Kognitionspsychologie II: Session 10
Applications

Rui Mata, FS 2025

Version: May 13, 2025

Objectives

- Discuss self-control problems and possible interventions – use discussion to reflect on practical applications (and limits) of the psychology of emotion and motivation
- Information about Mock Exam and the May 20th Q&A session
- Course evaluation

Bernoulli Network for the Behavioral Sciences

https://bernoulli.unibas.ch

2019, 9th Bernoulli Lecture: Prof. Dr. Angela Duckworth, University of Pennsylvania, USA

Strategic self-control

2013, 4th Bernoulli Lecture: Prof. Dr. David Laibson, Harvard University, USA

Can We Control Our Selves? Policy Design for Agents with Self-Control Problems

aps
ASSOCIATION FOR PSYCHOLOGICAL SCIENCE

Beyond Willpower: Strategies for Reducing Failures of Self-Control

Psychological Science in the Public Interest
2018, Vol. 19(3) 102–129

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www.psychologicalscience.org/PSPI
SAGE

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Abstract
Almost everyone struggles to act in their individual and collective best interests, particularly when doing so requires forgoing a more immediately enjoyable alternative. Other than exhorting decision makers to "do the right thing," what can policymakers do to reduce overeating, undersaving, procrastination, and other self-defeating behaviors that feel good now but generate larger delayed costs? In this review, we synthesize contemporary research on approaches to reducing failures of self-control. We distinguish between self-deployed and other-deployed strategies and, in addition, between situational and cognitive intervention targets. Collectively, the evidence from both psychological science and economics recommends psychologically informed policies for reducing failures of self-control.

Keywords
self-control, behavior change, behavioral economics, self-regulation

> Men are rather reasoning than reasonable animals for the most part governed by the impulse of passion.
>
> —Alexander Hamilton (1802)

Self-control failures contribute to a range of policy issues, from educational achievement (Duckworth et al., in press) and retirement savings (Benartzi & Thaler, 2013) to the obesity epidemic (VanEpps et al., 2016a) and the promotion of subjective well-being (Wiese et al., 2018). People with greater self-control fare better in terms of health, wealth, and many other dimensions of human flourishing (Moffitt et al., 2011). Scholarly attention to self-control has grown dramatically over the past 2 decades, as shown in Figure 1, which depicts the percentage of articles about self-control in *Psychological Science* from 1995 through 2016. But inquiry on this timely topic stretches back thousands of years (Aristotle, trans. 2009; Freud, 1916/1977; James, 1899; Proverbs 25:28; Smith, 1759/1976; Thaler & Shefrin, 1981).

Why is self-control an object of fascination for philosophers, social scientists, policymakers, and pundits alike? Perhaps because failures of self-control often persist even when people recognize them and resolve to act differently in the future (Norcross & Vangarelli, 1988–1989). From forgoing dessert to exercising regularly to saving for retirement, many people feel as if they are in a perennial battle with themselves. Furthermore, most people predict incorrectly that they will overcome this battle (e.g., Augenblick & Rabin, 2018), even when they recognize that other people's self-control problems persist (Fedyk, 2017; Pronin, Lin, & Ross, 2002). Finally, temptations—rewards that provide short-term gratification but impede people from long-term goals—are ever more abundant, thanks to convenience stores, one-click shopping, social media, 24/7 streaming video, and other new vices (Akst, 2011).

Not all decisions require self-control. Sometimes decisions are difficult because people feel torn between two equally valuable choices (Shenhav & Buckner, 2014). In addition, self-control is irrelevant when people are simply mistaken about the actual costs and benefits of their choices. In the 1940s, for example, smoking cigarettes was not widely perceived as an unhealthy habit; indeed, tobacco companies then touted the health benefits of

