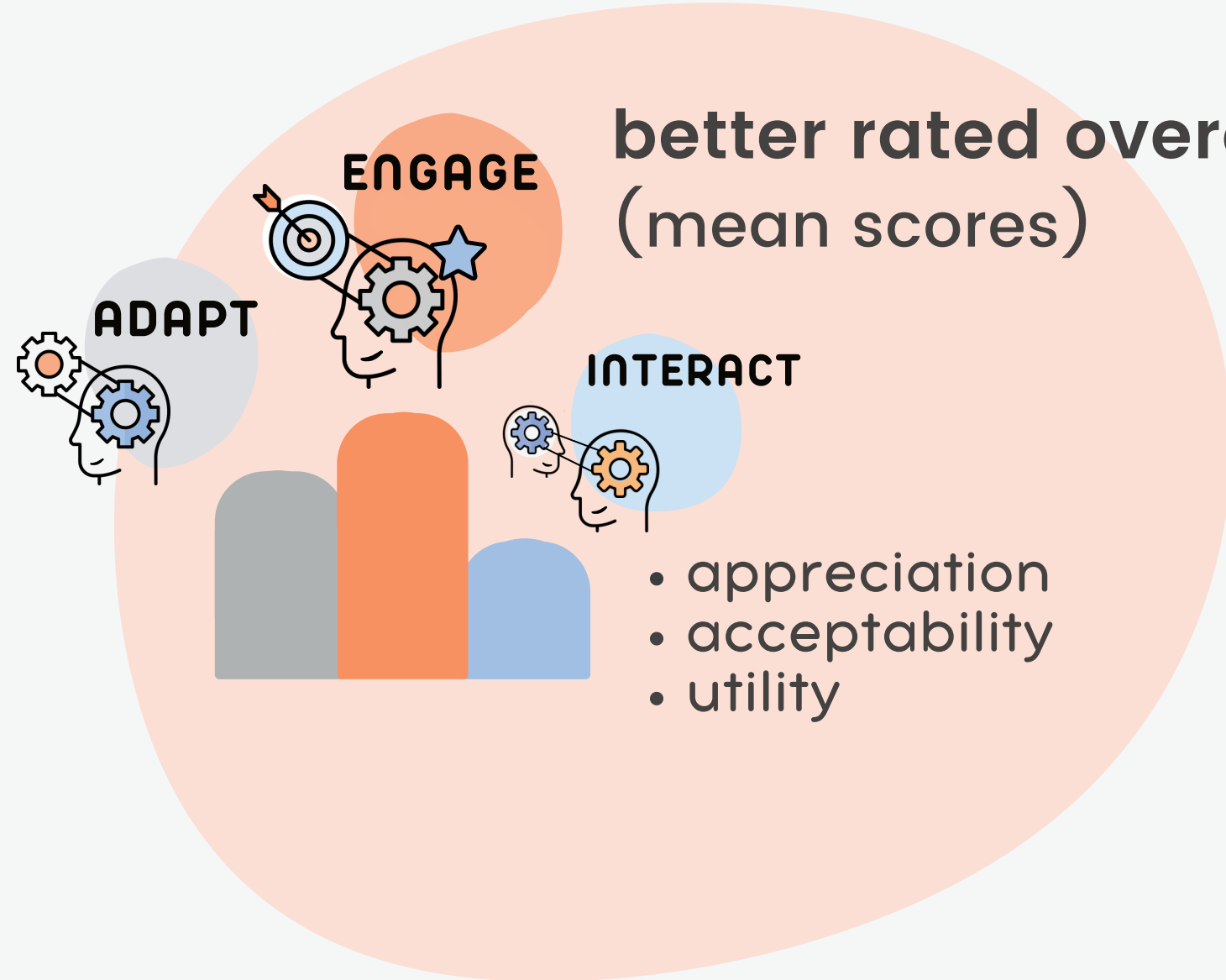


User experience-related outcomes



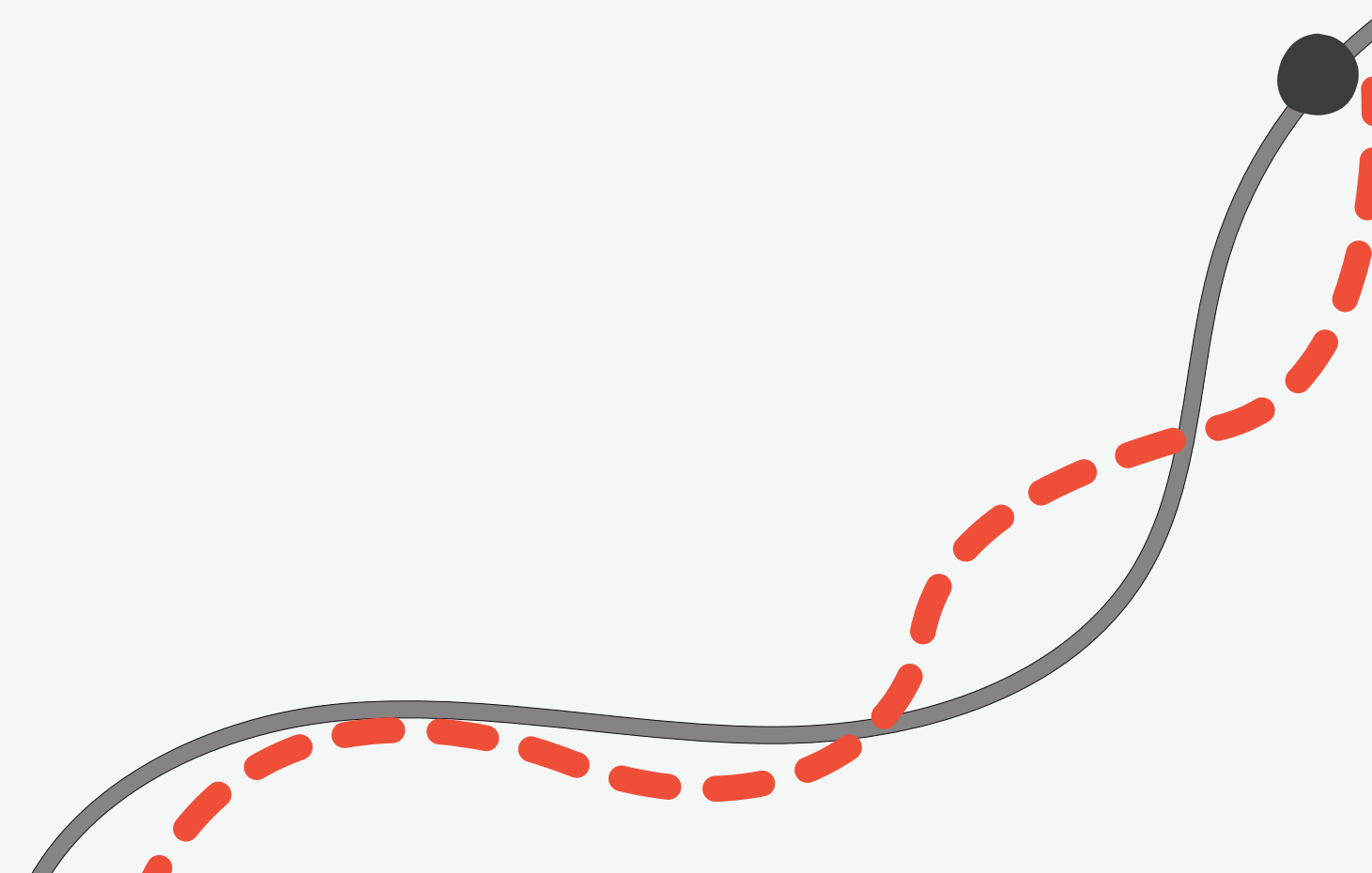
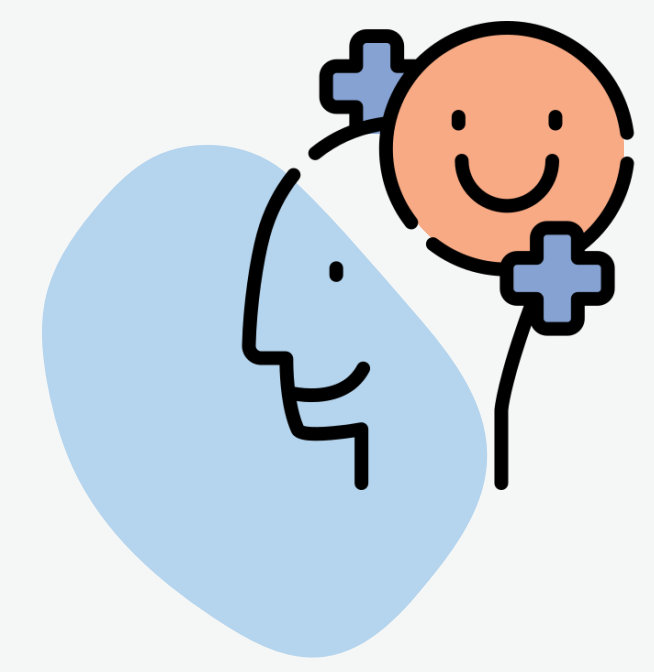


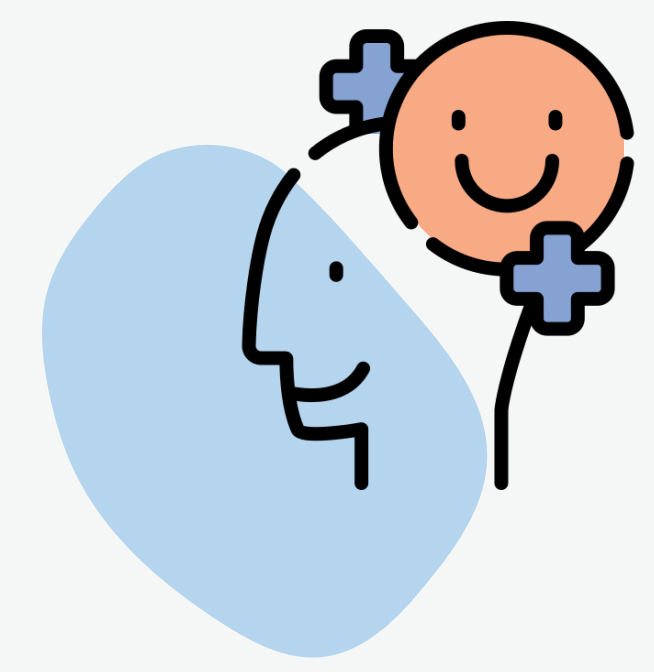
User experience-related outcomes



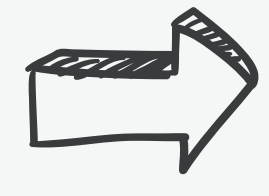
Introduction • Method • Results • **Conclusion**

