

## Studieren im Zeitalter digitaler Medien

Einstellungen und Selbstwirksamkeitserwartungen Studierender gegenüber digitalen Medien

Marina Pumptow

Taiga Brahm



# 1 INTRODUCTION & STATE OF RESEARCH



## Introduction & State of Research

- Interest in reducing student dropout
    - Student dropout often caused by low academic performance
    - which factors are relevant in terms of student performance?
    - mainly addressed in education psychology research, e.g. within the framework of social-cognitive theory and self-efficacy (Bandura, 1977)
- problem: research mostly located outside of Germany so no information about German universities; low case numbers; focus on psychology students; family background or other social and contextual factors not considered (Bartimote-Aufflick et al., 2015; Honicke & Broadbent, 2016)



## Introduction & State of Research

- Increasing heterogeneity of university students
  - are there groups of students with certain characteristics (e.g. migration background) that are disadvantaged?
  - mainly addressed in social sciences/ sociological research (e.g. Röwert et al., 2017)

→ problem: Identification of social groups but not of important mechanisms at the individual level that would allow for interventions



## Introduction & State of Research

- Trend towards ‘Digitalisation’ in Higher Education
    - media usage in contemporary study programmes?
    - relevance of media usage for academic performance?
    - mainly addressed in social science research (e.g. Grosch, 2012; Zawacki-Richter, 2015; Zawacki-Richter, Dolch, & Müskens, 2017)
- Problem: mostly descriptive results describing students’ media usage patterns but no explaining factors identified; relevance of digital media use for successful academic studies is unknown



## Research questions

- What are the characteristics of contemporary ways of studying, especially given the spreading nature of digital media?
  - How relevant is digital media use in terms of academic performance?
  - How much does the usage and relevance of digital media depend on the different subjects or the university context?
  - How much do study related attitudes and other non-cognitive factors as well as behaviour depend on social background factors?



## Aim of the present study

- Part of the BMBF-Project “You(r) Study”
- Aim: Explore today’s academic studies with a special focus on digital media by
  - combining social sciences’ and social psychological concepts
  - identifying relevant factors for academic performance and potentially disadvantaged social groups
  - and therefore allowing for interventions resp. future research



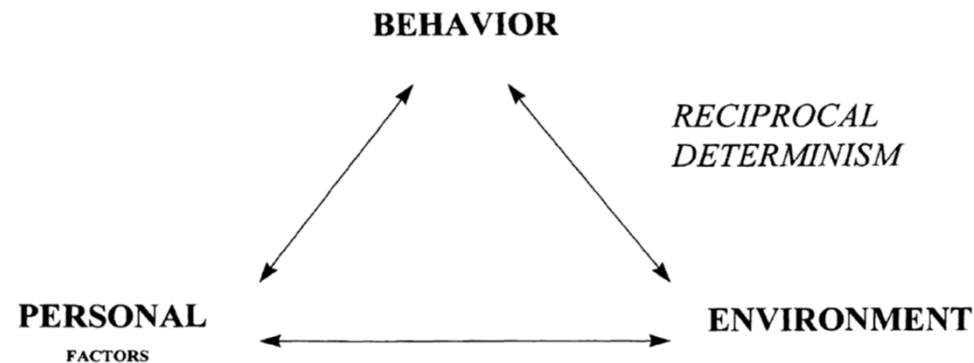
# 2 THEORETICAL FRAMEWORK & MODEL





## Theoretical framework

- Social-cognitive theory and self-efficacy (Bandura, 1977, 1985, 1996)
- Triadic reciprocity between personal factors, behaviour and the environment
- Individuals are viewed both as products and as producers of their own environments and of their social systems



Bandura, 1977; Pajares, 1996



## Theoretical framework

- Self-efficacy (SE) belief: defined as "how well one can execute courses of action required to deal with prospective situations" (Bandura, 1986, p. 391)
- Efficacy beliefs help determine how much effort people will expend on an activity, how long they will persevere when confronting obstacles, and how resilient they will prove in the face of adverse situations
- SE are influenced by prior experiences, environmental factors, emotions, perceived control, family background etc. (Bartimote-Aufflick et al., 2016; Hsieh et al., 2007, 2012; Honicke & Broadbent, 2016; Pekrun, 2007; Talsma et al., 2018)