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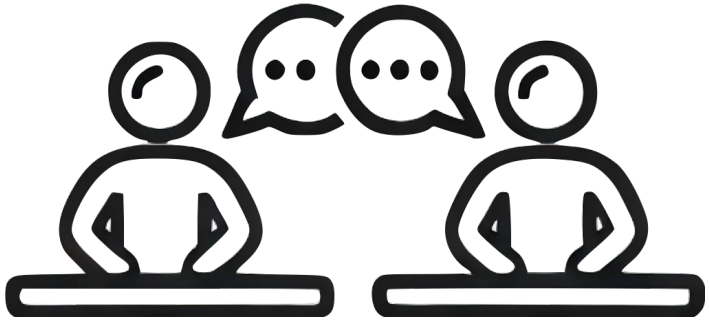
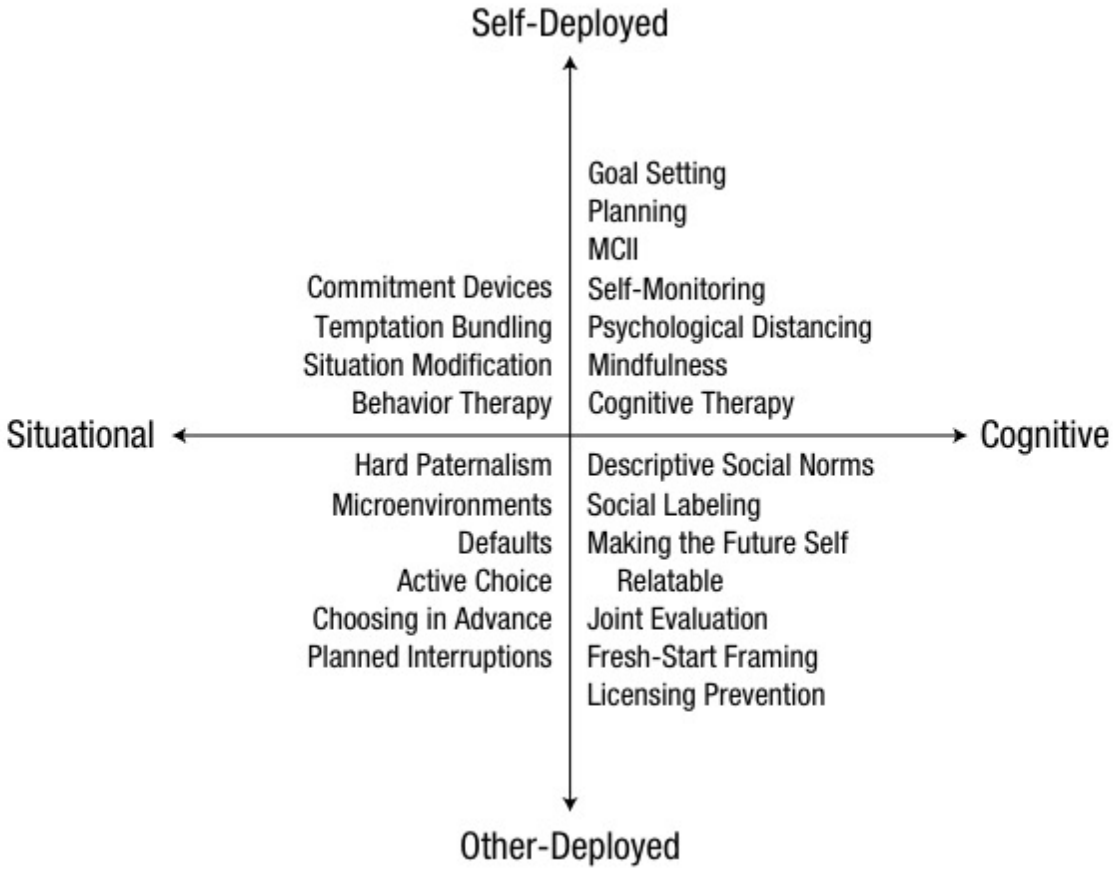
Duckworth, A. L., Milkman, K. L., & Laibson, D. (2018). Beyond willpower: Strategies for reducing failures of self-control. Psychological Science in the Public Interest, 19(3), 102–129. https://doi.org/10.1177/1529100618821893

REFLECT AND SUMMARIZE

What strengths could you identify in Duckworth et al.'s overview?



Strategies for Reducing Failures of Self-Control



Relation to other work/models in the psychology of emotion and motivation?

Duckworth, A. L., Milkman, K. L., & Laibson, D. (2018). Beyond willpower: Strategies for reducing failures of self-control. Psychological Science in the Public Interest, 19(3), 102–129. https://doi.org/10.1177/1529100618821893

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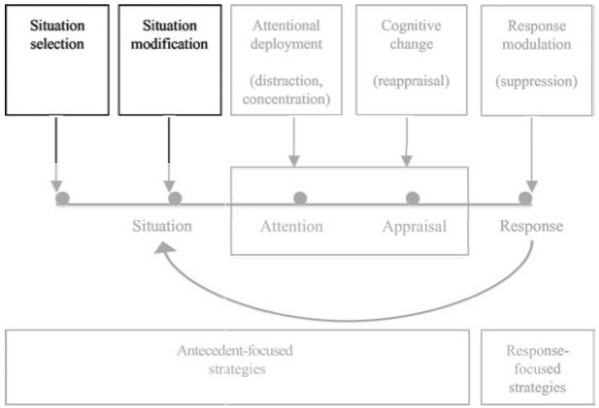