Conclusion





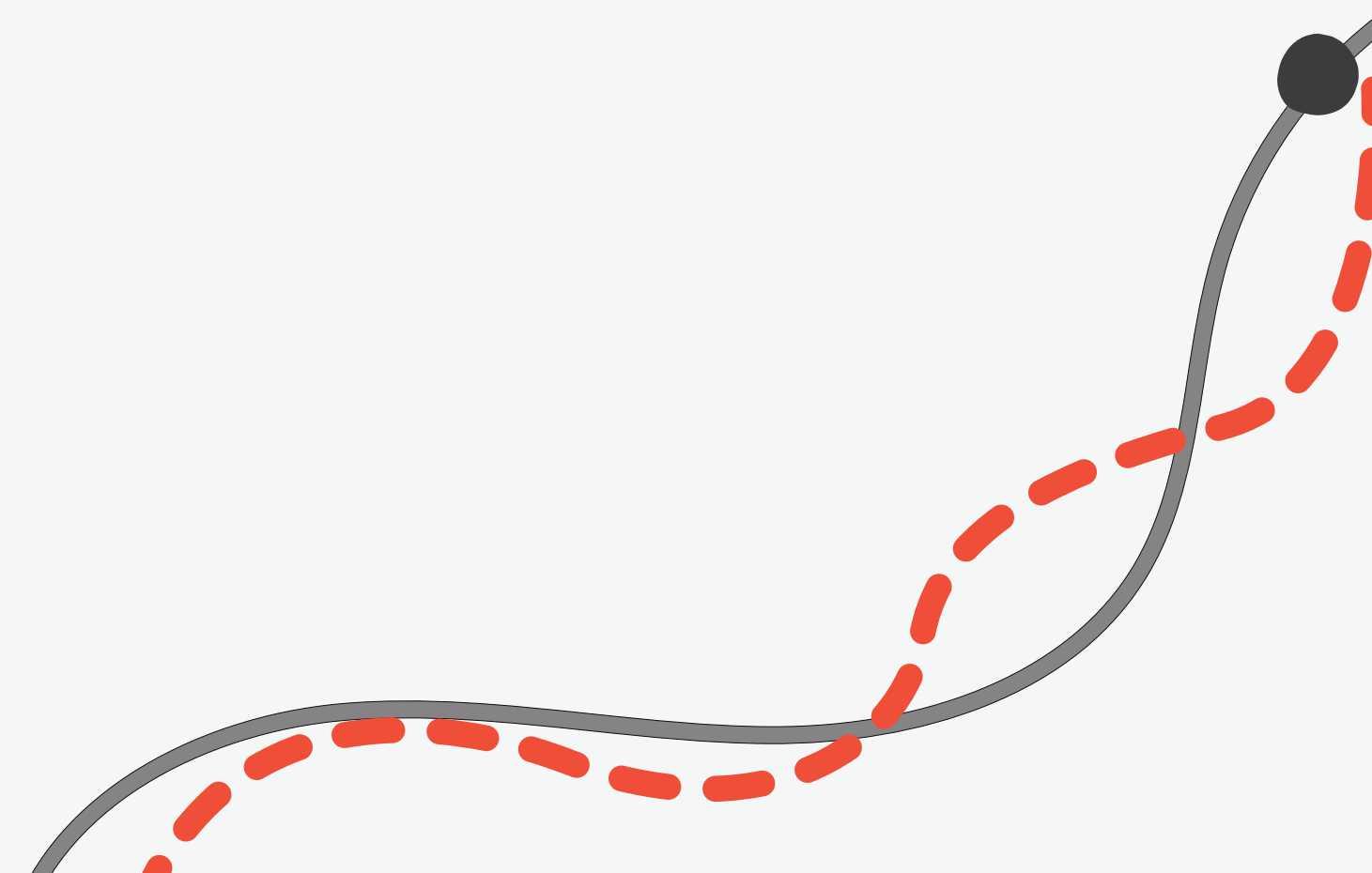
Conclusion

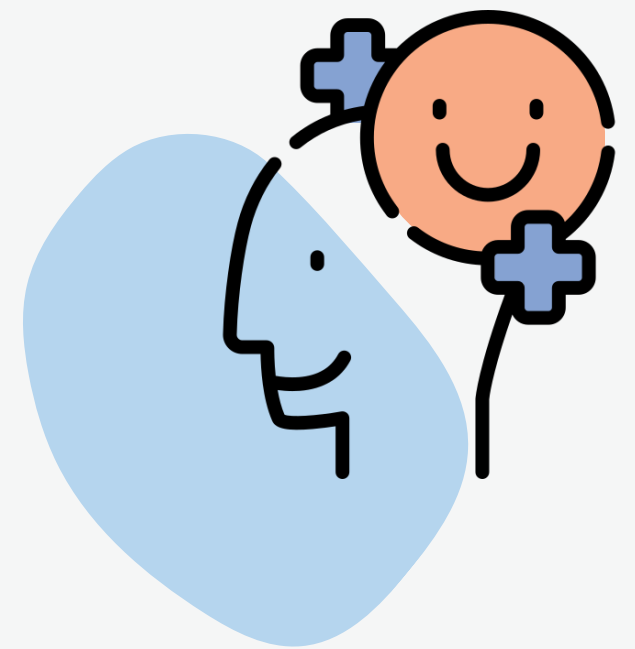


Several **positive effects of Adoptivism Courses on middle-schoolers' mental health and psychological processes**

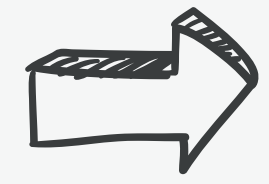


Variable effects depending on module type





Conclusion

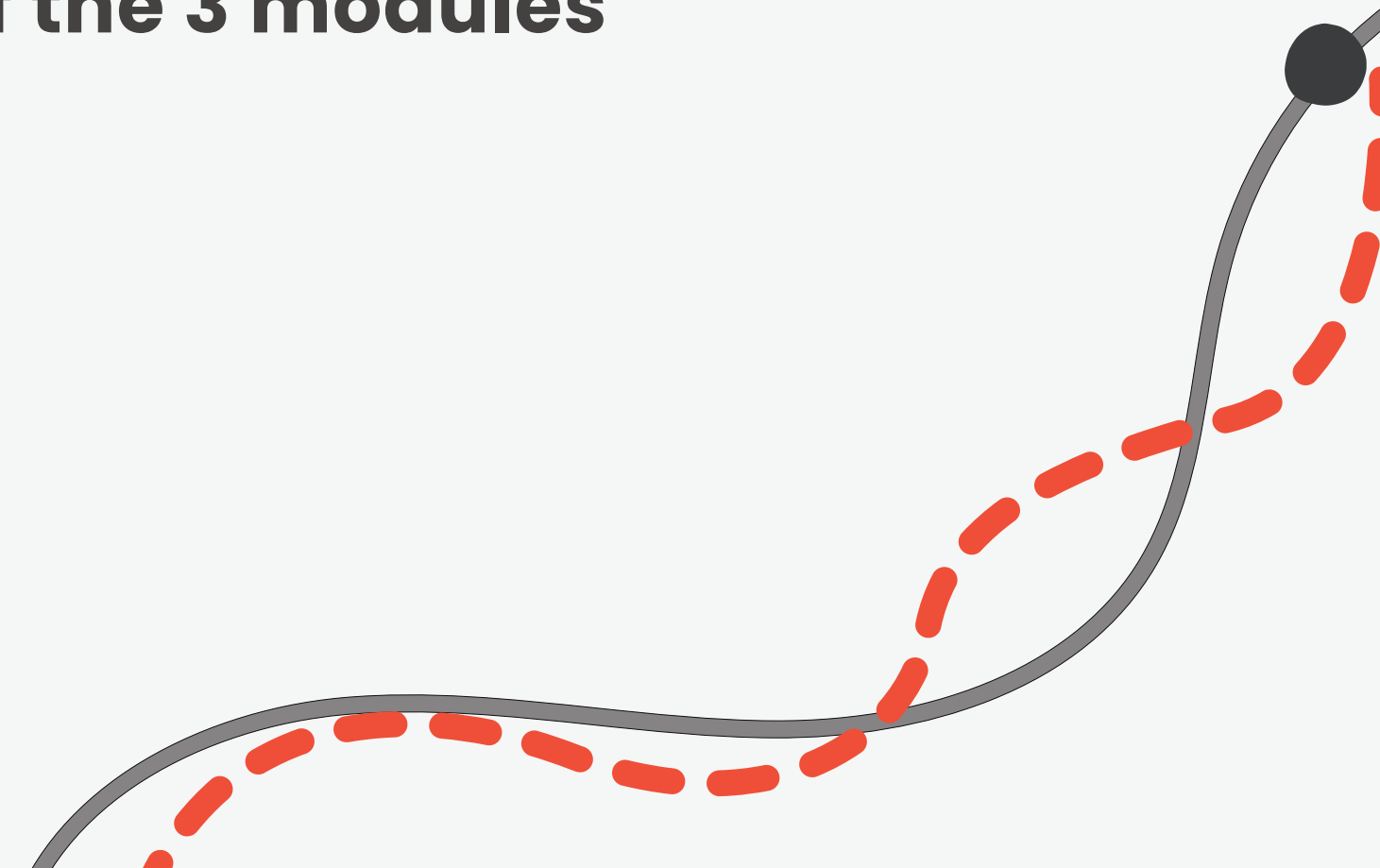


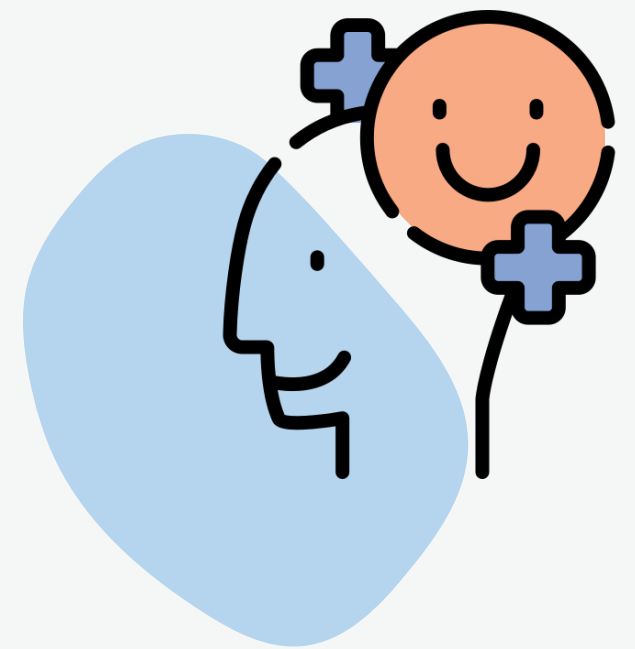
Several **positive effects of Adoptivism Courses on middle-schoolers' mental health and psychological processes**



