

katho

Katholische Hochschule **Nordrhein-Westfalen**
Catholic University of Applied Sciences

CGL
Cologne Game Lab

Technology
Arts Sciences
TH Köln



UNIVERSITEIT VAN AMSTERDAM

GEFÖRDERT VOM



Bundesministerium
für Bildung
und Forschung

Initial efficacy of a new goal-oriented intervention for impulsive and sensation-seeking adolescents involving a digital game and MI-based interview



Nuri Wieland, Carmen Johann, Helle Larsen, Emmanuel Guardiola, Michelle Rohde, Michael Klein, Reinout W. Wiers

Project and Conflict of Interest

SOLVE*

- Funding
 - German Federal Ministry for Education and Research
 - Funding period: 01.08.2019 – 31.01.2023
 - Funding reference : 13FH037SA7

I have no further potential conflicts of interest to report.

Cooperation between

- Catholic University of Applied Sciences NRW | German Institute on Addiction and Prevention Research, Prof. Michael Klein
- Technical University of Cologne | Cologne Game Lab, Prof. Emmanuel Guardiola
- University of Amsterdam | Developmental Psychology, Prof. Reinout Wiers

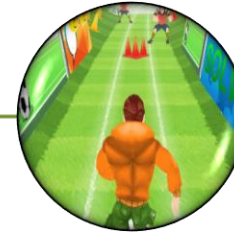


*Development and evaluation of an innovative game-based preventive intervention for adolescents with increased risk for substance misuse and dependencies.

Prevention of harmful risk-taking



13-16 year old daredevils
(impulsives/sensation-
seekers)



Digital Mobile
Game



Motivational
Interviewing



Self-
control
strategies

Premises of the Intervention

What motivates risk-taking?

- Behaviors are usually performed in the service of certain goals (Goal Systems Theory, Kruglanski, 2002)
- E.g. Smoking as means to reach goal of relaxation (Kopetz, Lejuez, Wiers, & Kruglanski, 2013)
- Formation of a behavioral intention is determined by motivation to perform a behavior in light of alternative options and in the context of currently active goals (Theory of Reasoned Goal Pursuit (Ajzen & Kruglanski, 2019))

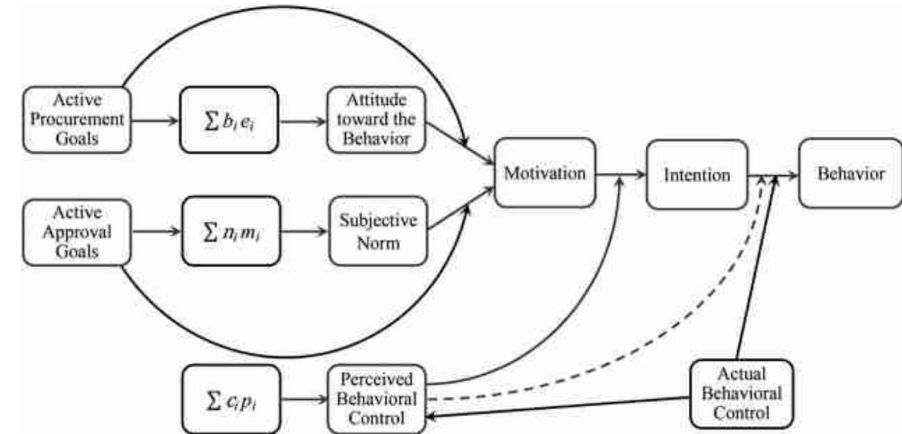


Figure 1. Theory of reasoned goal pursuit. $\sum b_i e_i$ = summed products of behavioral beliefs times outcome evaluation; $\sum n_i s_i$ = summed products of normative beliefs times significance of social referent; and $\sum c_i p_i$ = summed products of control beliefs times power of control factors.