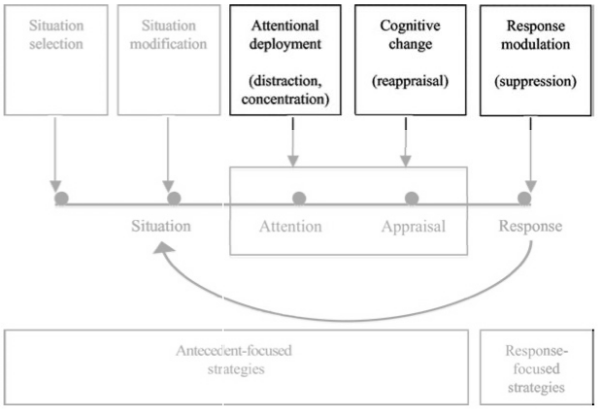

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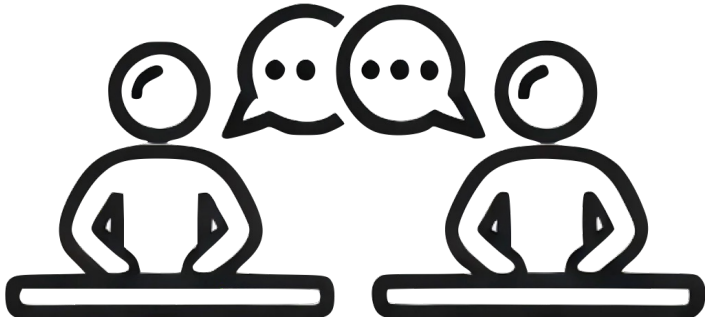
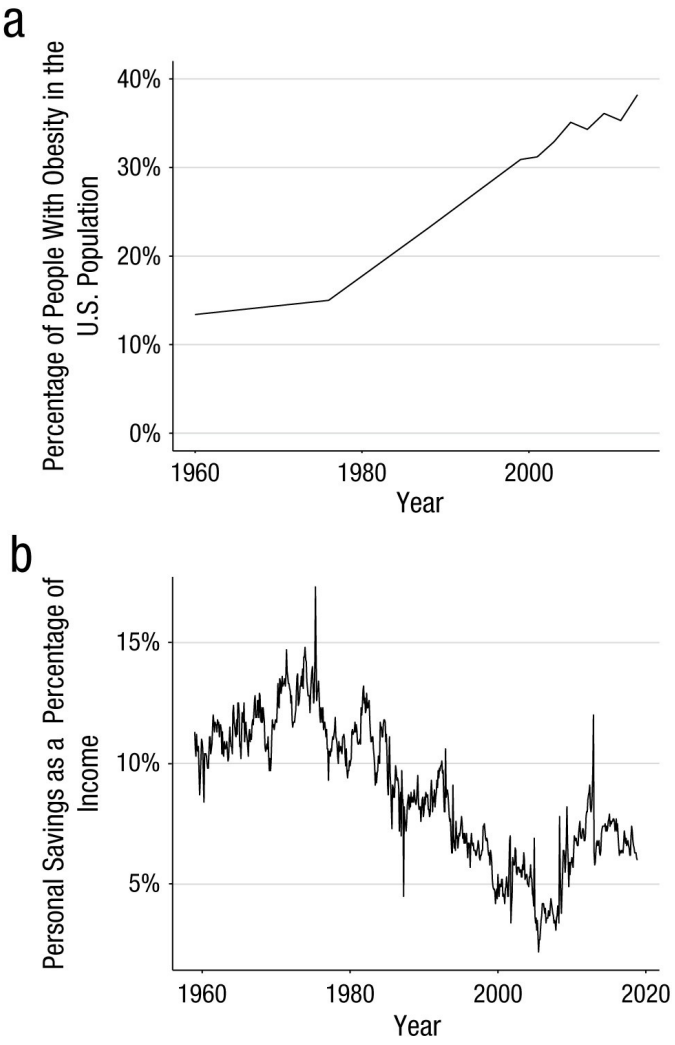
REFLECT AND SUMMARIZE

What limitations can you identify in Duckworth et al.'s overview?



Strategies for Reducing Failures of Self-Control

Lowenstein comments: “My first issue with the article is that it seems to attribute many of the problems plaguing our society to lack of self-control, which in my view risks blaming the victim and, more substantively, risks misidentifying the most effective types of policy interventions. This perspective (and its pitfalls) is already evident in the abstract, which asks, “what can policymakers do to reduce overeating, undersaving, procrastination, and other self-defeating behaviors that feel good now but generate larger delayed costs? In this review, we synthesize contemporary research on approaches to reducing failures of self-control” (p. 102). It is important to emphasize that these problems are not primarily the result of self-control problems in most adults, even if enhanced self-control could mitigate them.”