## Self-Efficacy

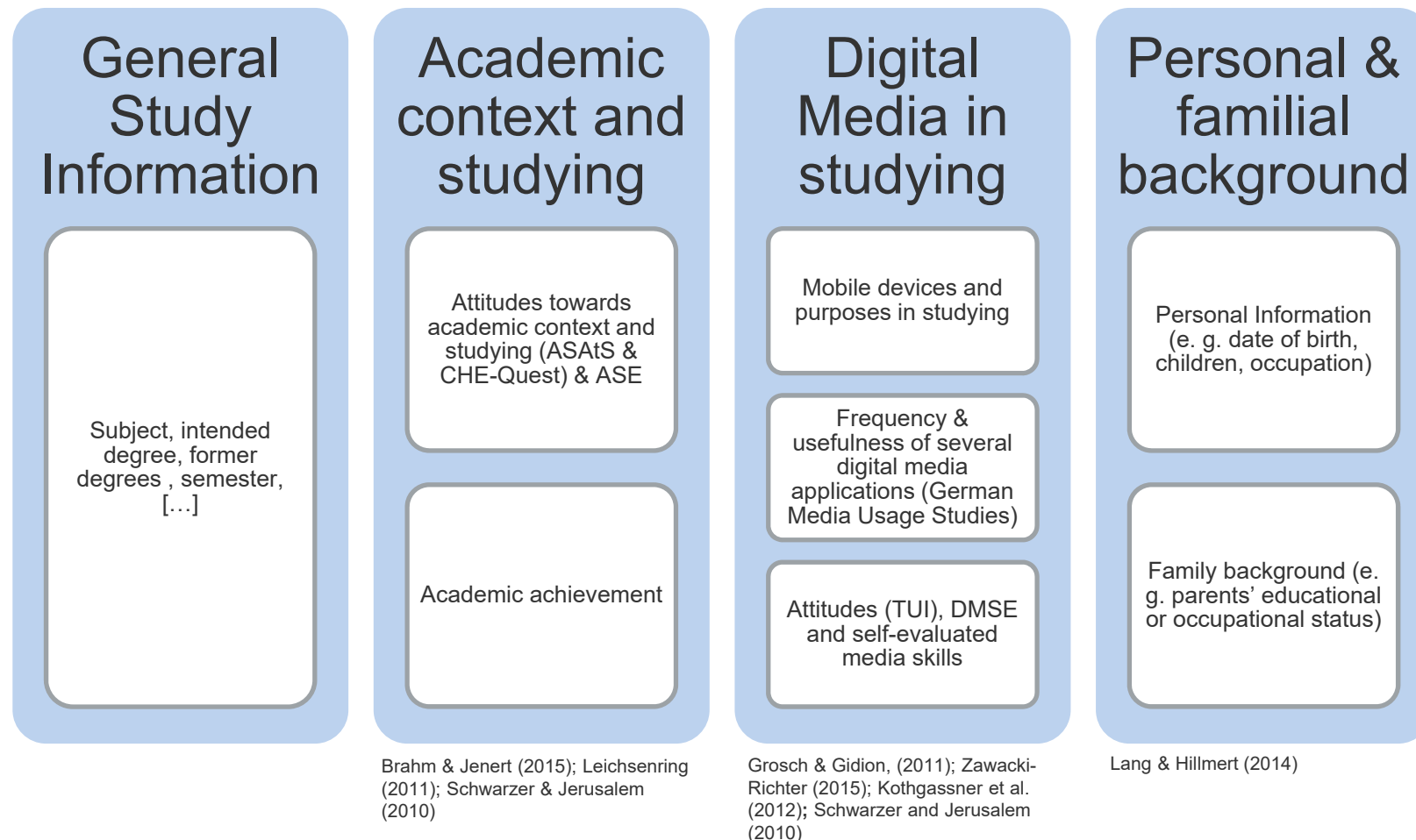
- in the survey self-efficacy refers to academic studies and digital media applications, examples (German original wording & translation):
  - **DMSE:** *'Es bereitet mir keine Schwierigkeiten, meine Absichten und Ziele, die ich in Verbindung mit einer Medienanwendung habe, zu verwirklichen'*  
*'It doesn't cause me difficulties to reach the objectives I have in conjunction with a media application'*
  - **ASE:** *'Schwierigkeiten im Studium sehe ich gelassen entgegen, weil ich meinen Fähigkeiten immer vertrauen kann'*  
*'I face difficulties in my studies calmly because I can trust my abilities'*