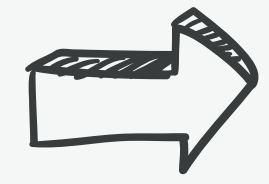
Variable effects depending on module type

Toward a synergistic combination of the 3 modules





Conclusion



Several **positive effects of Adoptivism Courses on middle-schoolers' mental health and psychological processes**

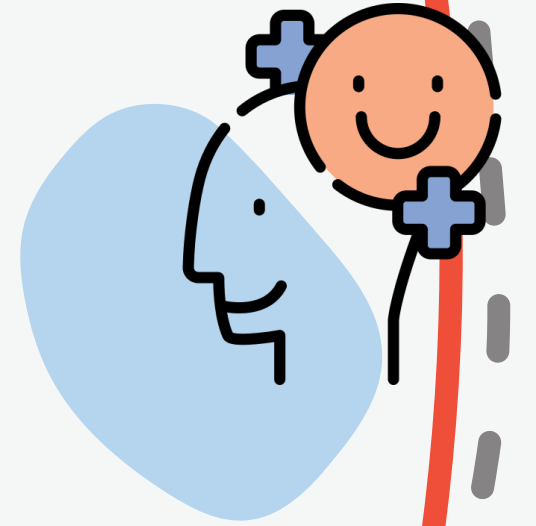


Variable effects depending on module type

Toward a synergistic combination of the 3 modules to :

- effectively target a wide array of processes and mental health indicators
- optimise user-experience
- support efficient implementation and dissemination





Effects of three Prophylactic Interventions on Middle-Schoolers' Mental Health

A Pilot Study in a French Context

eugenie.vaillant-coindard@unimes.fr

Eugénie Vaillant-Coindard

Gaëtan Briet

Florence Lespiau

Elodie Charbonnier



SCAN ME



Thank you for your attention !

Bibliography

- Beierlein, C., Kemper, C. J., Kovaleva, A., & Rammstedt, B. (2017). Short Scale for Measuring General Self-efficacy Beliefs (ASKU). *GESIS Methods, Data, Analyses*, 7(2), 251–278. <https://doi.org/10.12758/MDA.2013.014>
- Biggs, A., Brough, P., & Drummond, S. (2017). Lazarus and Folkman's Psychological Stress and Coping Theory. In *The Handbook of Stress and Health* (C. L. Cooper & J. C. Quick, pp. 349–364). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118993811.ch21>
- Bocéréan, C., & Dupret, E. (2014). A validation study of the Hospital Anxiety and Depression Scale (HADS) in a large sample of French employees. *BMC Psychiatry*, 14(1), 354. <https://doi.org/10.1186/s12888-014-0354-0>
- Booker, C. L., Kelly, Y. J., & Sacker, A. (2018). Gender differences in the associations between age trends of social media interaction and well-being among 10–15 year olds in the UK. *BMC Public Health*, 18(1), 321. <https://doi.org/10.1186/s12889-018-5220-4>
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92–100. https://doi.org/10.1207/s15327558ijbm0401_6
- Cavell, T. (1990). Social Adjustment, Social Performance, and Social Skills: A Tri-Component Model of Social Competence. *Journal of Clinical Child and Adolescent Psychology*, 19(2), 111–122. https://doi.org/10.1207/s15374424jccp1902_2
- Cobos-Sánchez, L., Fluja-Contreras, J. M., & Gómez, I. (2020). Willingness and Action Measure for Adolescents: Psychometric validation in Spanish adolescents. *Journal of Contextual Behavioral Science*, 15, 46–51. <https://doi.org/10.1016/j.jcbs.2019.11.006>
- De Los Reyes, A., Makol, B. A., Racz, S. J., Youngstrom, E. A., Lerner, M. D., & Keeley, L. M. (2019). The Work and Social Adjustment Scale for Youth: A Measure for Assessing Youth Psychosocial Impairment Regardless of Mental Health Status. *Journal of Child and Family Studies*, 28(1), 1–16. <https://doi.org/10.1007/s10826-018-1238-6>
- Dooley, B., Fitzgerald, A., & Mac Giollabhui, N. (2015). The risk and protective factors associated with depression and anxiety in a national sample of Irish adolescents. *Irish Journal of Psychological Medicine*, 32, 1–13. <https://doi.org/10.1017/ipm.2014.83>

Bibliography

- Doré, I., O'Loughlin, J. L., Sabiston, C. M., & Fournier, L. (2017). Psychometric Evaluation of the Mental Health Continuum–Short Form in French Canadian Young Adults. *The Canadian Journal of Psychiatry*, 62(4), 286–294. <https://doi.org/10.1177/0706743716675855>
- Dray, J., Bowman, J., Campbell, E., Freund, M., Wolfenden, L., Hodder, R. K., McElwaine, K., Tremain, D., Bartlem, K., Bailey, J., Small, T., Palazzi, K., Oldmeadow, C., & Wiggers, J. (2017). Systematic Review of Universal Resilience-Focused Interventions Targeting Child and Adolescent Mental Health in the School Setting. *Journal of the American Academy of Child and Adolescent Psychiatry*, 56(10), 813–824. <https://doi.org/10.1016/j.jaac.2017.07.780>
- Fazel, M., Hoagwood, K., Stephan, S., & Ford, T. (2014). Mental health interventions in schools. *The Lancet Psychiatry*, 1(5), 377–387. [https://doi.org/10.1016/S2215-0366\(14\)70312-8](https://doi.org/10.1016/S2215-0366(14)70312-8)
- González-Carrasco, M., Casas, F., Malo, S., Viñas, F., & Dinisman, T. (2017). Changes with Age in Subjective Well-Being Through the Adolescent Years: Differences by Gender. *Journal of Happiness Studies*, 18(1), 63–88. <https://doi.org/10.1007/s10902-016-9717-1>
- Hoff, A. L., Kendall, P. C., Langley, A., Ginsburg, G., Keeton, C., Compton, S., Sherrill, J., Walkup, J., Birmaher, B., Albano, A. M., Suveg, C., Hoff, A., & Piacentini, J. (2017). Developmental Differences in Functioning in Youth with Social Phobia. *Journal of Clinical Child and Adolescent Psychology*, 46(5), 686–694. <https://doi.org/10.1080/15374416.2015.1079779>
- Jassi, A., Lenhard, F., Krebs, G., Gumpert, M., Jolstedt, M., Andrén, P., Nord, M., Aspvall, K., Wahlund, T., Volz, C., & Mataix-Cols, D. (2020). The Work and Social Adjustment Scale, Youth and Parent Versions: Psychometric Evaluation of a Brief Measure of Functional Impairment in Young People. *Child Psychiatry & Human Development*, 51(3), 453–460. <https://doi.org/10.1007/s10578-020-00956-z>
- Kessler, R. C., Berglund, P., Demler, O., Ma, R., Jin, M. A., Merikangas, K. R., & Walters, E. E. (2005). Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication (pp. 593–602).

Bibliography

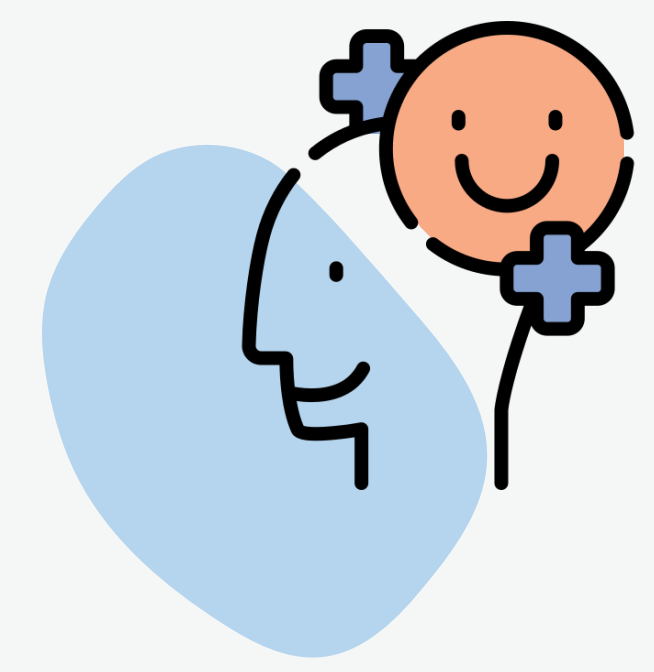
- Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, 43(2), 207–222. <https://doi.org/10.2307/3090197>
- Lamers, S. M. A., Westerhof, G. J., Bohlmeijer, E. T., ten Klooster, P. M., & Keyes, C. L. M. (2011). Evaluating the psychometric properties of the mental health Continuum-Short Form (MHC-SF). *Journal of Clinical Psychology*, 67(1), 99–110. <https://doi.org/10.1002/jclp.20741>
- Léon, C., Spilka, S., Ehlinger, V., & Godeau, E. (2021). Santé mentale et bien-être: Résultats de l'Enquête nationale en collèges et en lycées chez les adolescents sur la santé et les substances—EnCLASS 2018. Enquête des Hautes Etudes en Santé Publique. <https://www.ehesp.fr/2021/01/13/sante-et-bien-etre-des-adolescents-en-france-les-nouveaux-resultats-de-l-enquete-enclass-sont-en-ligne/>
- Li, S., Meng, X., Xiong, Y., Zhang, R., & Ren, P. (2024). The Developmental Trajectory of Subjective Well-Being in Chinese Early Adolescents: The Role of Gender and Parental Involvement. *Child Indicators Research*, 17(2), 731–752. <https://doi.org/10.1007/s12187-023-10099-x>
- Martin, C., & Arcand, L. (2005). *Ecole en santé: Guide à l'intention du milieu scolaire et de ses partenaires. Pour la réussite éducative, la santé et le bien-être des jeunes [Guide]*. Institut National de Santé Publique du Québec. https://www.bib-bop.org/base_bib/bib_detail.php?ref=3728
- Martínez-García, A. (2022). Contributions of universal school-based mental health promotion to the wellbeing of adolescents and preadolescents: A systematic review of educational interventions. *Health Education*, 122(5), 564–583. <https://doi.org/10.1108/HE-07-2021-0106>
- Muller, L., & Spitz, E. (2003). Évaluation multidimensionnelle du coping: Validation du Brief COPE sur une population française. *L'Encéphale*, 29(6), 507–518.

