

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.*

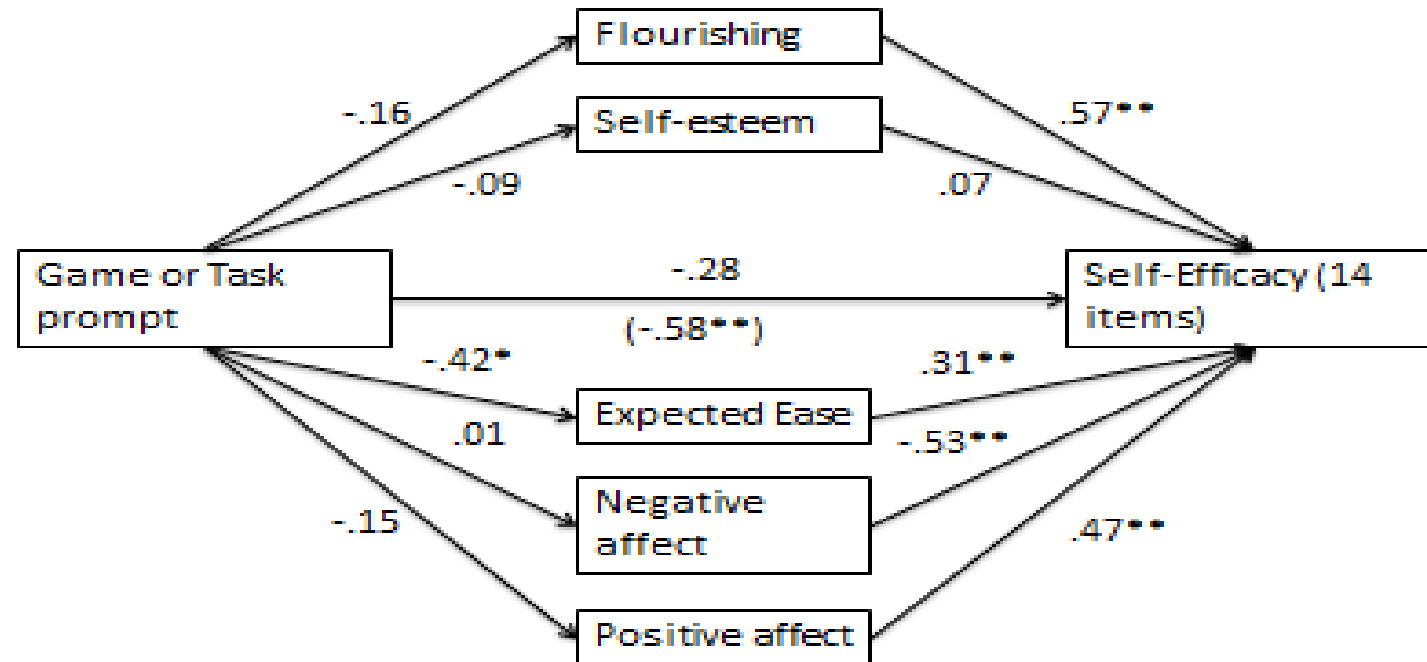


# Mediation

**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,  $Y = SEcomp$ ,  $X = GorT$ ,  $M1 = SISE$ ,  $M2 = PANASneg$ ,  $M3 = PANASpos$ ,  $M4 = Ease$ ,  $M5 = FlouComp$ ,  $N = 232$

# 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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