

What is the effect of choice in elementary school children?

Waterschoot, J., Soenens, B., & Vansteenkiste, M. (in preparation). Effects of Experimentally Induced Choice on Motivation in Middle Childhood: The Moderating Role of Teacher and Student Characteristics.



Joachim Waterschoot

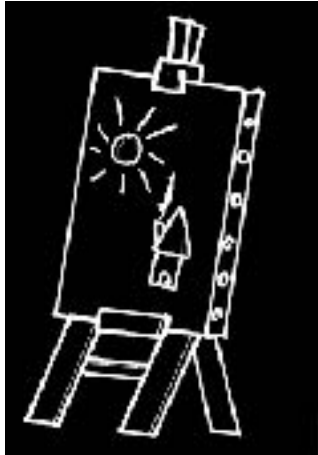
Data visualizations made by



www.cavir-statistics.com

 @Watjoa

Painting in the dark



Graffiti



Painting with bouncing balls









= 'natural and active **drive** to obtain knowledge'



Authentic and
personally endorsed
values



Experience personal
effectiveness and master
difficult challenges



Experience being loved
and reciprocal care



- Encourage initiative
- Create room for students to be themselves
- Take students' frame of reference
- Encourage group discussion
- Provide enough time for independent work
- Avoid controlling-teacher language
- Avoid the use of guilt induction
- ...



- Guidance
- Optimal challenges
- Positive and constructive feedback
- Improvement-promoting feedback
- ...



What about 'choice'?

(in the framework of the Self-Determination Theory)



Objective: the contextual event of choice provision

≠

Subjective: the experience of having the opportunity to choose

→ Nature of choice:

- Is it personally relevant? (e.g. Iyengar & Lepper, 1999)
- Are the options optimally challenging? (e.g. Patall, Cooper, & Wynn, 2010)

What about choice?

(in the framework of the Self-Determination Theory)



The contextual event of choice provision (objective)

≠

Experience of having the opportunity to choose (subjective)

- Nature of choice (e.g. number of choices, are choices meaningful?)
- Contextual and personal factors (e.g. cultural background, relationships, etc.)

1. Child-Teacher Relatedness

Absence of choice is less harmful when student feel closely connected to the person who makes the choice (Bao & Lam, 2008)

- Cross-cultural differences?
- Generalization?



2. Indecisiveness

Indecisive people felt better when they have to make fewer choices

(Iyengar & Lepper, 1999)

- Do high-indecisive children benefit less from choice provision?



Present Research

1. The main effects of choice confirmation vs choice removal on intrinsic motivation
2. The moderating role of the child-teacher relatedness and indecisiveness?

Phase 1: Initial choosing

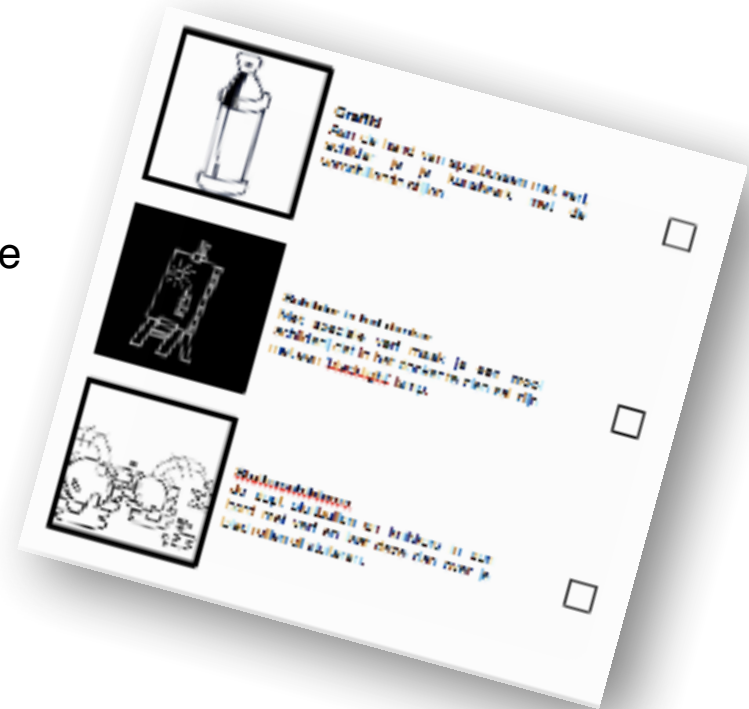
$N = 126$ (66 girls; mean age = 10.8 ys; range: 9 – 12) from the 4th, 5th and 6th grade with parental approval