# 3 INSTRUMENT OVERVIEW & FIRST RESULTS



## Overview





## Main Study

- 3342 participants and 1925 fully completed surveys in four participating Universities

	part.	compl.	total	#students	%
Uni Bochum	572	542	1114	42718	2,61
Uni Kaiserslautern	301	384	685	15821	4,33
Uni Cologne	152	220	372	49772	0,75
Uni Tübingen	392	779	1171	27152	4,31

- proportion of female participants: 59.6%
- mean age:  $M = 24.03$  ( $SD = 4.01$ ,  $min = 18$ ,  $max = 59$ )

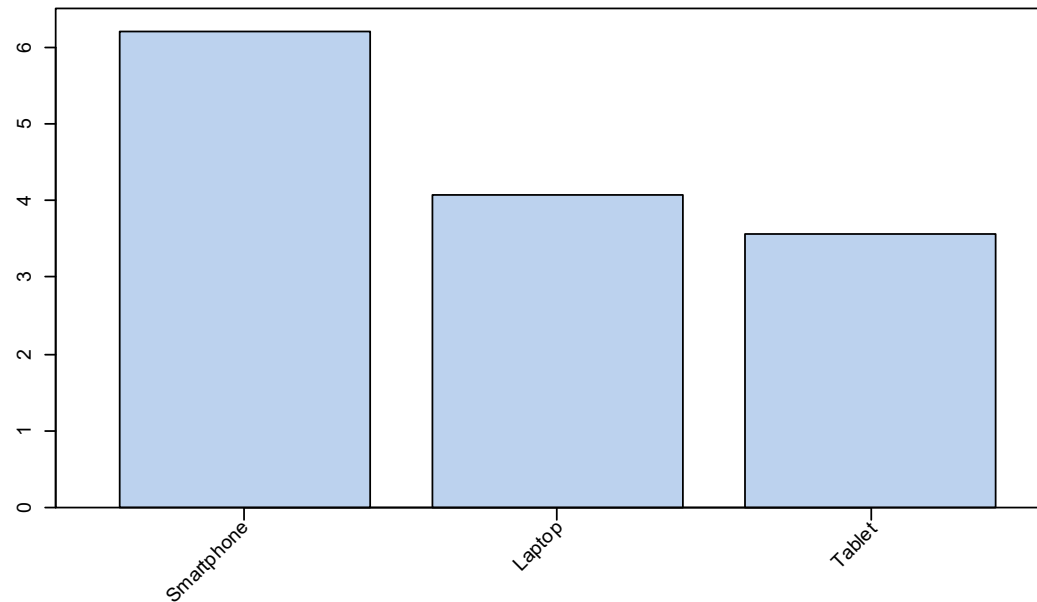


## Mobile digital devices and frequency of usage on campus

Tab.: Ownership of digital devices in percent

	Laptop	Tablet	Smartph.
Not avail.	6.5%	55.5%	3.6%
available	93.5%	44.5%	96.4%
n	1925	1925	1925

