



SERIOUS GAMES FOR HEALTH







R C T



HOPE LAB DESIGN GUIDING VALUES



1. When in doubt, collect data
2. It has to be fun
3. It has to work or it has to go.

(Tate et al., 2009)

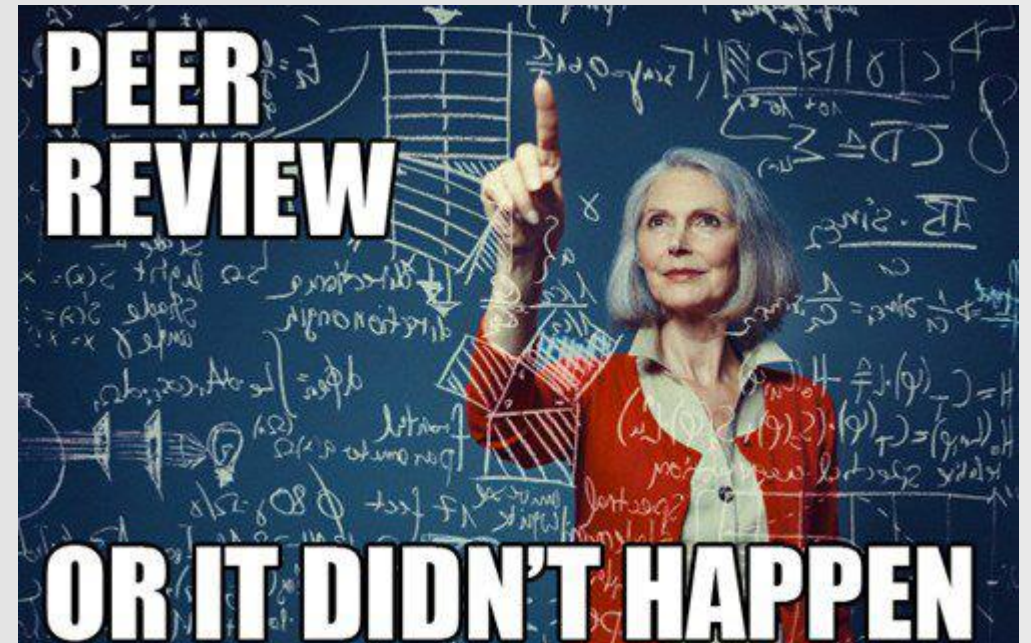


GAMES FOR HEALTH GUIDELINES



- Ground your game in theory
- Conduct a randomized trial
- Include adequate control groups
- Recruit an adequate number of participants
- Include objective measures of health
- Monitor and report potential negative side effects
- Publish even null results

(Kato, 2012)







The Effect of a Game Prompt on Self-Efficacy Concerning Problem-Solving Challenges of Living with Diabetes type II

Researching Games Barcamp – Play Week Berlin 2016

Behaviour Change

Promote Self-Efficacy

- Mastery experience,
- Social models,
- Social persuasion and
- Reappraisal of somatic and emotional state



The inspiration

Get Excited:

Reappraising Pre-Performance
Anxiety as Excitement.

(Brooks, 2013).

Arousal congruent with different
emotional load

Higher sense of self-efficacy
& better performance.



Main Question

Investigating whether announcing an anxiety inducing health-related-problem as a 'game' has the same effect on self-efficacy and might be seen as a form of cognitive reappraisal.

Game = Get excited?

If true lower negative affect / higher positive affect

If true higher sense of self-efficacy

The Online Experiment

Is a game-prompt = an excitement prompt (in health related context)?

Manipulation = prompting text game vs task

Questions on self-efficacy, expected difficulty, several demographic variables, flourishing, positive and negative affect, self-esteem and their familiarity with diabetes.

$N = 107$ task + 125 game

HEALTH GAME TASK

“On the next pages you will be asked to play a game **perform a task** in which you have to solve several health related problems concerning living with Diabetes type II.

This game **This task** includes dealing with glycaemic control, caloric intake, measurement intervals and other issues.

The game **The task** requires no specific prior knowledge and you do not need to have Diabetes to participate.”