Bibliography

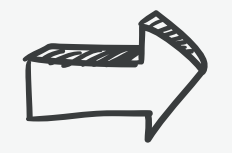
- Noonan, P. M., & Erickson, A. S. G. (2018). The Skills That Matter: Teaching Interpersonal and Intrapersonal Competencies in Any Classroom. In *The Skills That Matter: Teaching Interpersonal and Intrapersonal Competencies in Any Classroom* (pp. 103–127). Corwin. <https://doi.org/10.4135/9781506376349>
- Richardson, C. E., Magson, N. R., Fardouly, J., Oar, E. L., Forbes, M. K., Johnco, C. J., & Rapee, R. M. (2021). Longitudinal Associations between Coping Strategies and Psychopathology in Pre-adolescence. *Journal of Youth and Adolescence*, 50(6), 1189–1204. <https://doi.org/10.1007/s10964-020-01330-x>
- Romer, A. L., Hariri, A. R., & Strauman, T. J. (2021). Regulatory focus and the p factor: Evidence for self-regulatory dysfunction as a transdiagnostic feature of general psychopathology. *Journal of Psychiatric Research*, 137, 178–185. <https://doi.org/10.1016/j.jpsychires.2021.02.051>
- Roques, H., & Lamiraux, K. (2022). Deuxième vague du “Baromètre des adolescents” de notre avenir à tous: “Les adolescents face au monde: Le mal-être et la détresse s’amplifient (p. 48). Ipsos.
- Sánchez-Queija, I., Oliva, A., & Parra, Á. (2017). Stability, change, and determinants of self-esteem during adolescence and emerging adulthood. *Journal of Social and Personal Relationships*, 34(8), 1277–1294. <https://doi.org/10.1177/0265407516674831>
- Silva, S. I. A. Jo, Silva, S. U., Ronca, D. bora B., alves, V. S. S. G., Dutra, E. S., & Carvalho, K. M. B. (2020). Common mental disorders prevalence in adolescents: A systematic review and meta-analyses. 15(4 : e0232007). <https://doi.org/10.1371/journal.pone.0232007>
- Solmi, M., Radua, J., Olivola, M., Croce, E., Soardo, L., Pablo, G. S. de, Shin, J. I., Kirkbride, J. B., Jones, P., Kim, J. H., Kim, J. Y., Carvalho, A. F., Seeman, M. V., Correll, C. U., & Fusar-Poli, P. (2022). Age at onset of mental disorders worldwide: Large-scale meta-analysis of 192 epidemiological studies. *Molecular Psychiatry*, 27(1), 281–295. <https://doi.org/10.1038/s41380-021-01161-7>

Bibliography

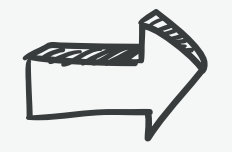
- Son, D., & Padilla-Walker, L. M. (2020). Happy Helpers: A Multidimensional and Mixed-Method Approach to Prosocial Behavior and Its Effects on Friendship Quality, Mental Health, and Well-Being During Adolescence. *Journal of Happiness Studies*, 21(5), 1705–1723. <https://doi.org/10.1007/s10902-019-00154-2>
- Supervía, P. U., Bordás, C. S., Robres, A. Q., Blasco, R. L., & Cosculluela, C. L. (2023). Empathy, self-esteem and satisfaction with life in adolescent. *Children and Youth Services Review*, 144. <https://doi.org/10.1016/j.childyouth.2022.106755>
- Swan, A. J., & Kendall, P. C. (2016). Fear and Missing Out: Youth Anxiety and Functional Outcomes. *Clinical Psychology: Science and Practice*, 23(4), 417–435. <https://doi.org/10.1111/CPSP.12169>
- Traber, D., Atzeni, T., Pellissier, S., & Le Barbenchon, E. (2022). Structure et propriétés de l'échelle d'évaluation de la flexibilité du coping: Validation en population française. *Annales Médico-Psychologiques*, 180(6S), 10–16. <https://doi.org/10.1016/j.amp.2020.11.002>
- Tricot, A. (2007). Utility, usability and acceptability: An ergonomic approach to the evaluation of external representations for learning. *Computer Science*. <https://www.semanticscholar.org/paper/Utility%2C-usability-and-acceptability%3A-an-ergonomic-Tricot/847267f8c5497d98a0c0e090b1c2fa1d3fe31df1>
- UNICEF. (2022). La Situation des enfants dans le monde Promouvoir, protéger et prendre en charge la santé mentale des enfants. Fonds des Nations Unies pour l'enfance. <https://www.unicef.org/fr/rapports/situation-enfants-dans-le-monde-2021>
- Vaillant-Coindard, E., Briet, G., Lespiau, F., Gisclard, B., & Charbonnier, E. (2024). Effects of three prophylactic interventions on French middle-schoolers' mental health: Protocol for a randomized controlled trial. *BMC Psychology*, 12(1), 204. <https://doi.org/10.1186/s40359-024-01723-8>
- Zigmond, A. S., & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica*, 67(6), 361–370. <https://doi.org/10.1111/j.1600-0447.1983.tb09716.x>
- Zimmer-Gembeck, M. J., & Skinner, E. A. (2016). The development of coping: Implications for psychopathology and resilience. In *Developmental Psychopathology: Risk, Resilience, and Intervention* (3e ed., Vol. 4, pp. 485–545). John Wiley & Sons, Inc. <https://doi.org/10.1002/9781119125556.devpsy410>



Limits

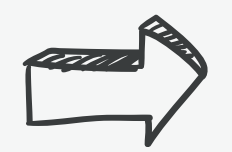


Several measures have not been validated in French



Self-reported subjective measures:

 ↘ **effects on process OR process' *perception* ?**



Representativity issue

- small sample per condition
- lack of sociodemographic data
- no rural school included

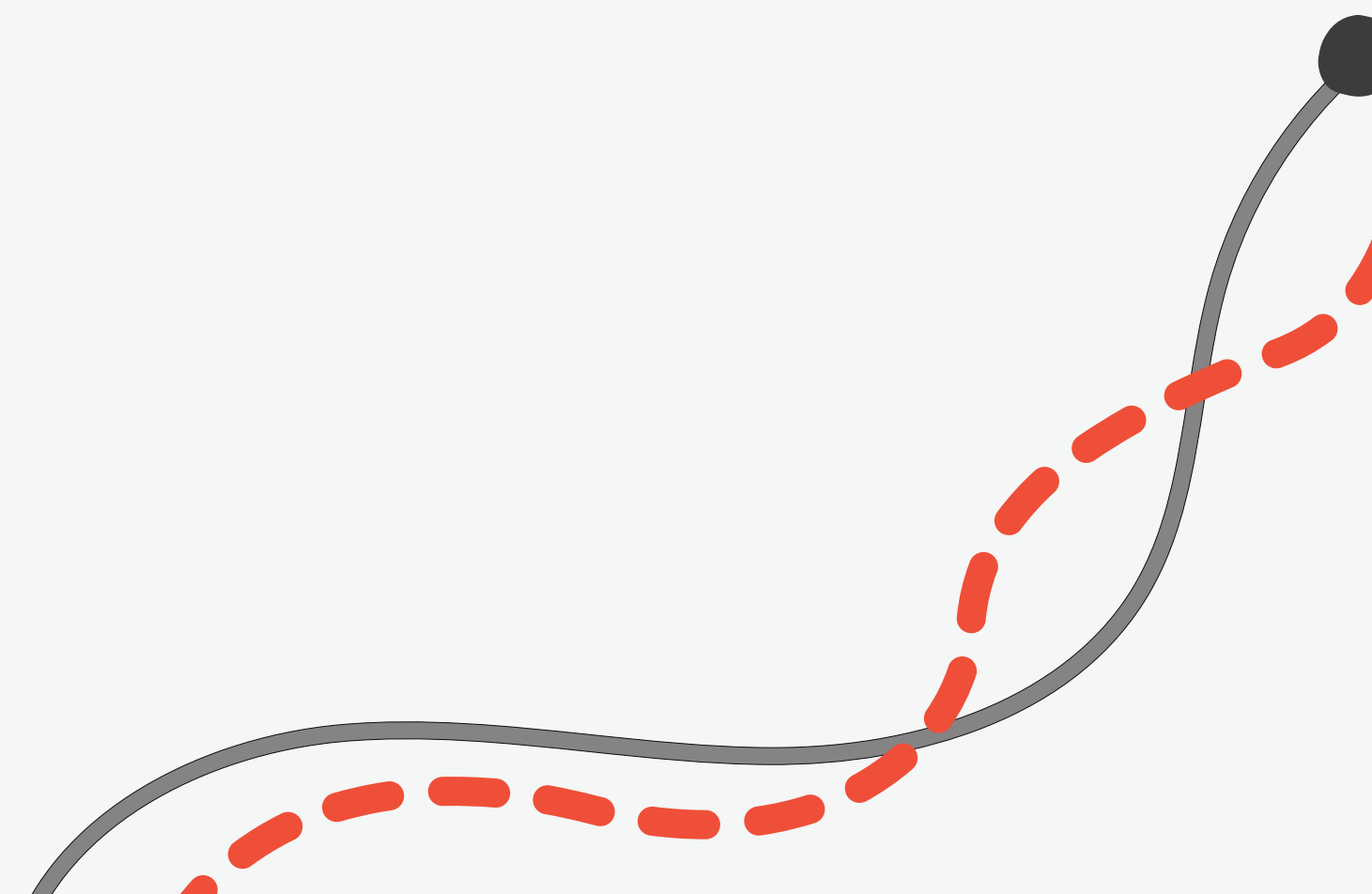


Table 6. Improving rates on each variable in the 3 intervention groups (%)

Clinical outcomes	Control group	Intervention groups	ADAPT	ENGAGE	INTERACT
Anxiety symptoms	29,3	40,23	34,62	48,15	38,24
Depressive symptoms	29,3	49,42	46,15	40,74	58,82
Wellbeing	32,0	34,48	23,08	33,33	41,18
Functional impairment	36,0	47,13	53,85	48,15	41,18

	Control group	Intervention groups	ADAPT	ENGAGE	INTERACT
active coping	22,67	36,78	34,62	37,04	38,23
planification	25,33	35,63	38,46	18,52	47,06
instrumental support	21,33	32,18	46,15	37,04	17,65
emotional support	28,00	33,33	38,46	40,74	23,53
venting	21,33	28,74	30,77	25,93	29,41
disengagement	17,33	34,48	38,46	44,44	23,53
distraction	26,67	37,93	50	25,93	38,23
blame	22,67	24,138	30,78	18,52	23,53
reinterpretation	29,33	36,78	34,61	33,33	41,18
humor	25,33	22,99	19,23	14,81	32,35
denial	14,67	21,84	19,23	33,33	14,71
acceptation	14,67	34,48	38,46	33,33	32,35
spirituality	14,67	24,14	15,38	14,81	38,23
substance	9,33	3,45	3,85	7,41	0