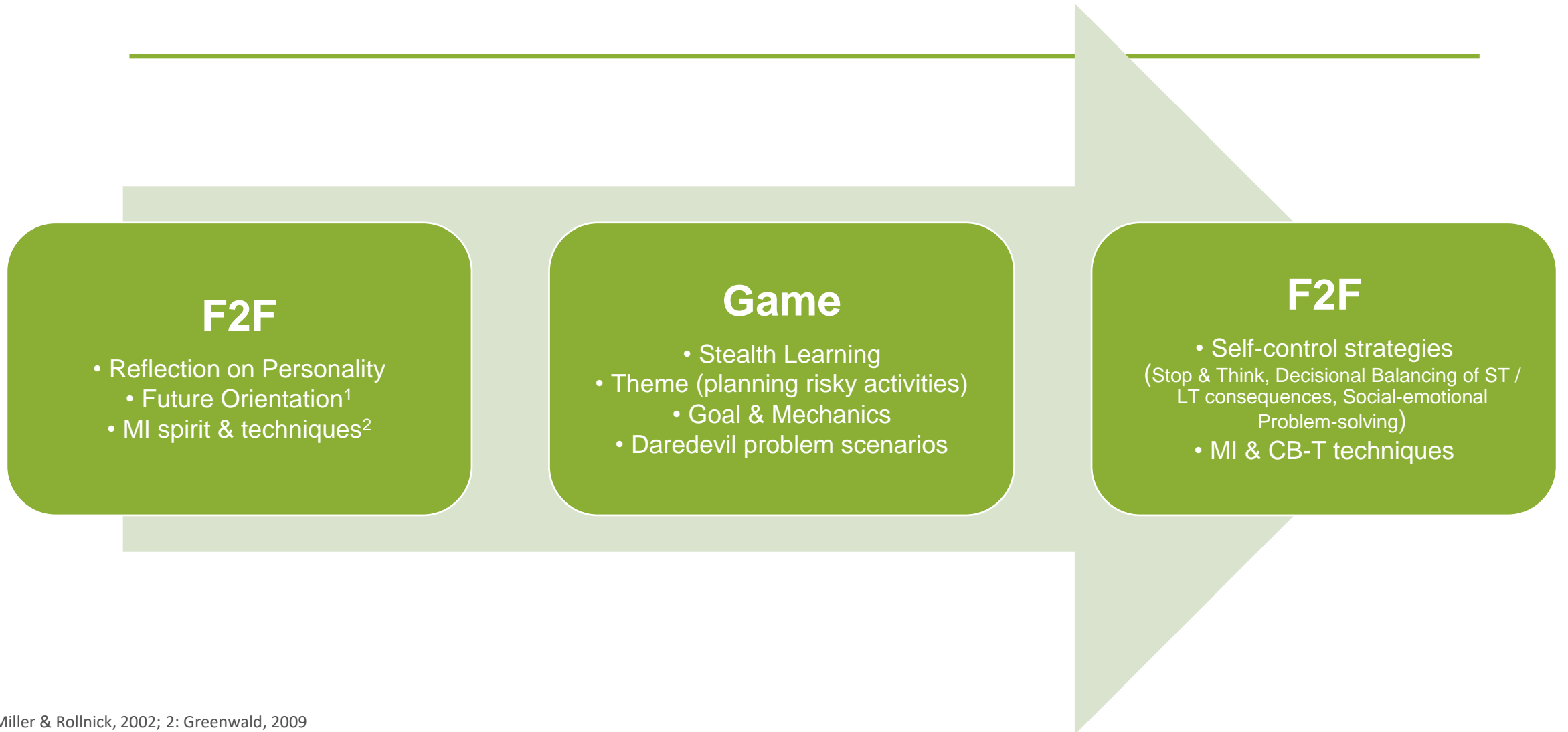
Premises of the Intervention

Personality and Risk-taking



- Impulsogenic personality inclinations are associated with a pattern of motives for risk-taking behavior¹
 - including a pattern of goals, needs and cognitive processing styles
 - SU & other risk-taking behavior in daredevil adolescents can often be regarded as a means to fulfill associated goals and needs

Intervention Components



Evaluation of initial efficacy and acceptance (Pilot randomized clinical trial)

Sample

- 13-16year old adolescents with elevated sensation seeking and/or impulsivity scores (SURPS, Woicik, Stewart, Pihl & Conrod, 2009)
- N=60 (plus drop-out rate)
- Requirements:
 - Sufficient German language skills
 - No serious cognitive impairments
 - Not currently in in-patient psychiatric treatment or Addiction treatment
 - practice partners from youth welfare, schools, addiction prevention, out-patient youth psychiatry
 - Flyers, on-site visits, social media campaign

Procedure

- F2F:
 - Trained psychologists in MI and CB-T techniques
 - semi-structured guide
 - Audio-recorded
 - 50 min per session
- Smartphone Game:
 - 2 versions (hash brownie scenario/without)
 - Android smartphones
 - Use data is logged (retention rate, duration of use, number of log-ins)

Study Design

Sample:
Impulsive/sensation-seeking adolescents (13-16 years), screened by SURPS and other inclusion criteria

2-armed pilot RCT, **embedded qual study**
IV = Intervention Group

Group 1:

- ✓ F2F
- ✓ Game
- ✓ Brochure

Group 2:

- ✓ Game
- ✓ Brochure

- Sociodemographics
- Relevant Risk-taking activities (past 30 days)
 - Choice according to relevance & subj. positivity/negativity
 - Engagement
 - Willingness to Engage
 - SU frequency (past 30 days)