“Today, three teams of coaches will guide a painting activity in the afternoon”

Based on three pilot studies

($N_{\text{study1}} = 99$; $N_{\text{study2}} = 69$; $N_{\text{study3}} = 52$)

Comparable scores for attractiveness and for challenge



Phase 2: Manipulation

After lunch break, before start, general instructions and provision of letter:

“...not everyone will be able to do his/her preferred activity...”

“...we have discussed this situation with your teacher. Your teacher has decided that...”



“...you are allowed to do the preferred activity you chose this morning”

= choice confirmation condition (50%)



“...you have to do another activity, namely...”

= choice removal condition (50%)



Study





Phase 4: Post-questionnaire

Complete second questionnaire, concerning:

1. Manipulation check
 - *“Which activity did you do this afternoon?”*
 - *“I was able to do my chosen activity/My teacher assigned me to do another one”*
 - Perceived choice
2. Autonomy and Competence satisfaction
3. Intrinsic motivation, measured by:
 - Pleasure and interest
 - Intended persistence
 - Vitality

! Feedback

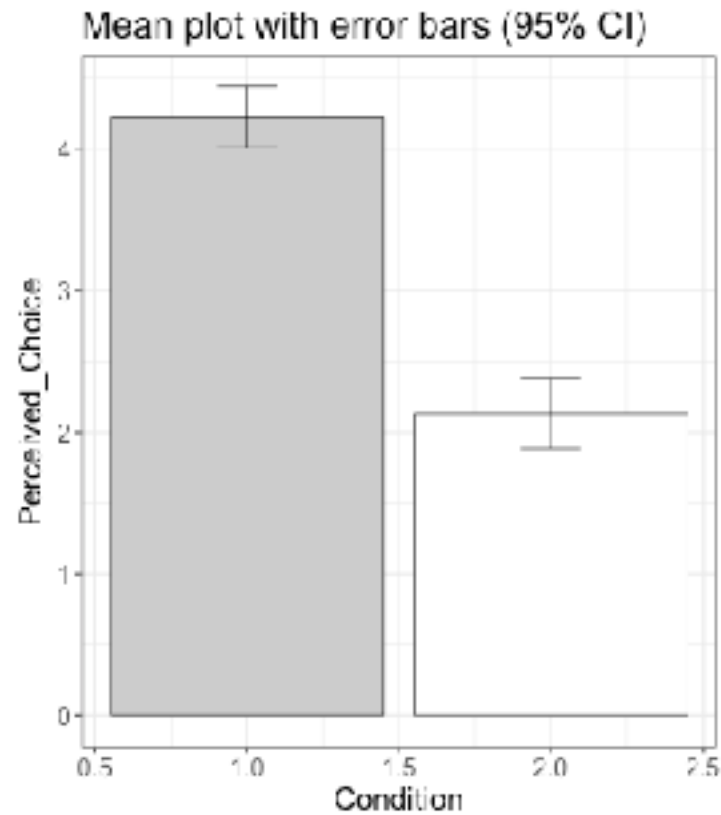
Research question 1:

What are the effects of experimentally induced choice confirmation, relative to choice removal, on intrinsic motivation?