Table 6. Improving rates on each variable in the 3 intervention groups (%)

Table 6. Improving rates on each variable in the 3 intervention groups (%)

	Control group	Intervention groups	ADAPT	ENGAGE	INTERACT
Coping flexibility (CF)	33,33	51,72	53,85	51,85	50,00
Committed actions	38,67	37,93	46,15	33,33	35,29
General self-efficacy	37,33	31,03	30,77	37,04	26,47
Assertiveness - Expression	53,33	70,11	57,69	59,26	88,23
Assertiveness - Respect	25,33	45,98	53,85	48,12	38,23
Assertiveness	46,67	67,82	57,69	59,26	82,35

Mental health trajectories in adolescence

opportunities for building resources

- Development of cognitive, affective, social abilities

Cannard et al., 2019

- Developmental tasks as formative challenges

Cicchetti & Cohen, 2006; Cicchetti & Rogosch, 2002

- Interplay between mental health and development

Resch & Parzer, 2021; Spessot et al., 2004; Steinberg et al., 2006

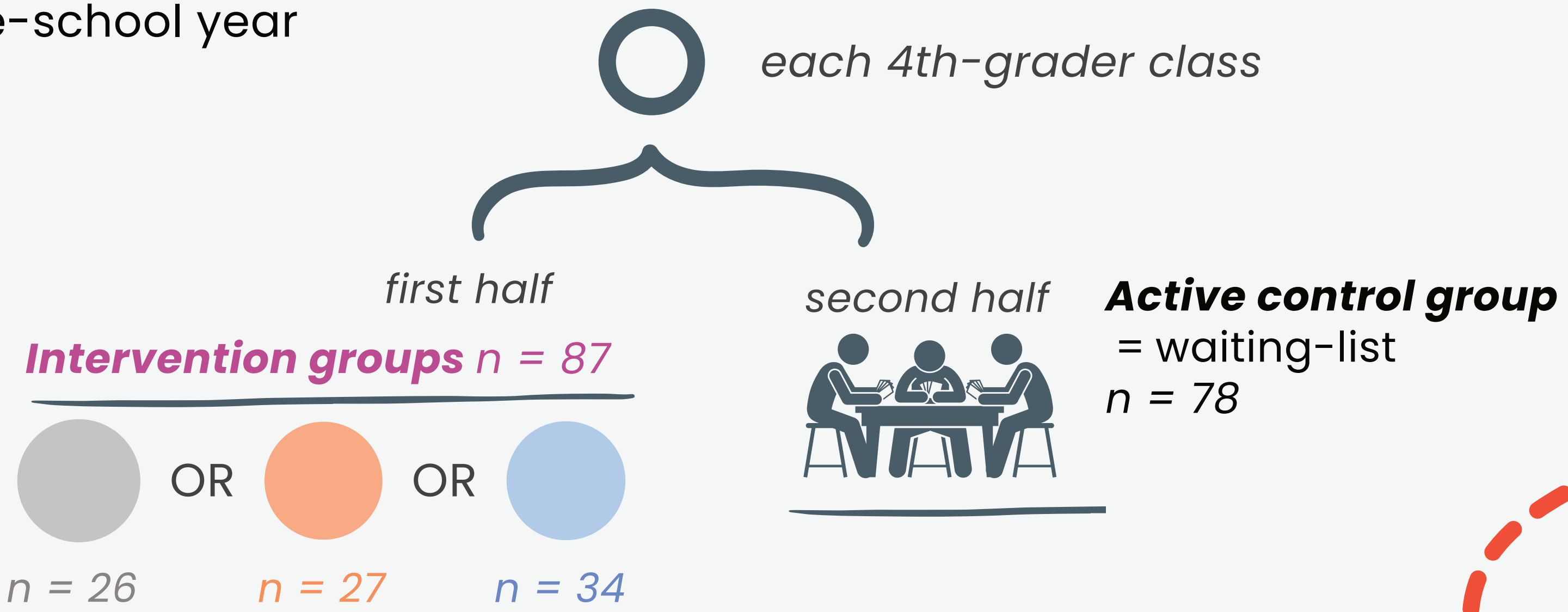


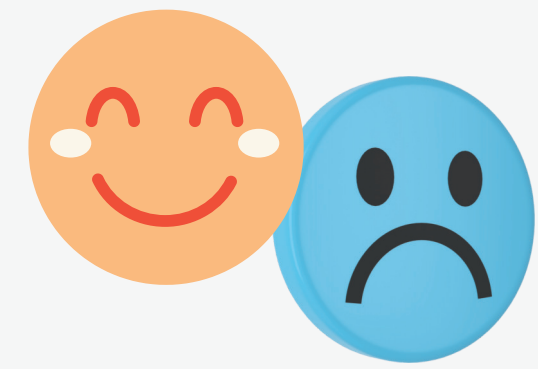
Sample & Procedure

Third middle-school year
N = 165

♀ 45.5 %

13y

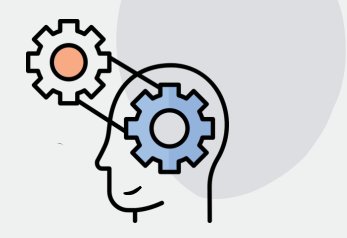




Module-level

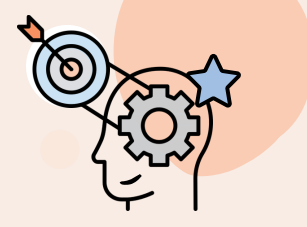
clinical outcomes

ADAPT



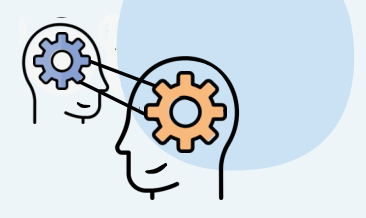
functional impairment (**-4.9 %**, $p = .22$)

ENGAGE

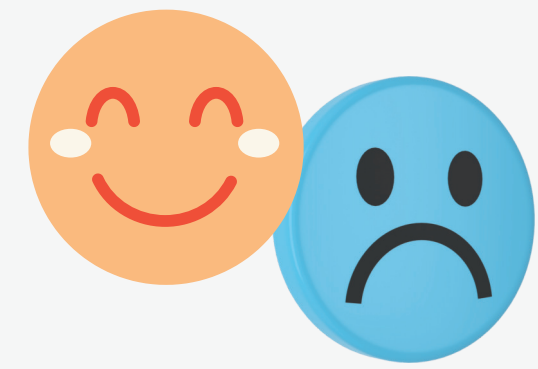


functional impairment (**-5.2 %**, $p = .27$)

INTERACT

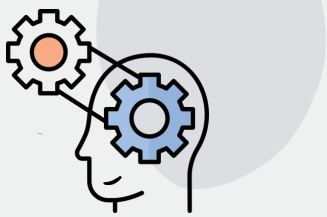
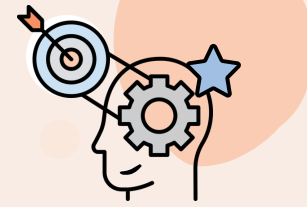



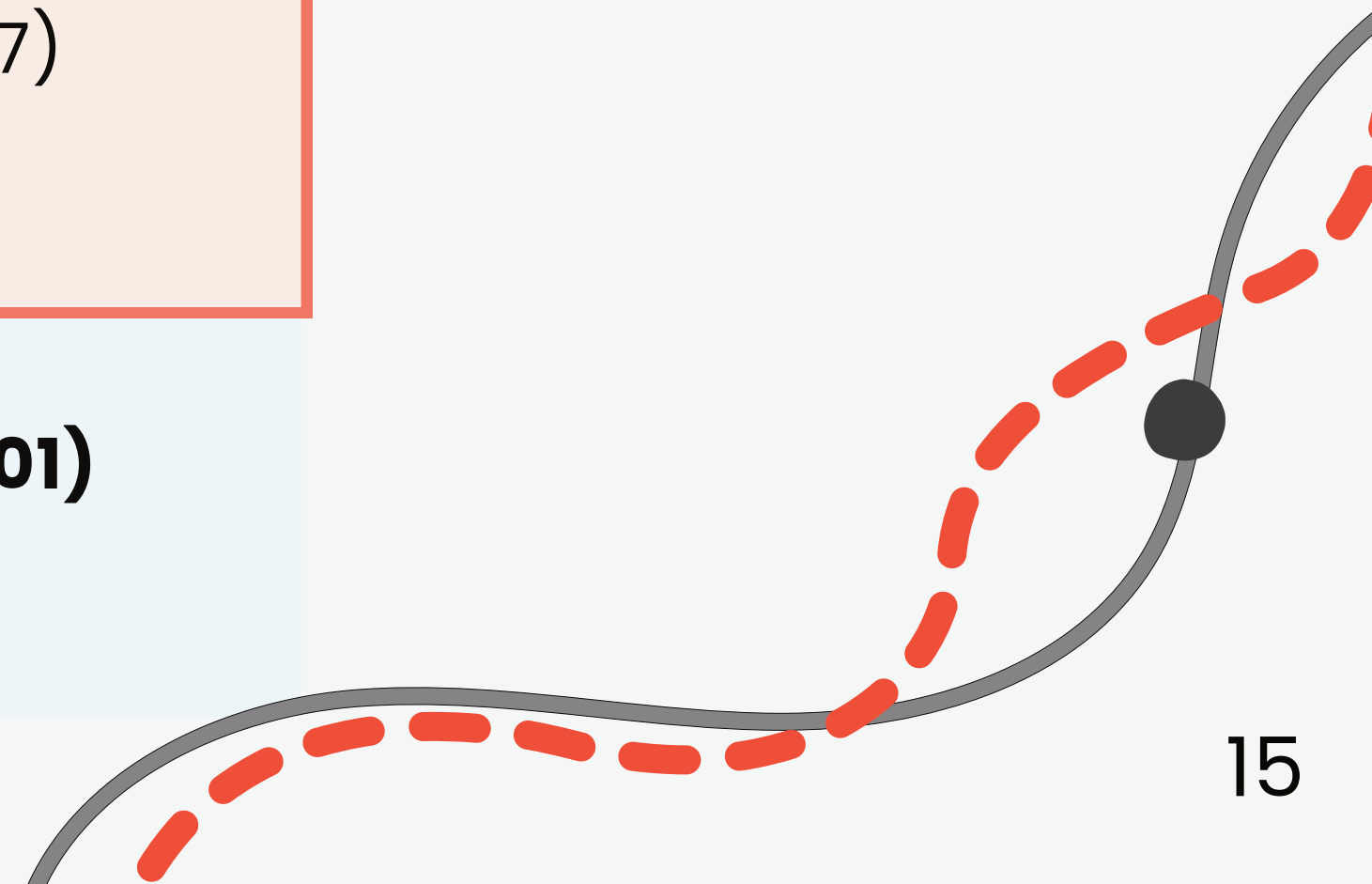
depressive symptoms* (**-7.0 %**, $p = .01$)