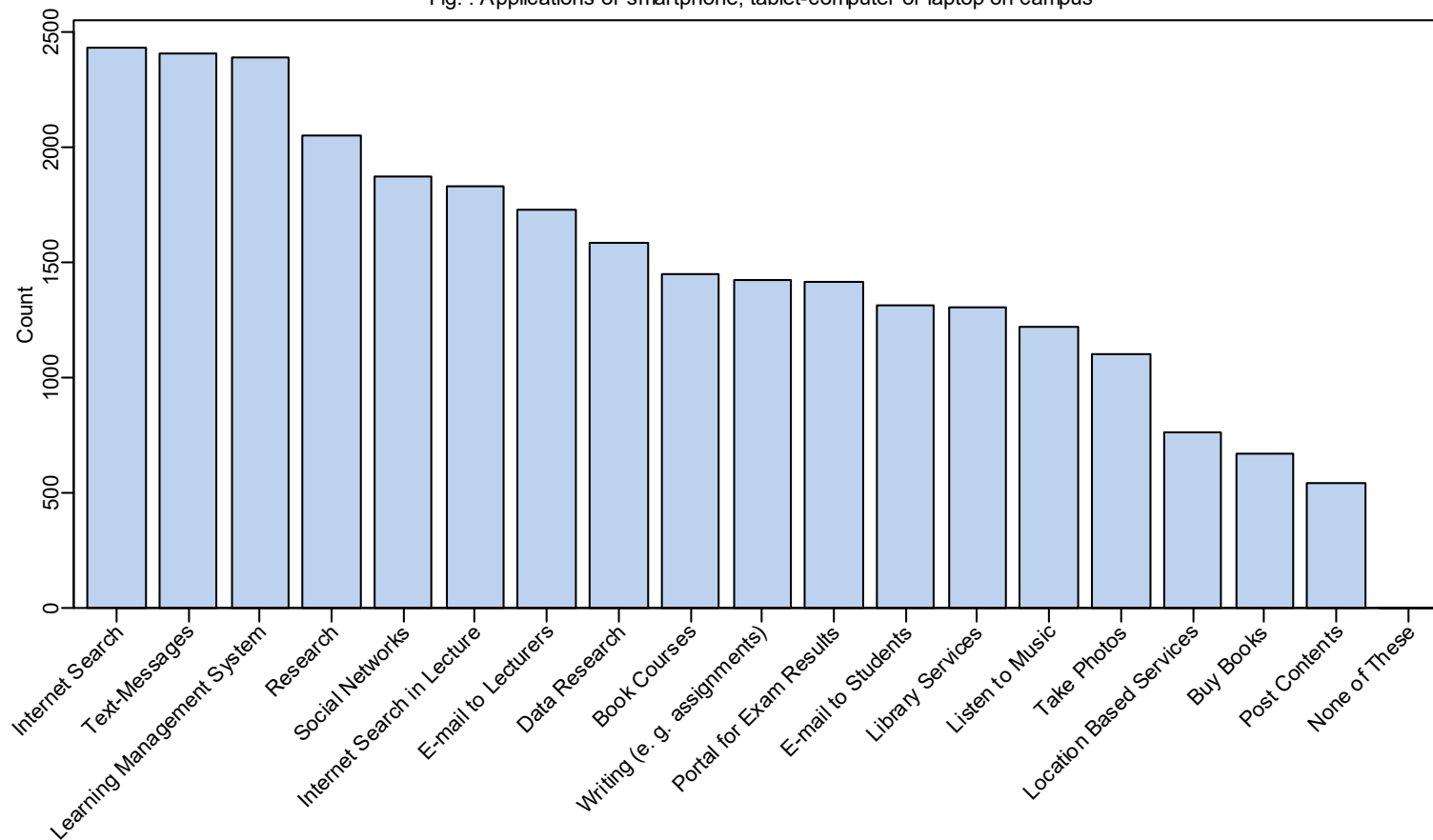
Fig.: Usage of mobile digital devices on campus (1= „seldom“ to 7= „frequently“)