Results

Perceived Choice

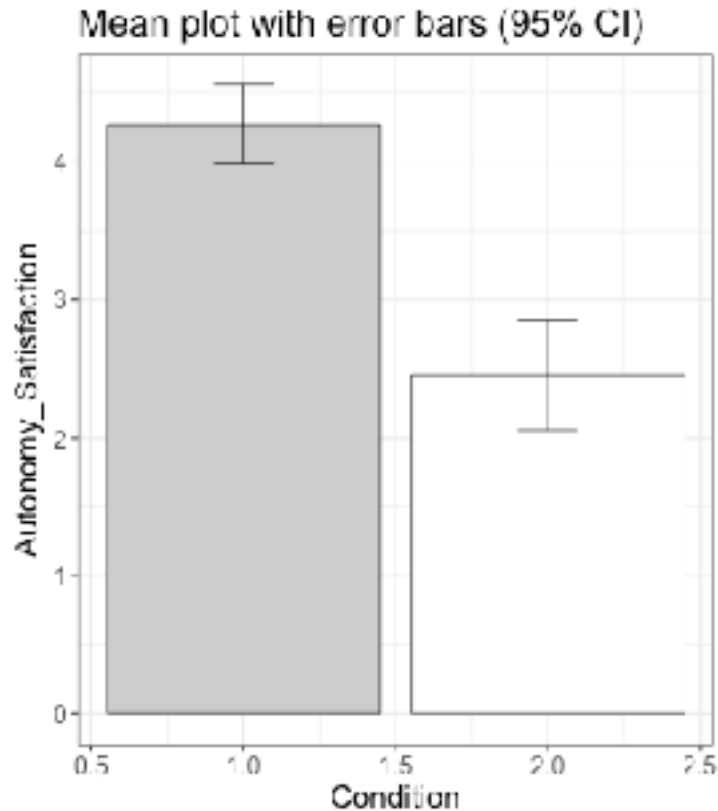
$F(1, 100) = 166.17, p = .00, \eta^2 = .62, d = 2.54$