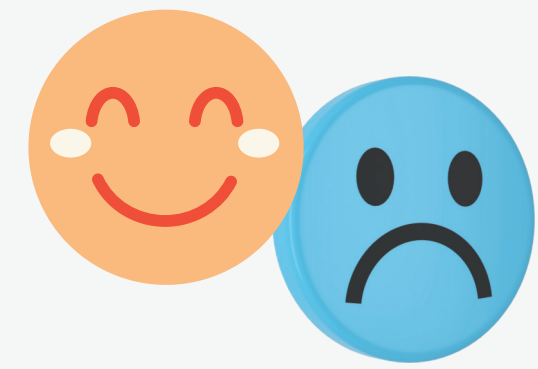


Module-level

clinical outcomes

 ADAPT	functional impairment (-4.9 %, p = .22)
 ENGAGE	functional impairment (-5.2 %, p = .27)
 INTERACT	depressive symptoms* (-7.0 %, p = .01)

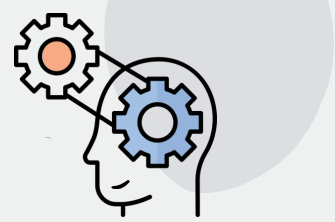




Module-level

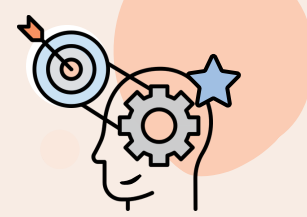
clinical outcomes

ADAPT



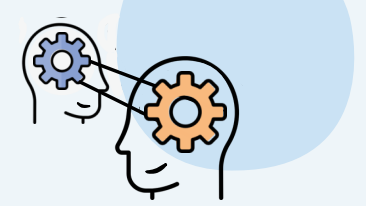
functional impairment (**-4.9 %**, $p = .22$)

ENGAGE

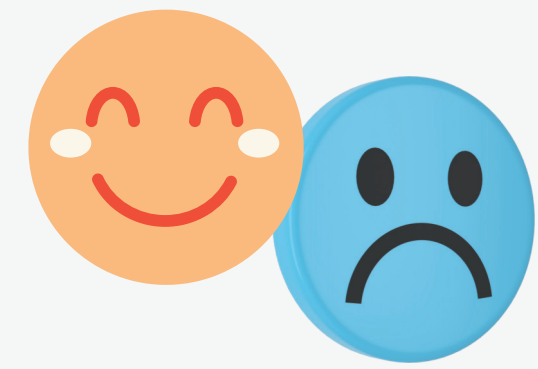


functional impairment (**-5.2 %**, $p = .27$)

INTERACT



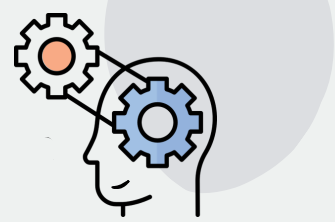
depressive symptoms* (**-7.0 %**, $p = .01$)



Module-level

clinical outcomes

ADAPT

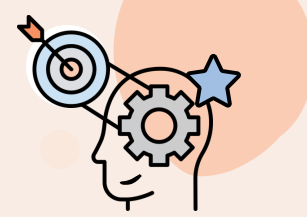


functional impairment (-4.9 %, $p = .22$)



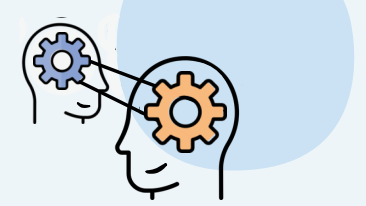
wellbeing (-7.0 %, $p = .04$)

ENGAGE

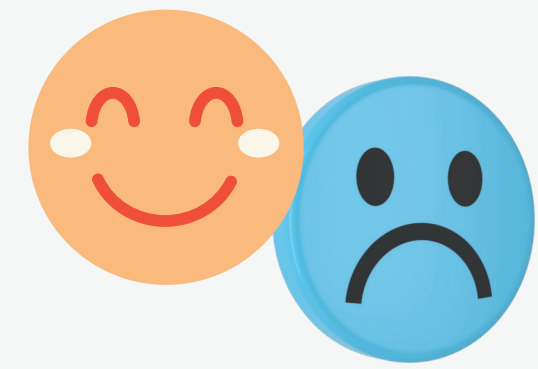


functional impairment (-5.2 %, $p = .27$)

INTERACT



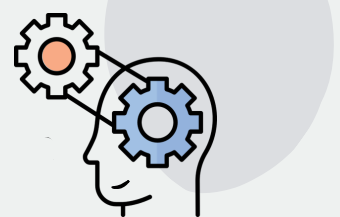
depressive symptoms* (-7.0 %, $p = .01$)



Module-level

clinical outcomes

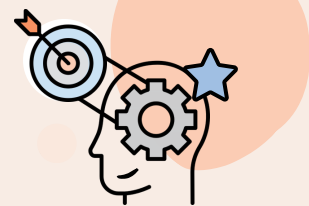
ADAPT



functional impairment (**-4.9 %**, $p = .22$)

wellbeing (-7.0 %, $p = .04$)

ENGAGE



functional impairment (**-5.2 %**, $p = .27$)

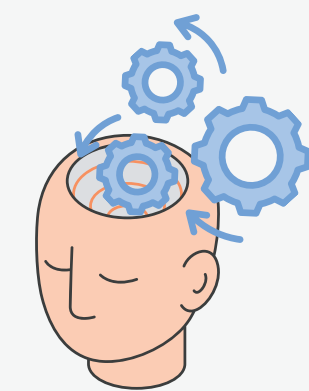
wellbeing (**+6.6 %**, $p = .48$)

INTERACT



depressive symptoms* (**-7.0 %**, $p = .01$)

wellbeing (**+4.9 %**, $p = .37$)



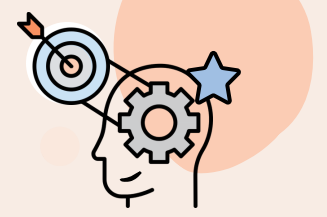
Module-level

processual outcomes

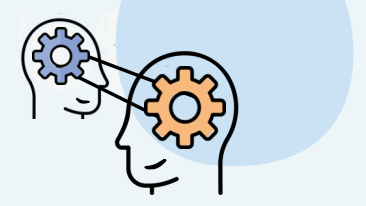
ADAPT



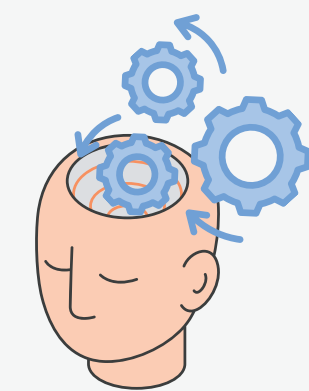
ENGAGE



INTERACT



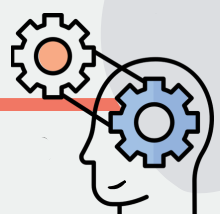
PBC = post-test between-group comparisons



Module-level

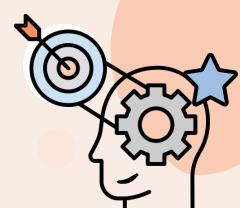
processual outcomes

ADAPT



instrumental support (+ 4.4 %, PBC : $p = .06$)
n.s. : coping flexibility (+3.3 %), disengagement (-5.4 %)

ENGAGE



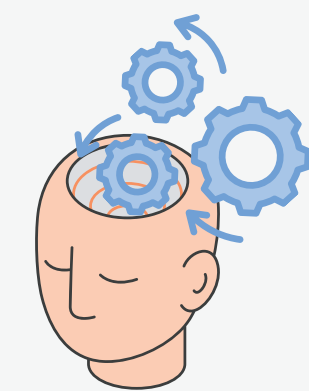
coping flexibility (+6.4 %, $p = .02$), **active coping** (+9.0%, $p = .05$)
emotional support (+5.6 %, PBC : $p = .07$)

INTERACT



coping flexibility (+4.7 %)
active coping (+7.2 %), planification (+4.7 %)

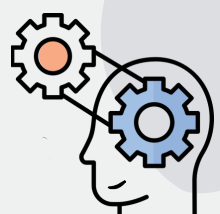
PBC = post-test between-group comparisons



Module-level

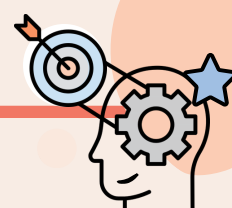
processual outcomes

ADAPT



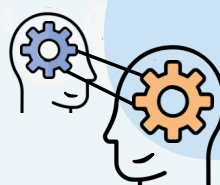
instrumental support (+ 4.4 %, PBC : $p = .06$)
n.s. : coping flexibility (+3.3 %), disengagement (-5.4 %)

ENGAGE



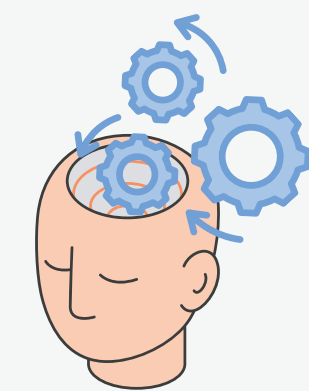
coping flexibility (+6.4 %, $p = .02$), **active coping** (+9.0%, $p = .05$)
emotional support (+5.6 %, PBC : $p = .07$)

INTERACT



coping flexibility (+4.7 %)
active coping (+7.2 %), planification (+4.7 %)

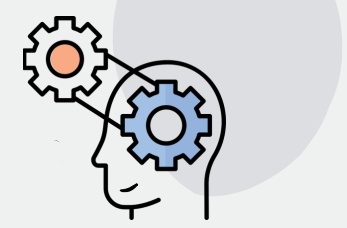
PBC = post-test between-group comparisons