Affect

Contains variables / measurements: game vs task prompt, score on negative affect (PANASneg) and score on positive affect (PANASpos)

Analysis: independent (unpaired) t-test between game and task prompt group on the scores of PANASpos and PANASneg

Result: There was no significant difference in the scores on positive affect in the task prompt ($M = 3.69$, $SD = .70$) and the game prompt ($M = 3.54$, $SD = .81$) $t(230) = 1.53$, $p > .1$. Scores on negative affect between task prompt ($M = 1.82$, $SD = .82$) and game prompt ($M = 1.83$, $SD = .78$) also are not significantly different $t(230) = -.10$, $p = .92$.

Hypothesis not confirmed.

Direct effect on Self-Efficacy

Contains variables / measurements: game vs task prompt (two groups), compound score on self-efficacy scale (14 items with 3 subscales), compound score of each self-efficacy subscale

Analysis: ANOVA fixed-effects model, between-subjects,

Result: self-efficacy score (game ($M = 8.08$, $SD = 1.75$) or task ($M = 8.66$, $SD = 1.61$)), showing a significant effect ($F(1,230) = 6.88$, $p < .05$, $\omega = .16$, Adjusted R Squared = .025) in the direction opposite to our expectations. The manipulation triggered a higher sense of self-efficacy in the task prompted group.

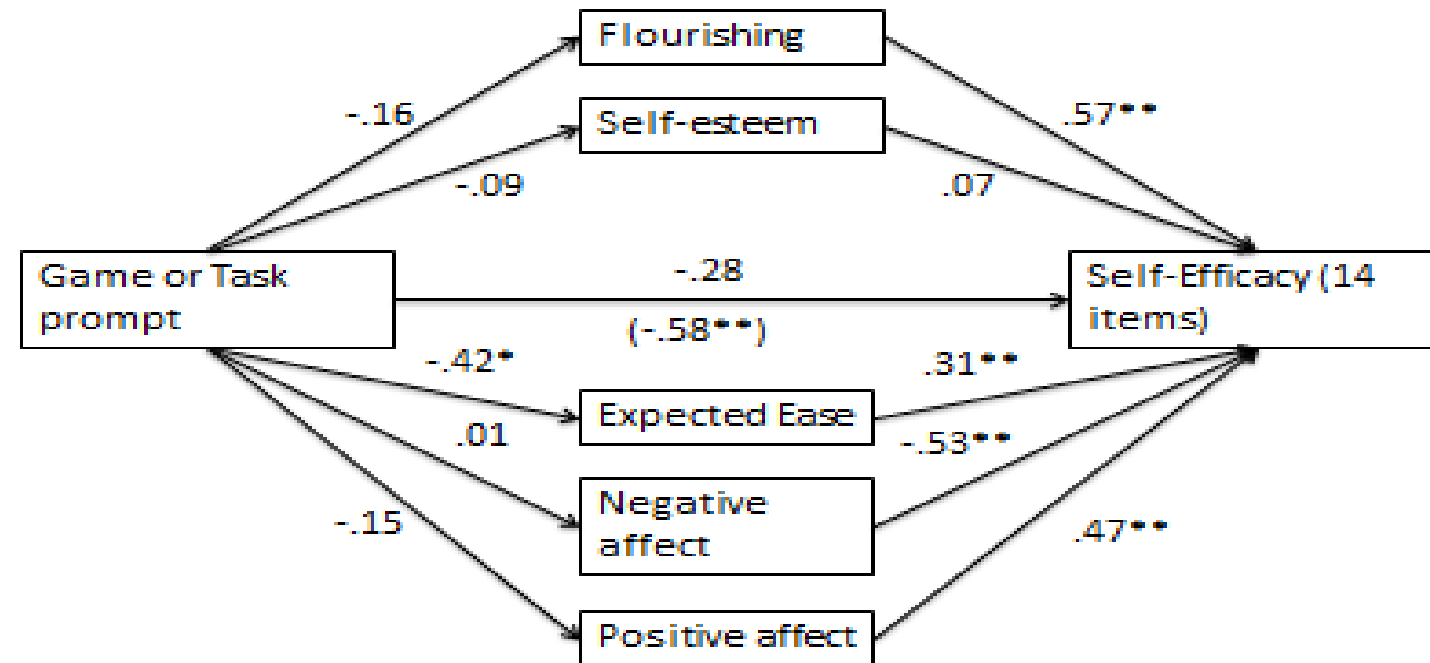
Hypothesis not confirmed – significant results are found but in the opposite direction.

