

Modul M4 | P Experimentalpsychologisches Arbeiten

Experimentalpsychologisches Arbeiten – Teil 2

Theorieteil

Wintersemester 2023/24

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Gliederung

- ✓ Feedback zu Berichtsentwürfen
 - ✓ Methodenteil
 - ✓ Ergebnisteil
- ✓ Wie schreibe ich einen Theorieteil?

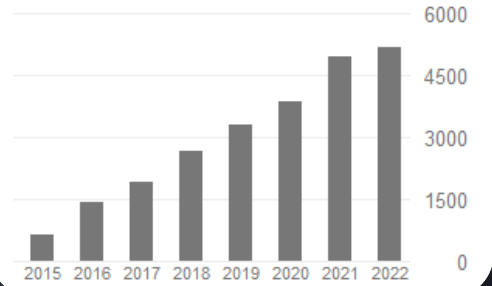
Feedback zu Berichtsentwürfen

Methodenteil

Feedback

Zitiert von [ALLE ANZEIGEN](#)

	Alle	Seit 2017
Zitate	25468	22165
h-index	45	41
i10-index	77	76



↻ Daniel Lakens teilte



Daniel Lakens

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Dear early career researchers: I have been writing papers for 17 years. A professional editor just sent back edits on a first draft of a 4 page text. Except for 5 lines, the whole document was red. This is how it goes! Don't feel bad if you get a massive amount of suggested changes on early drafts. The paper will most likely be better for it in the end.

Feedback Methodenteil

Präregistrierung

- Hatten wir eine Präregistrierung erarbeitet? Wenn ja: Wo ist diese denn zu finden (mit URL!)?

Analysis

Our analyses followed a preregistered protocol (<https://osf.io/fvm7p/register/565fb3678c5e4a66b5582f67>). Specifically, we used UKB data from all individuals of European descent who were genotyped and scanned by April 2018 who also had measures of fluid intelligence, educational attainment, and all other control variables described in the protocol ($N = 13,608$). We tested for an association between TBV (white matter + gray matter + fluid) and fluid intelligence and between TBV and educational attainment using linear regression models that controlled for sex, age at brain scan, age at IQ test (using a dummy for each year to capture nonlinear effects), height, the indicator variables for the instances of the cognitive test, the first 40 principal components of the genetic data, and all interactions between age at IQ test and sex.

Feedback Methodenteil

Präregistrierung

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Pre-Registration

We pre-registered the method and planned analyses on the Open Science Framework. This was done on October 1, 2014, prior to any data collection, and can be found at https://osf.io/cifn3/?view_only=0c7de573120f4cab9b52e7ec2b2acd2d.

Method

Participants

Two hundred participants (78 male, 122 female) were recruited from the human subject pool of the Department of Psychology and Neuroscience at the University of Colorado Boulder and received partial course credit for their participation. This research was approved by the University of Colorado Boulder Institutional Review Board, and participants provided written informed consent. Only native English speakers were eligible to participate due to the use of the OSPAN, which involved the active maintenance of verbal stimuli (words). Participants were randomly assigned to the Depletion Condition or Control Condition. Prior to the study, the first 50 participants were randomly assigned to conditions, and we repeated this for each subsequent 50 participants.

Feedback Methodenteil

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Feedback Methodenteil

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Methods

We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study ([Simmons et al., 2012](#)). Our preregistration, the data, and the analysis script are available at <https://osf.io/36ep9/>. The procedure was evaluated and approved by the Ethics Committee of the Chemnitz University of Technology (reference number: V-389-15-AS-Burnout-08062020). It was not considered to require further ethical approvals and hence, deemed uncritical concerning ethical aspects according to the criteria used by the Ethics Committee, which includes aspects of the sample of healthy adults, voluntary attendance, noninvasive measures, no deception, and appropriate physical and mental demands on the subject.

Feedback Methodenteil

Präregistrierung

- Hatten wir eine Präregistrierung erarbeitet? Wenn ja: Wo ist diese denn zu finden (mit URL!)?