Results

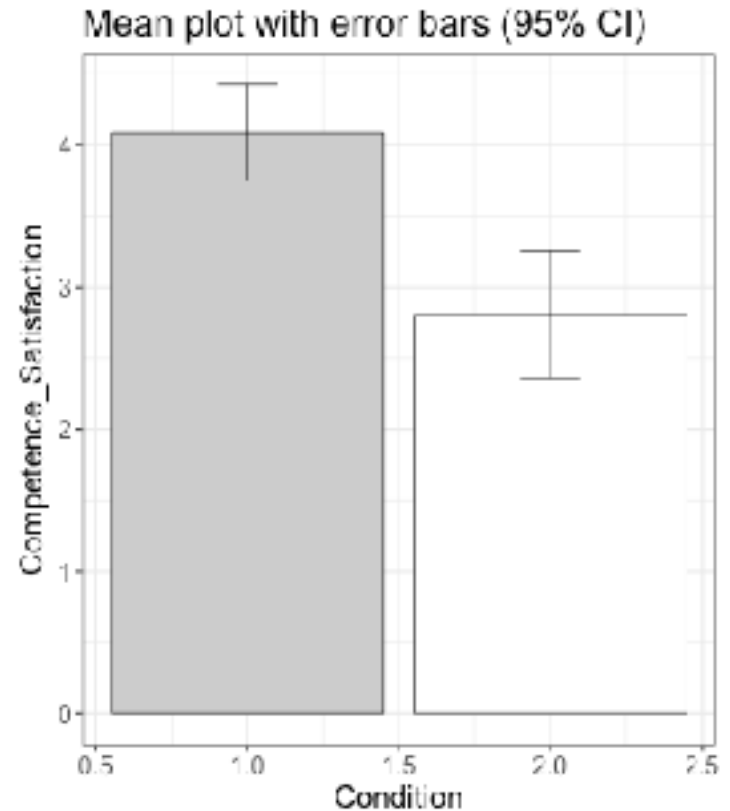
Autonomy satisfaction

$F(1, 97) = 57.17, p = .00, \eta^2 = .37, d = 1.49$



Competence satisfaction

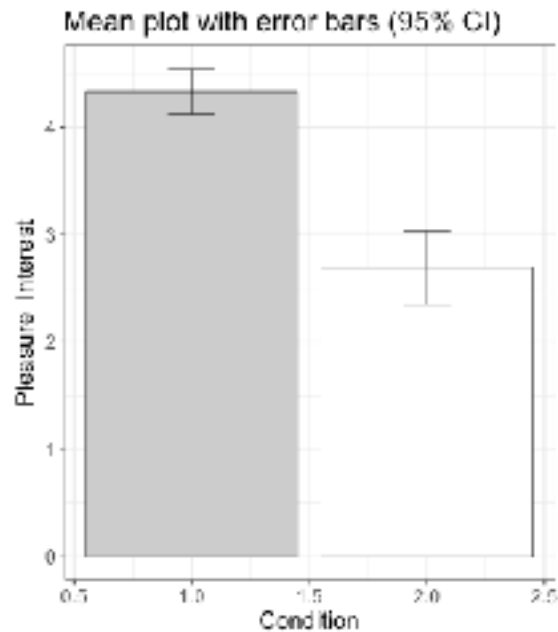
$F(1, 97) = 21.48, p = .00, \eta^2 = .18, d = .92$



Results

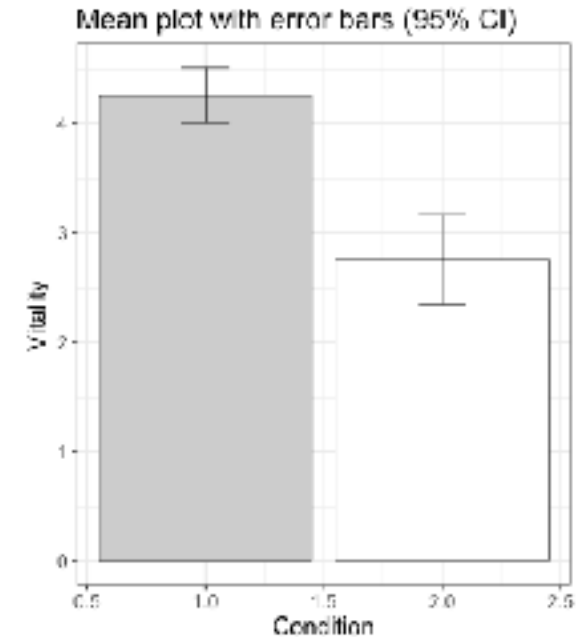
Pleasure and interest

$F(1, 100) = 70.36, p = .00, \eta^2 = .41, d = 1.63$



Vitality

$F(1, 98) = 27.73, p = .00, \eta^2 = .22, d = 1.02$



Intended persistence

$F(1, 98) = 41.58, p = .00, \eta^2 = .30, d = 1.26$

<https://www.polyu.edu.hk/mm/effectsizefaq/calculator/result.html>

Research question 2:

What are the moderating effects of child-teacher relatedness, the general autonomy-supportive teaching style and the level of indecisiveness?

Results

Perceived choice

Autonomy satisfaction

Competence satisfaction

Pleasure and Interest

Intended persistence

Vitality

Results

	gender	age	Choice removal vs. choice confirmation	Child-teacher relatedness	Interaction
Perceived choice	.00	.01	.80***	.12	-.07
Autonomy satisfaction	-.01	.04	.61***	.16	-.06
Competence satisfaction	-.01	.02	.43***	.21*	-.10
Pleasure and Interest	-.01	.05	.67***	.12	-.03
Intended persistence	-.00	-.01	.51***	.24**	.00
Vitality	.05	-.02	.58***	.16	-.05