Mediation

Contains variables / measurements: games vs task prompt (GorT), score on expected ease (Ease), score on self-esteem (SISE), PANASpos, PANASneg, Self-efficacy overall compound score of 14 items (SEcomp).

Analysis: PROCESS, model 4 simple mediation, 10.000 bootstrap sample, $Y = \text{SEcomp}$, $X = \text{GorT}$, $M1 = \text{SISE}$, $M2 = \text{PANASneg}$, $M3 = \text{PANASpos}$, $M4 = \text{Ease}$, $M5 = \text{FlouComp}$, $N = 232$

Mediation model



$p < .05$ $^{**}p < .01$

There was a significant indirect effect on Self-Efficacy through Flourishing $ab = -.09$, BCa CI $[-.26 | -.01]$ and Expected Ease $ab = -.13$, Bca CI $[-.29 | -.03]$.

Conclusions

NO effect of Game prompt on Affect

NO positive effect of Game prompt on Self-Efficacy
(mediated by Flourishing and Expected Ease)

= NOT Excited

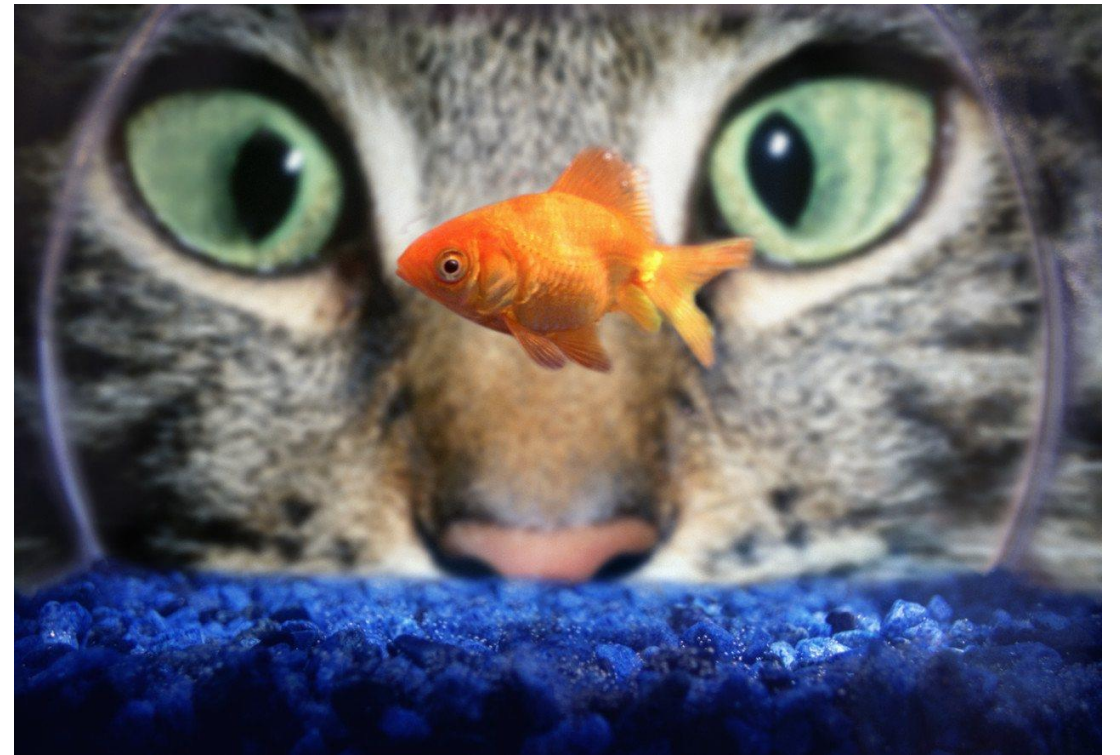
****Dip in Self-Efficacy BEFORE
gameplay ****



QUESTIONS ?

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**THIS IS
NOT ROCKET
SCIENCE**