Quellen

- Wir zitieren alle Programme, die wir genutzt haben (Labvanced, R, Rstudio, etc.)
- Wir zitieren alle Aufgaben, Fragebögen, etc., die wir benutzt haben (IGT, NFC, etc.).
- Dabei nennen wir auch alle Reliabilitätsangaben (→ NFC Scale), die wir dazu finden (→ Hinweise in den Entwürfen)

Feedback

Methodenteil

Materialien

- Psychometrische Eigenschaften von Fragebögen → idealer Weise in einer deutschen Stichprobe
- Redundanzen zum Abschnitt „Ablauf“ vermeiden

Statistische Analyse

- Wurden dafür Voraussetzungen überprüft? Was passiert, wenn die Voraussetzungen nicht erfüllt sind?
- Struktur
- Ausführlichere Beschreibung der verwendeten Tests, explizit für jede unserer Hypothesen. Dabei auch bitte aufschlüsseln, welche AVs und UVs in die Tests wie eingeflossen sind.

Feedback

Methodenteil

Statistische Analyse

- Wurden dafür Voraussetzungen überprüft? Was passiert, wenn die Voraussetzungen nicht erfüllt sind?
- Welche Effektstärkemaße wurden verwendet (Gern auch mit Klassifikation)?

Data analysis

We used *R Studio* ([R Core Team, 2020](#), [RStudio Team, 2020](#)) with the main packages *lavaan* ([Rosseel, 2012](#)) and *psych* ([Revelle, 2021](#)) for all our analyses. Data were checked for multivariate normality using Mardia's coefficient. To account for non-linear relationships, correlations were computed using Spearman's rank coefficient rather than Pearson's product moment correlation. Internal consistencies were assessed with Cronbach's Alpha and MacDonald's Omega. Since Cronbach's Alpha has been criticized for being insensitive to violations of internal consistency ([Dunn et al., 2014](#); [Taber, 2018](#)), the additional computation of MacDonald's Omega had the purpose of ensuring a more reliable estimation. Correlations between variables were classified according the scheme by [Gignac and Szodorai \(2016\)](#), which recommends 0.10, 0.20, and 0.30 to be considered small, typical, and relatively large, respectively.

Feedback

Methodenteil

Statistische Analyse

- Struktur
- Ausführlichere Beschreibung der verwendeten Tests, explizit für jede unserer Hypothesen. Dabei auch bitte aufschlüsseln, welche AVs und UVs in die Tests wie eingeflossen sind.

Effects of emotion regulation on arousal, facial EMG, and effort To investigate the effects of the three ER strategies on subjective arousal (H2a), another rmANOVA with the factor strategy (active viewing - negative, distraction, distancing, and suppression) for subjective arousal ratings was conducted. To examine the effects of the three ER strategies on physiological responding (H3a and H3b), another rmANOVA with the factor strategy (active viewing-negative, distraction, distancing, and suppression) for EMG *corrugator* and *levator* activity was conducted. To examine the effect of ER strategies on subjective effort (H4a), a rmANOVA with the factor strategy (active viewing - negative, distraction, distancing, and suppression) for subjective effort ratings was conducted.

Feedback zu Berichtsentwürfen

Ergebnisteil

Feedback

Ergebnisteil

Konfirmatorische Analysen

- Wurden Voraussetzungen der Variablen überprüft? Was kam bei diesen Tests raus? → Gegebenenfalls auch im Methodenteil

Feedback Ergebnisteil

Konfirmatorische Analysen

- Es kann hilfreich sein, zu wiederholen, für welche genaue Hypothese man das nun berechnet hat: „Um zu berechnen, ob XX mit YY zusammen hängt (H1), wurde eine ANOVA mit den Variablen W und V berechnet...“