Module-level

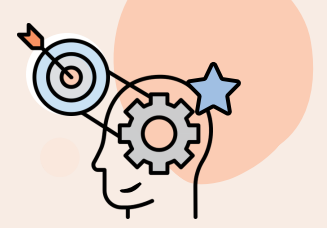
processual outcomes

ADAPT



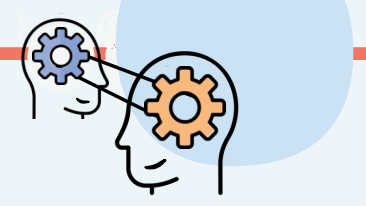
instrumental support (+ 4.4 %, PBC : $p = .06$)
n.s. : coping flexibility (+3.3 %), disengagement (-5.4 %)

ENGAGE



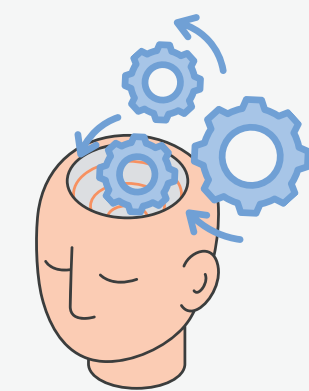
coping flexibility (+6.4 %, $p = .02$), **active coping** (+9.0%, $p = .05$)
emotional support (+5.6 %, PBC : $p = .07$)

INTERACT



coping flexibility (+4.7 %)
active coping (+7.2 %), planification (+4.7 %)

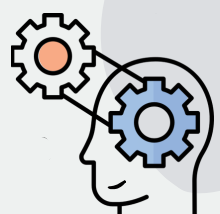
PBC = post-test between-group comparisons








Module-level

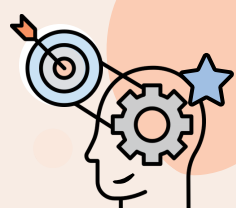
processual outcomes



ADAPT



 instrumental support (+ 4.4 %, PBC : $p = .06$)
n.s. :  coping flexibility (+3.3 %),  disengagement (-5.4 %)
 distraction (+5.0%),  denial (+5.5%)

ENGAGE

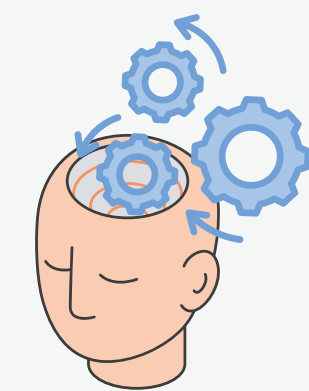


 **coping flexibility** (+6.4 %, $p = .02$), **active coping** (+9.0%, $p = .05$)
 emotional support (+5.6 %, PBC : $p = .07$)
 **planification** (-7.7 %, $p = .50$)

INTERACT



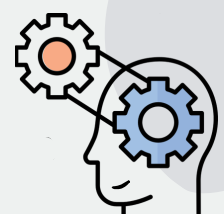
 coping flexibility (+4.7 %)
 active coping (+7.2 %), planification (+4.7 %)
 emotional support (-8.5 %, PBC : $p = .07$)



Module-level

processual outcomes

ADAPT



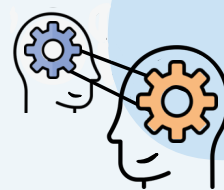
- ↑ instrumental support (+ 4.4 %, PBC : $p = .06$)
- n.s. : ↑ coping flexibility (+3.3 %), ↓ disengagement (-5.4 %)
- ↗ distraction (+5.0%), ↗ denial (+5.5%)
- ↑ **assertiveness** (+9.9 %, $p = .02$)

ENGAGE



- ↑ **coping flexibility** (+6.4 %, $p = .02$), **active coping** (+9.0%, $p = .05$)
- emotional support (+5.6 %, PBC : $p = .07$)
- ↓ **planification** (-7.7 %, $p = .50$)
- ↑ **assertiveness** (+13.1 %, $p = .001$)

INTERACT

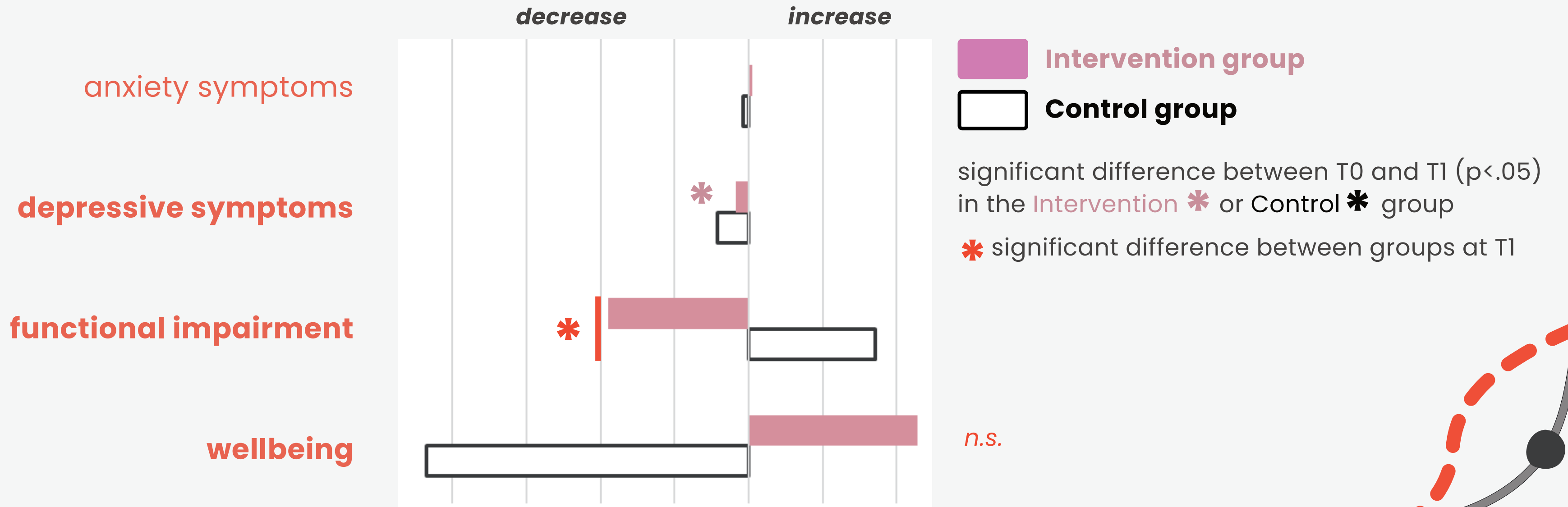


- ↑ coping flexibility (+4.7 %)
- ↑ active coping (+7.2 %), ↑ planification (+4.7 %)
- ↓ emotional support (-8.5 %, PBC : $p = .07$)
- ↑ **assertiveness** (+ 23.4 %, $p < .001$)

PBC = post-test between-group comparisons

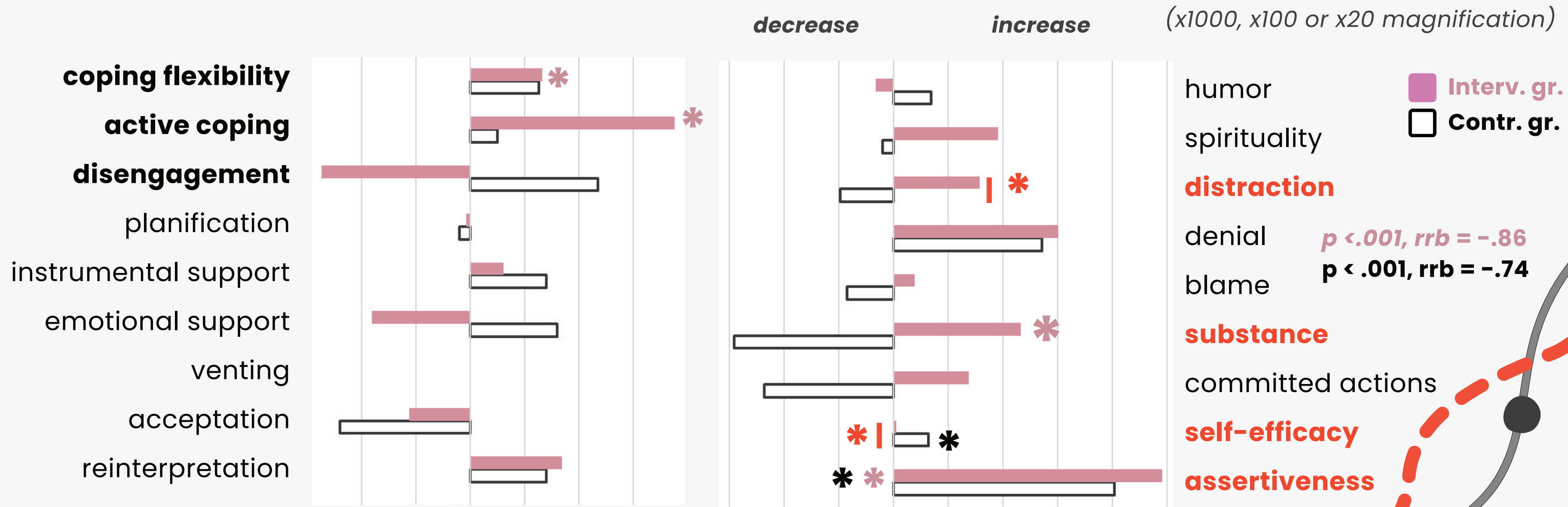
Clinical outcomes

Figure 1. Mean differences between T0 and T1 depending on experimental conditions (x100 magnification)