# Applications of mobile digital devices on campus

Fig. : Applications of smartphone, tablet-computer or laptop on campus







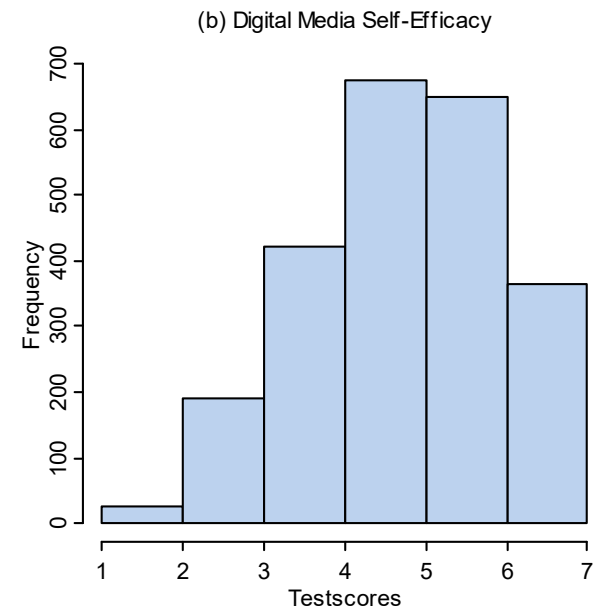
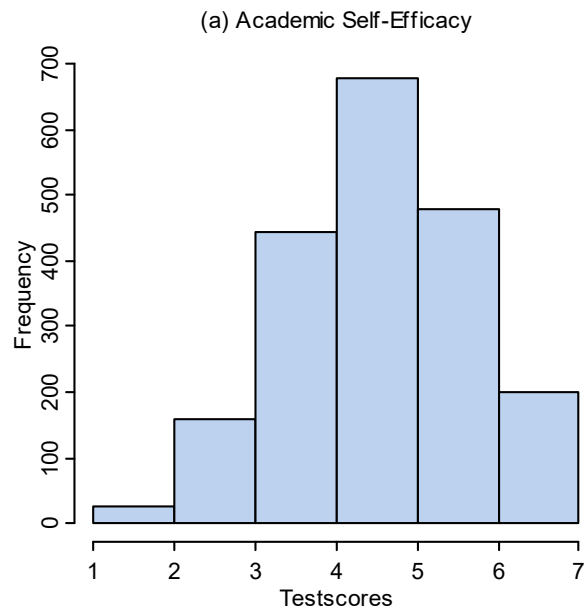
## Pearson product-moment correlation coefficients of test scores

	ident	subj. Norm	enjoy-ment	act. anxiety part.	intr. mot.	extr. GO	task val.	integr	ASE	DMSE
ident										
subj. norm	0.45									
enjoyment	0.45	0.29								
anxiety	-0.16	-0.15	-0.24							
act. part.	0.21	0.12	0.34	-0.18						
intr. mot.	0.41	0.31	0.83	-0.23	0.31					
extr. GO	0.16	0.13	0.22	-0.03	0.12	0.26				
task val	0.43	0.3	0.72	-0.16	0.22	0.7	0.29			
integr	0.32	0.34	0.24	-0.18	0.1	0.24	0.09	0.23		
ASE	0.3	0.27	0.41	-0.53	0.3	0.39	0.19	0.39	0.3	
DMSE	0.13	0.1	0.15	-0.09	0.06	0.14	0.07	0.15	0.04	0.38

n= 1960; GO = goal orientation; ASE = academic self-efficacy, DMSE = digital media self-efficacy



## Distributions of the two self-efficacy dimensions





# 5 CONCLUSION



## Conclusion

- Scales appear to be valid and reliable, based on both pre-test and main study data, especially the new scale for digital media self-efficacy

Next steps: Structural equation modelling (multilevel) to

- Analyse predictors of students performance
- Especially focusing on digital media use and relevance
- As well as non cognitive factors such as self-efficacy
- Also in regard to possible influences of subject and university context
- As well as family background



# Thank you.

Contact:

**Marina Pumptow & Taiga Brahm**

Chair for Economic Education

Phone: +49 7071 29-78213

[marina.pumptow@uni-tuebingen.de](mailto:marina.pumptow@uni-tuebingen.de)

[taiga.brahm@uni-tuebingen.de](mailto:taiga.brahm@uni-tuebingen.de)

[www.uni-tuebingen.de/wiwi/wirtschaftsdidaktik](http://www.uni-tuebingen.de/wiwi/wirtschaftsdidaktik)



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