Effect of emotion regulation on arousal and facial EMG

To investigate whether ER strategies reduced emotional arousal and physiological responding, we conducted separate rmANOVAs comparing the four instructed strategies (active viewing, distraction, distancing, suppression) with respect to subjective arousal, *corrugator* and *levator* activity. We found a significant main effect of strategy on subjective arousal ($F(2.71, 322.55) = 7.39, p < .001, \hat{\eta}_G^2 = .015, 90\% \text{ CI } [.000, .036], \text{BF}_{10} = 157.74$), *corrugator* activity ($F(1.76, 206.02) = 13.70, p < .001, \hat{\eta}_G^2 = .056, 90\% \text{ CI } [.019, .094], \text{BF}_{10} = 1.96 \times 10^{10}$), and *levator* activity ($F(1.54, 180.41) = 19.95, p < .001, \hat{\eta}_G^2 = .089, 90\% \text{ CI } [.043, .134], \text{BF}_{10} = 7.82 \times 10^{18}$), indicating that regulation strategies reduced subjective arousal and physiological responding. For detailed information on post-hoc contrasts, please see Tables [S.7](#) to [S.9](#) and Figs. [S.4](#) to [S.6](#) in the supplementary material.

Feedback Ergebnisteil

Explorative Analysen

- Begründung der explorativen Analysen muss verbessert werden! Warum wird sich nun genau diese Variable noch angeschaut? Was ist der Sinn dahinter?

Exploratory analyses

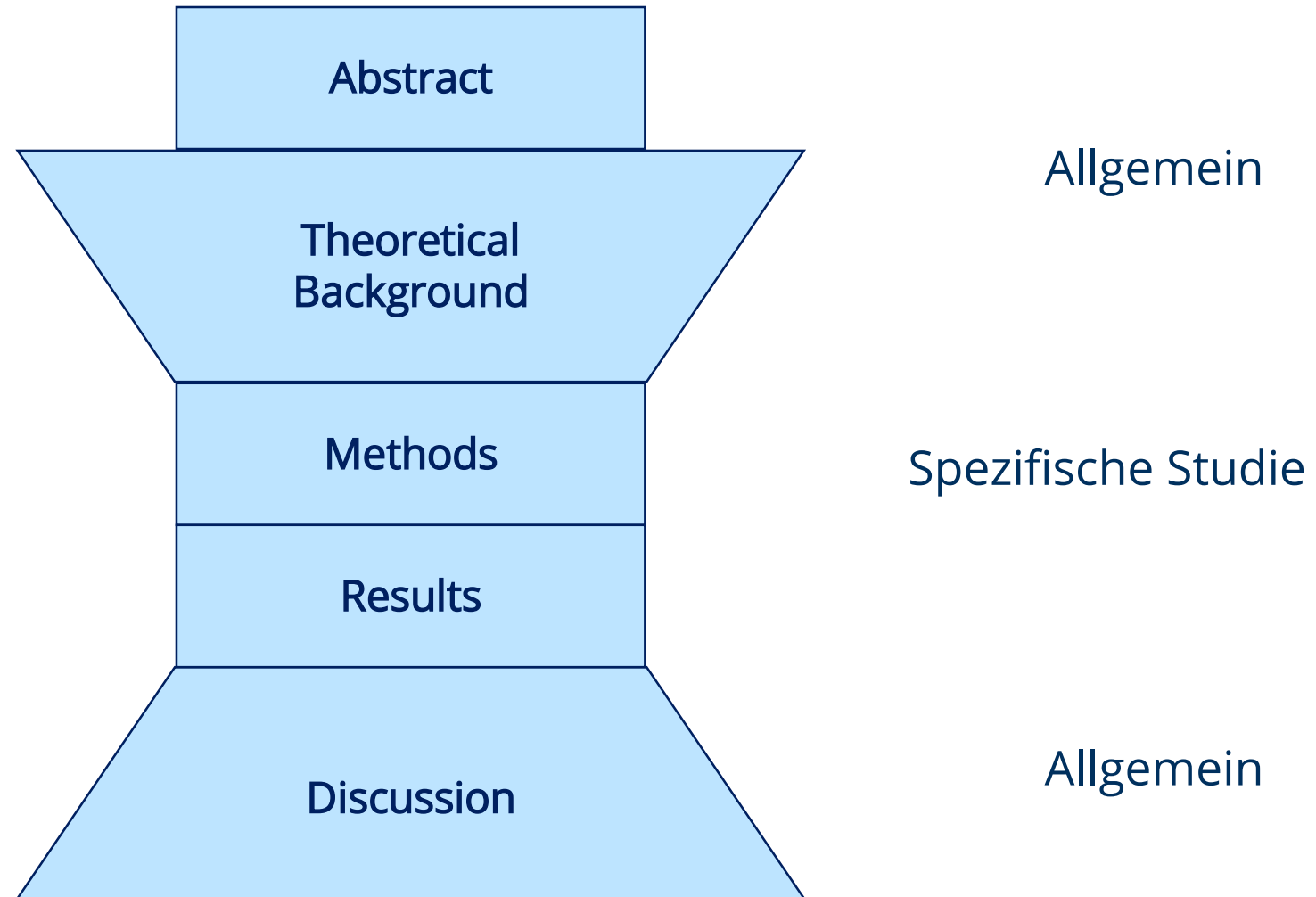
Because associations between self-control, the investment trait Need for Cognition (NFC), and both effort discounting and demand avoidance have been reported^{[29](#),[34](#),[69](#)}, we wanted to investigate the influence of self-control and NFC on individual SVs of ER strategies. The starting point for this was the adapted MLM reported above (Table [2](#)). Only predictors that had previously shown a significant association with SVs were included in the model together with the level-2 predictors self-control and NFC. The third model followed the specification:

$$SV \sim \text{effort rating} + \text{utility rating} + \text{corrugator activity} \\ + \text{self-control} + \text{NFC} + (1|\text{subject})$$

Wie schreibe ich einen Theorieteil?

Theorieteil

Genereller
Aufbau eines
Artikels



Theorieteil

Opening Statement

- Allgemeine Einführung ins Thema

Introduction

In everyday life, effort and reward are closely intertwined¹. With each decision a person makes, they have to evaluate whether the effort required to reach a goal is worth being exerted, given the reward they receive when reaching the goal. A reward is subjectively more valuable if it is obtained with less effort, so the required effort is used as a reference point for estimating the reward value¹. However, the cost of the effort itself is also subjective, and research has not yet established which function best describes the relationship between effort and cost².

Investigating effort and cost is challenging because "effort is not a property of the target task alone, but also a function of the individual's cognitive capacities, as well as the degree of effort voluntarily mobilized for the task, which in turn is a function of the individual's reward sensitivity" (p. 209)².

- Oft mit Teaser am Ende
 - Nennung der zu replizierenden Studie
 - „Diese Studie replizieren wir“

Theorieteil

Literature Review / Theoretical Background

- Ableiten der Forschungsfrage
- Relevante Befunde
- Was fügt die neue Studie hinzu

1.2. Individual differences in the IGT

Individual differences in IGT performance in the normal population has garnered little study (see Suzuki, Hirota, Takasawa, & Shigemasa, 2003; Desmeules et al., 2008 for exceptions). Recently Weller, Levin, and Bechara (2010) found that poor IGT performance in non-clinical participants was related to poor performance on a simpler task that separated choices in the gain domain from choices in the loss domain. Specifically, participants who performed poorly on the IGT performed poorly on risky decisions in the loss domain, showing less discrimination to differences in expected value, but not in the gain domain. This result suggests that susceptibility to framing could lead to disadvantageous performance on the IGT underweighting losses in a paradigm where losses and gains are mixed and should be weighted equally.

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Literature Review - Replikation

- Ableiten der Forschungsfrage
- Relevante Befunde und Herausstellen der zu replizierenden Studie
- Was fügt die neue Studie hinzu?
- Gab es seither Widersprüche und Replikationsversuche?

Present Study.