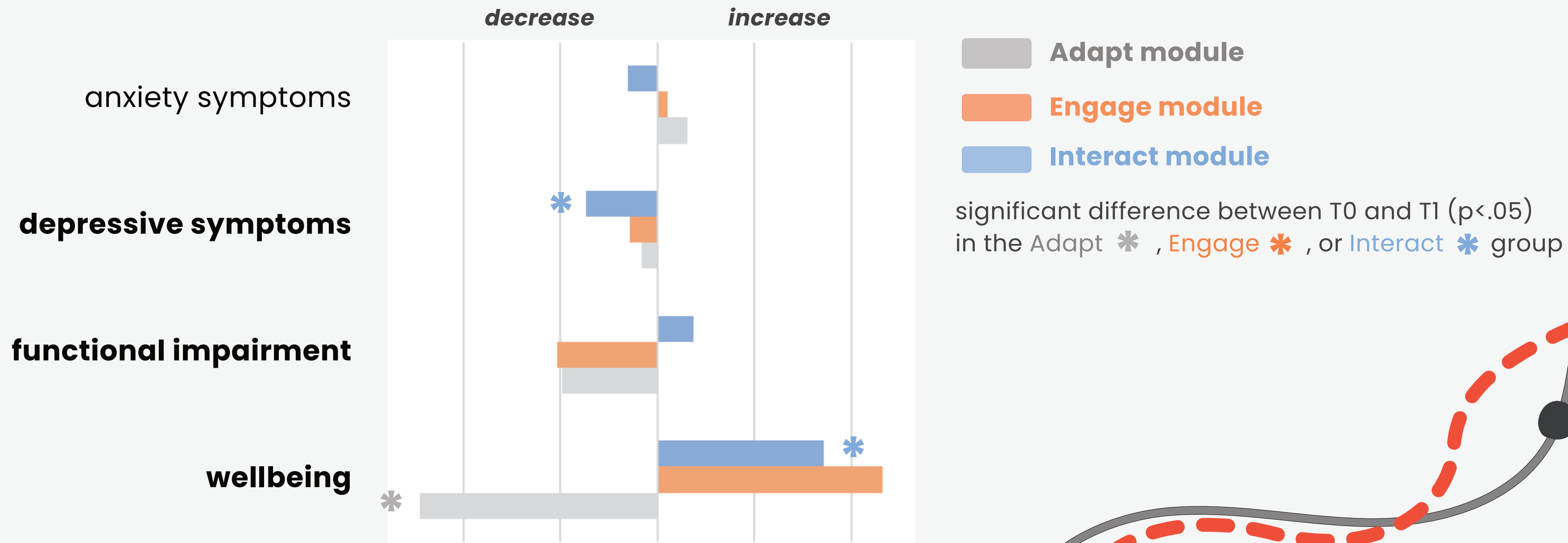
Processual outcomes

Figure 3. Mean differences between T0 and T1 depending on experimental conditions



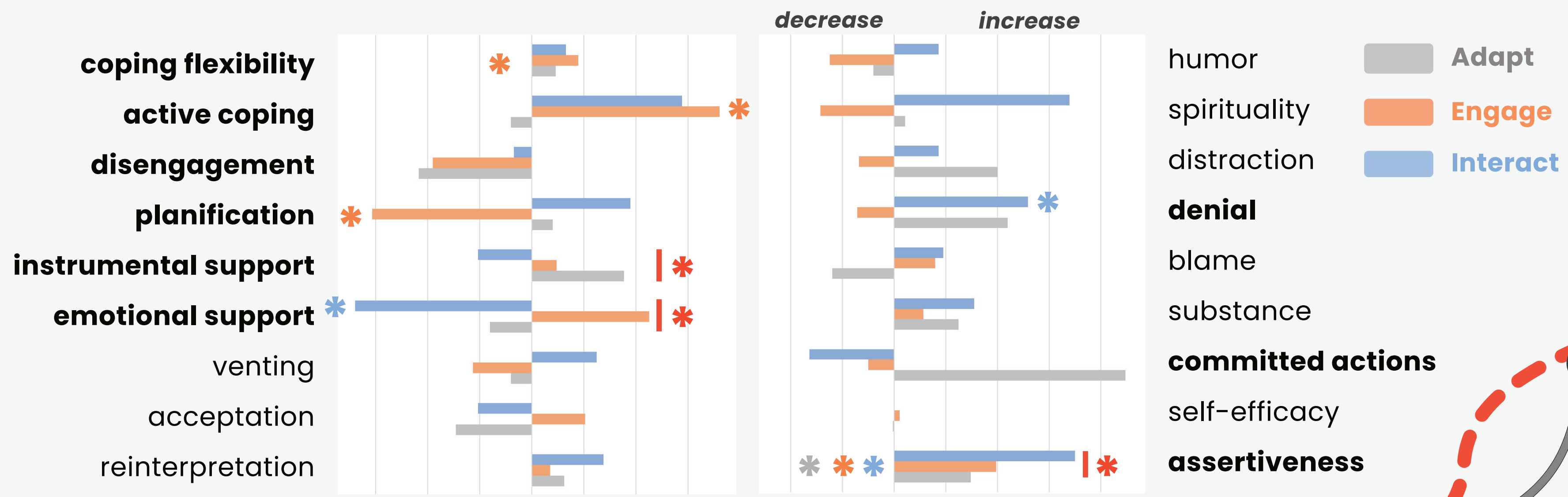
Preliminary results : *Clinical outcomes*

Figure 1. Mean differences between T0 and T1 depending on module groups (x100 magnification)



Preliminary results : *Clinical outcomes*

Figure 2. Mean differences between T0 and T1 depending on module groups (x1000, x100 or x20 magnification)

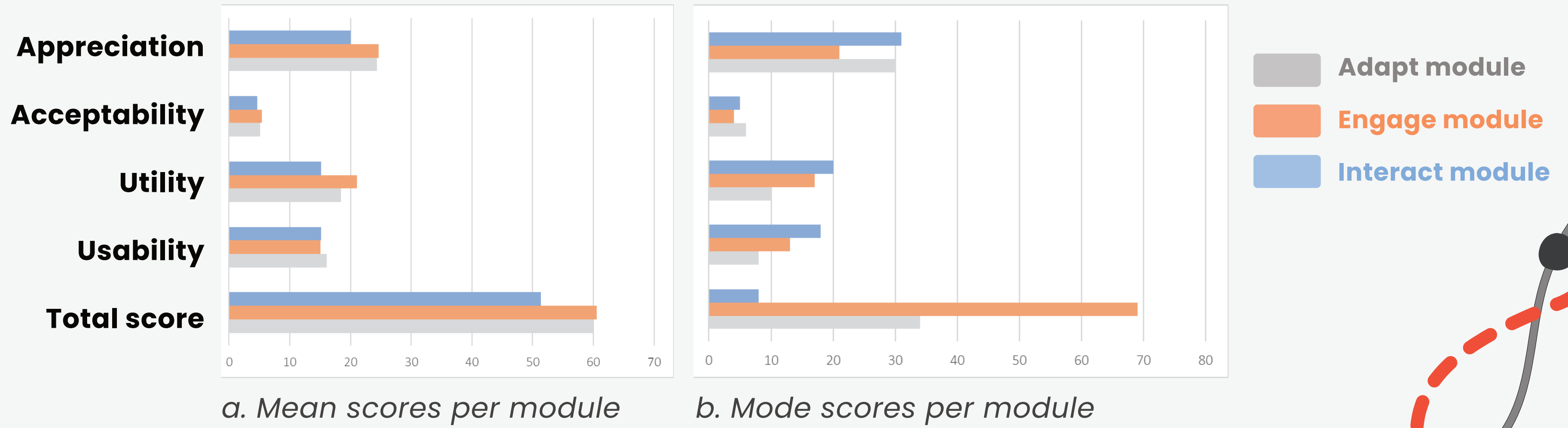


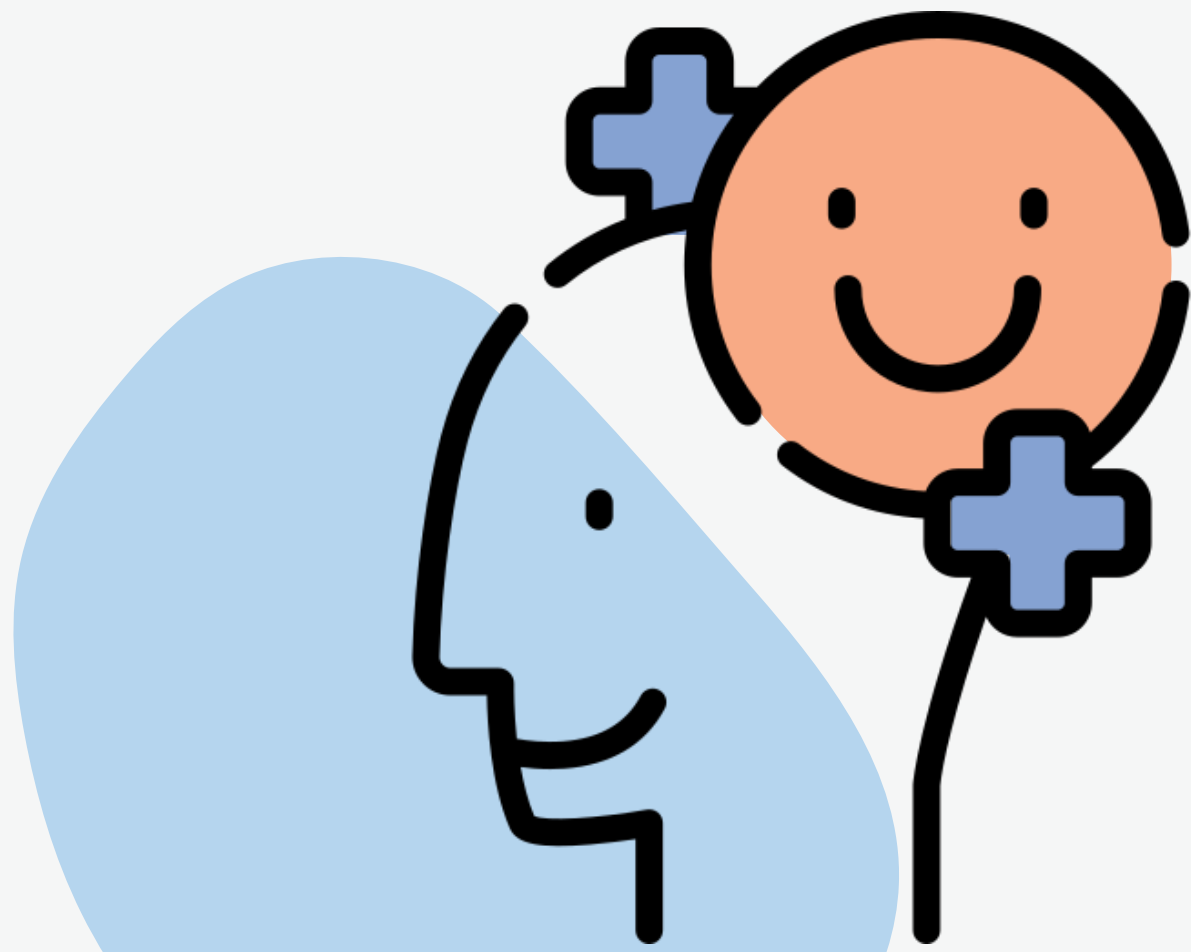
sig. diff. between T0 and T1 (p<.05) in the Adapt * , Engage * , or Interact * group


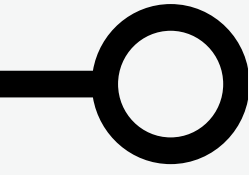
* sig. diff. between groups at T1

User experience-related outcomes

Figure 5. Descriptive statistics on UX (sub)scales depending on module group





Parcours  
ADAPTIVISME
keys of adaptation