- Use & Acceptance of Game

- Relevant Risk-taking activities (past 30 days)
 - Engagement
 - Willingness to Engage
 - SU frequency
- Use of self-control strategies, motivation
- Contribution of intervention components* (game, interviews) and contextual factors on risk-behavior, intentions and use of self-control strategies

Intervention starts

4-7 days

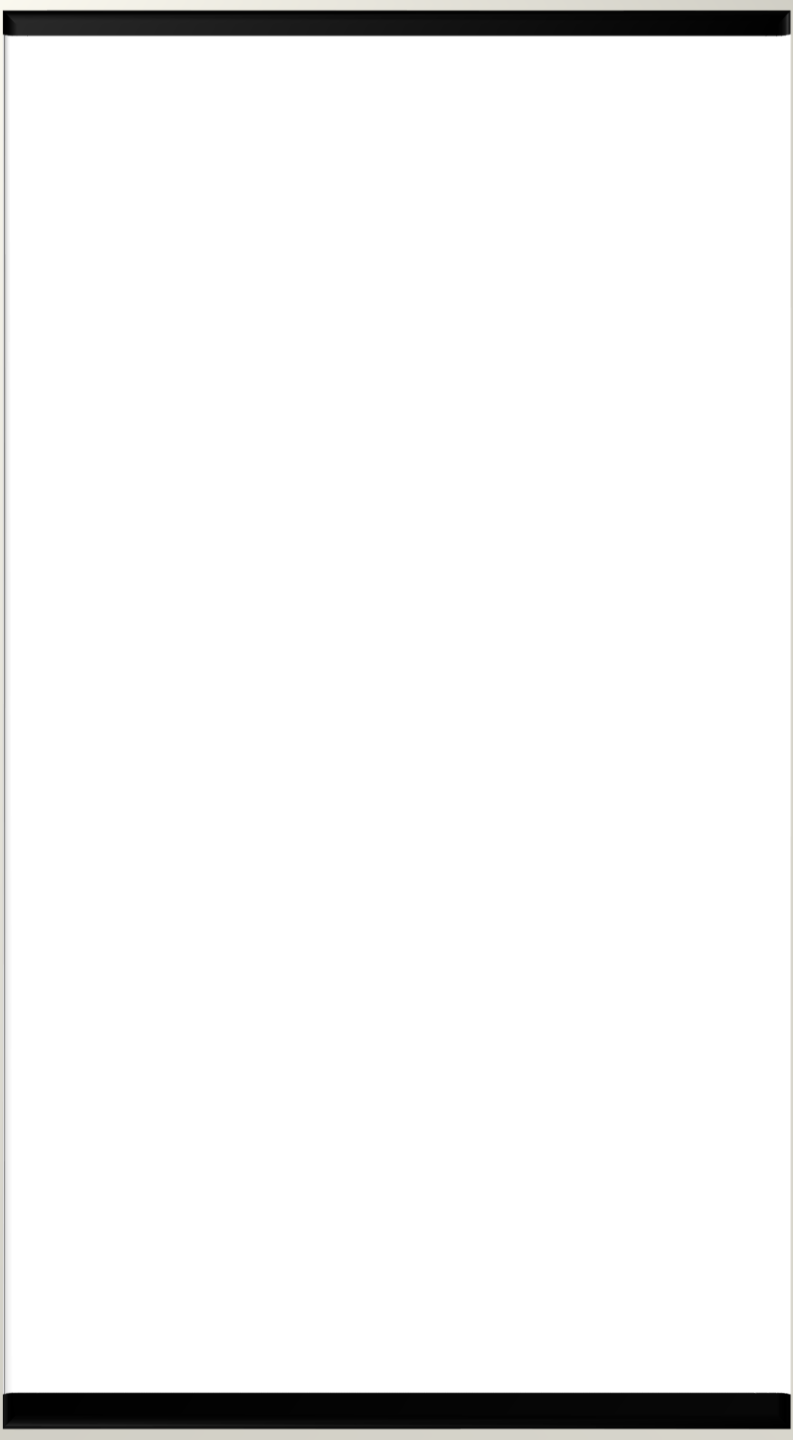
Intervention finished

Time for risk-taking activities

T0: Baseline

T1: Post-intervention

T2: 1 mth post-intervention





<https://www.instagram.com/solve.game/>



<https://www.facebook.com/SOLVEgame-100186662665202>

Thank you for your attention!

Nuri Wieland
0049-221-7757-157 | nuri.wieland@katho-nrw.de

Prof. Dr. Michael Klein
0049-221-7757-156 | mikle@katho-nrw.de

Carmen Johann (Game Design)
0049-221-8275-4060 | cj@colognegamelab.de

Prof. Dr. Emmanuel Guardiola
eg@colognegamelab.de

SOLVE email: solve@katho-nrw.de