Results

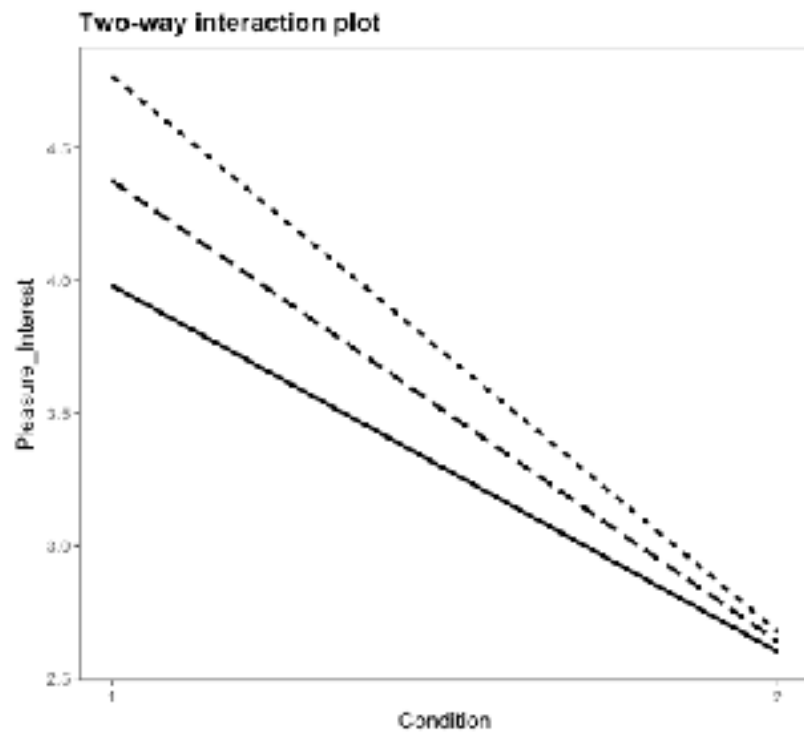
	gender	age	Choice removal vs. choice confirmation	Indecisiveness	Interaction
Perceived choice	.06	.01	.80***	-.09	
Autonomy satisfaction	.06	.04	.61***	-.09	
Competence satisfaction	.14	.01	.45***	-.26*	
Pleasure and Interest	.10	.04	.70***	-.21**	
Intended persistence	.10	-.00	.51***	-.09	
Vitality	.16+	-.03	.60***	-.20*	

Results

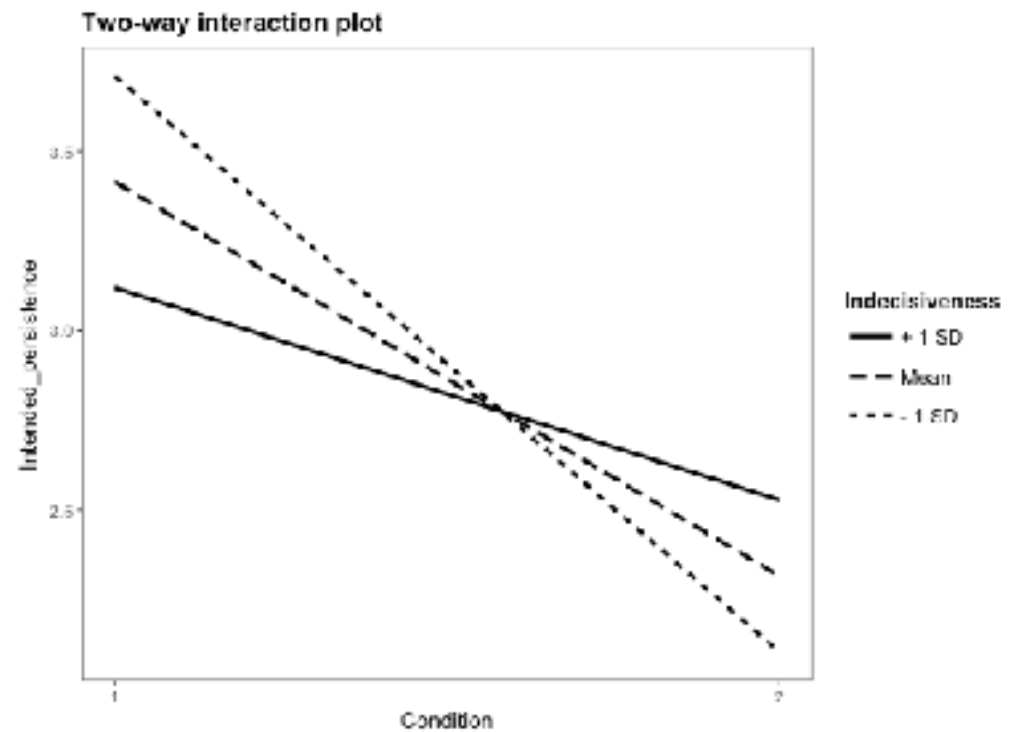
	gender	age	Choice removal vs. choice confirmation	Indecisiveness	Interaction
Perceived choice	.06	.01	.80***	-.09	-.04
Autonomy satisfaction	.06	.04	.61***	-.09	-.09
Competence satisfaction	.14	.01	.45***	-.26*	-.16
Pleasure and Interest	.10	.04	.70***	-.21**	-.15*
Intended persistence	.10	-.00	.51***	-.09	-.22*
Vitality	.16+	-.03	.60***	-.20*	-.11