Our group's original interest in the ego-depletion effect was to examine, from the perspective of individual differences, to what extent a construct popular in social psychology, self-control, and a construct popular in cognitive psychology, executive functions (e.g., [34–35]), are related to each other. The ego-depletion effect seems to be a good candidate measure of self-control in examining the relationship between self-control and executive functions. However, given the recent controversy regarding the ego-depletion effect summarized in the previous section, we decided to first investigate whether the ego-depletion effect is reliable and whether there are any circumstances (task characteristics or individual differences variables) in which the ego-depletion effect can be amplified or attenuated.

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Conclusion

- Kurze Zusammenfassung der aktuellen Studie
- Aufzählung der abgeleiteten Hypothesen

We had two primary goals in conducting this research. The first goal (represented by Hypothesis 1 below) was to attempt to replicate the ego-depletion effect as it is typically demonstrated in the existing literature but with a much larger sample size. Our pre-registration described Hypothesis 1b where we planned to investigate, with actual (rather than simulated) data, the extent to which the prevalence of small sample sizes contributes to “false positive” results. Specifically, we tested how sample size might affect estimates of effect sizes and frequency of false positive results by conducting bootstrap resampling analyses with group sizes ranging from 10 to 50. However, the results of these analyses showed nothing more than typical results from simulated data. Therefore, they are not discussed further and are instead reported in [S1 Appendix](#).

The second goal of this research (represented by Hypotheses 2a and 2b below) was to identify any moderator variables that may impact the magnitude of ego-depletion effects. In particular, we examined the potential influence of task difficulty and time on task on the outcome task (Hypothesis 2a) as well as the potential influence of participants’ motivation and effort during the experimental session (Hypothesis 2b). In other words, we examined under what circumstances and for whom the ego-depletion effect might be most robust and reliable.

We also hypothesized that individual differences in participants’ adherence to task instructions during the depletion task may moderate the magnitude of the ego-depletion effect. For example, given the ambiguity of the task instructions and the odd nature of the content in the attention control video, participants might differ in their level of compliance with our intended treatment: some depletion participants might follow instructions (thus engaging self-control as intended) whereas others might view the video more passively, and some control participants might engage in self-control while watching the video whereas others might view the video passively. The present study therefore serves as a first step toward specifying such moderating influences of task (2a) and individual (2b) characteristics that might be operating in the ego-depletion paradigm.

Hypotheses

In this study we set out to test—either support or refute—the following hypotheses, corresponding to the main study goals outlined above:

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Generelle Anmerkungen

- Kritischer Punkt ist bei uns: Schreiben Sie über die ursprüngliche Fragestellung (die ja schon beantwortet ist) oder stellen Sie die Replikation in den Vordergrund (und: warum sollte man da eine Replikation machen)
- Festlegung für unser ExPra: Sie schreiben bezogen auf den Effekt
 - Warum sollte uns der Effekt interessieren?
 - Was hat unsere Originalstudie gefunden? Was war an dieser Studie schlecht?

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Generelle Anmerkungen

- Am Ende formulieren Sie explizite Hypothesen (I. ..., II. ..., etc. → Präregistrierung)
- Auf diese Hypothesen verweisen Sie dann in den Methods und Results (→ s. Anmerkungen zu diesen Teilen)
 - Bsp: „Hypothesis I stated that... We hence performed...“
- Die Intro soll stringent auf die aufgestellten Hypothesen abzielen. Nebenpfade gehören in die Discussion → Empfehlung auch hier: Gedanken für Diskussion schon in separatem Dokument Stichpunktartig sammeln
- In der Intro bewegen wir uns auf Konstruktebene – in der Regel gibt es dort keine Operationalisierungen!

Ausblick

Ausblick

nächster Termin: 05.12.2023 - Schreibwerkstatt Theorieteil

11:10 Uhr

BZW ASG14

nächster *gemeinsamer* Termin: 19.12.2023

Feedback Theorieteil

Wie schreibe ich einen Diskussionsteil?

11:10 Uhr

BZW ASG14