Results

Pleasure and interest

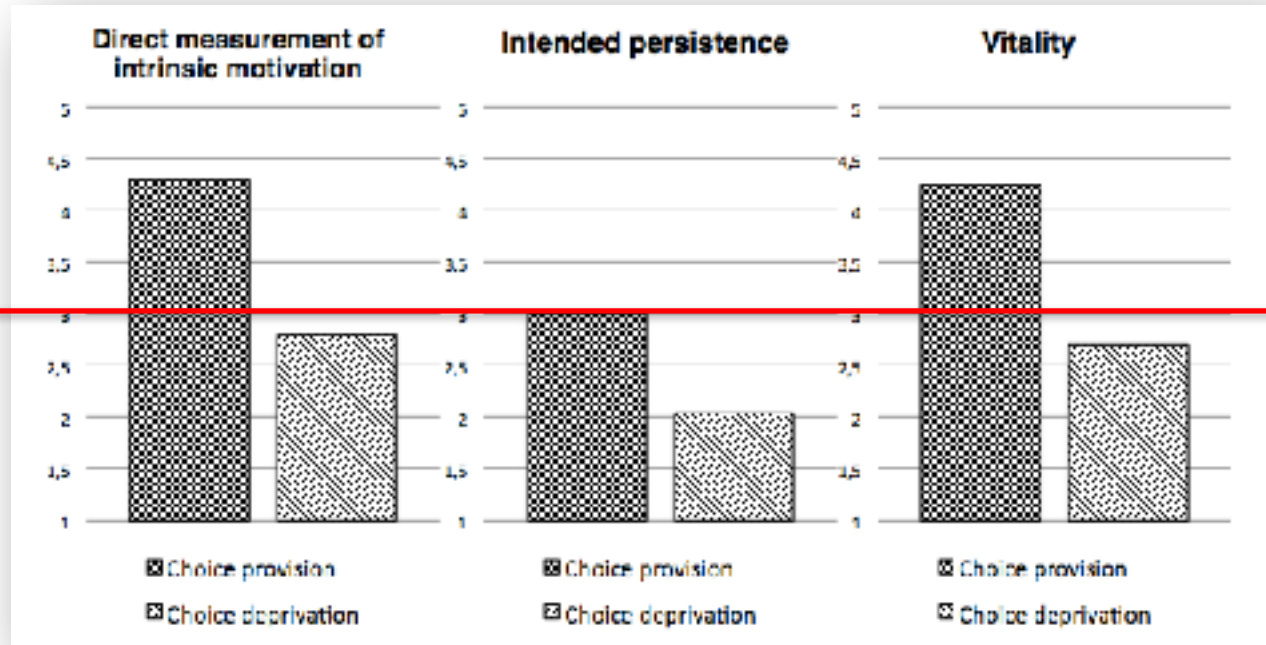


Intended persistence



Conclusions

1. By the provision of choice between three interesting activities (i.e. painting activities), relative to the removal of choice, we induced large effects (in Cohen's d) on intrinsic motivation of elementary school children.



Conclusions

2. High-indecisive children benefit less from choice provision, compared to low-indecisive children. No moderating effects were found for teacher characteristics.
- Practical implications for teachers!: take care of high-indecisive children
 - Cross-cultural effect of child-teacher relatedness?(Bao & Lam, 2008)
Or due to very large effect sizes of manipulation?
 - More subtle manipulations required in future research?

Future research



Thank you!

Questions?