Loewenstein, G. (2019). Self-Control and Its Discontents: A Commentary on Duckworth, Milkman, and Laibson. Psychological Science in the Public Interest, 19(3), 95-101. https://doi.org/10.1177/1529100619828401

I-frame and S-frame

"An influential line of thinking in behavioral science, to which the two authors have long subscribed, is that many of society's most pressing problems can be addressed cheaply and effectively at the level of the individual, without modifying the system in which the individual operates. We now believe this was a mistake, along with, we suspect, many colleagues in both the academic and policy communities. Results from such interventions have been disappointingly modest. But more importantly, they have guided many (though by no means all) behavioral scientists to frame policy problems in individual, not systemic, terms: To adopt what we call the "i-frame," rather than the "s-frame." The difference may be more consequential than i-frame advocates have realized, by deflecting attention and support away from s-frame policies. Indeed, highlighting the i-frame is a long-established objective of corporate opponents of concerted systemic action such as regulation and taxation. We illustrate our argument briefly for six policy problems, and in depth with the examples of climate change, obesity, retirement savings, and pollution from plastic waste. We argue that the most important way in which behavioral scientists can contribute to public policy is by employing their skills to develop and implement value-creating system-level change."

Chater, N., & Loewenstein, G. (2023). The i-frame and the s-frame: How focusing on individual-level solutions has led behavioral public policy astray. Behavioral and Brain Sciences, 46, e147. https://doi.org/10.1017/S0140525X22002023

I-frame and S-frame

Table 1. Potential i-frame and s-frame interventions to address public policy problems

Policy issue	Potential i-frame interventions	Potential s-frame interventions
Climate change	Social feedback on energy use (Schultz et al., 2007)	Carbon pricing (Best, Burke, & Jotzo, 2020)
	Smart meters (Department for Business, Energy & Industrial Strategy, 2013)	Decarbonization of the power sector (Jägemann, Fürsch, Hagspiel, & Nagl, 2013)
	Carbon footprint calculators (West, Owen, Axelsson, & West, 2016)	Green building codes (e.g., Leadership in Energy and Environmental Design (LEED) certification) (U.S. Environmental Protection Agency, 2022)
Obesity	Calorie labels (Jue et al., 2012; Swartz, 2011)	Sugar tax (Allcott, Lockwood, & Taubinsky, 2019b)
	Portion size changes (Downs & Loewenstein, 2011; Schwartz, Riis, Elbel, & Ariely, 2012)	Subsidies for healthy food (Afshin et al., 2017)
	Weight loss incentives (Volpp et al., 2008)	
	Individual incentives to exercise (Charness & Gneezy, 2009)	
Retirement savings	Advisors declare conflicts (Cain et al., 2005)	Employer-provided pensions (e.g., Australian Age Pension) (Agnew, 2013)
	Defaulting into pensions (Madrian & Shea, 2001)	
	Save more tomorrow (Benartzi, 2012)	Social security expansion (Social Security Administration, 2022)
Health care	Medication reminders (Volpp et al., 2017)	Government negotiation of prescription drug prices (Ginsburg & Lieberman, 2021)
	Choice architecture for insurance exchanges (Johnson et al., 2013)	Single-payer health insurance (Woolhandler & Himmelstein, 2019)
Waste	Keep America Beautiful campaign (Mann, 2021)	"Polluter pay" policies (Corkery, 2020)
	Painted footsteps leading pedestrians to trash bins (Keep Britain Tidy, 2015)	Plastic bag bans (National Conference of State Legislatures, 2021)

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The Behavior Change Wheel

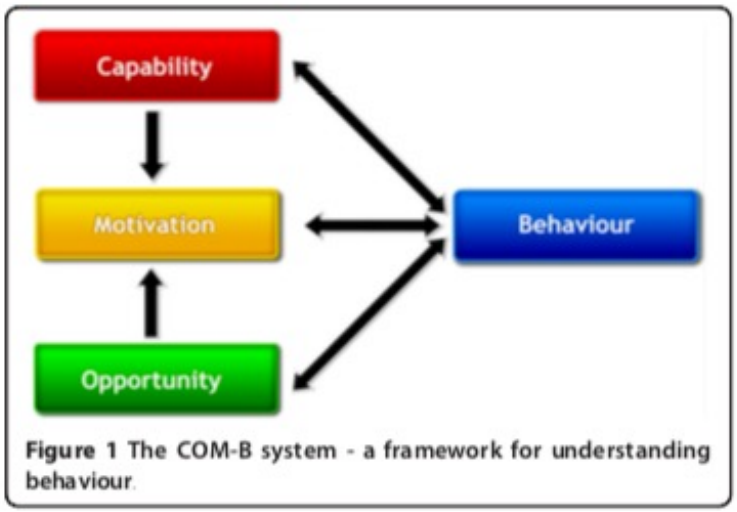
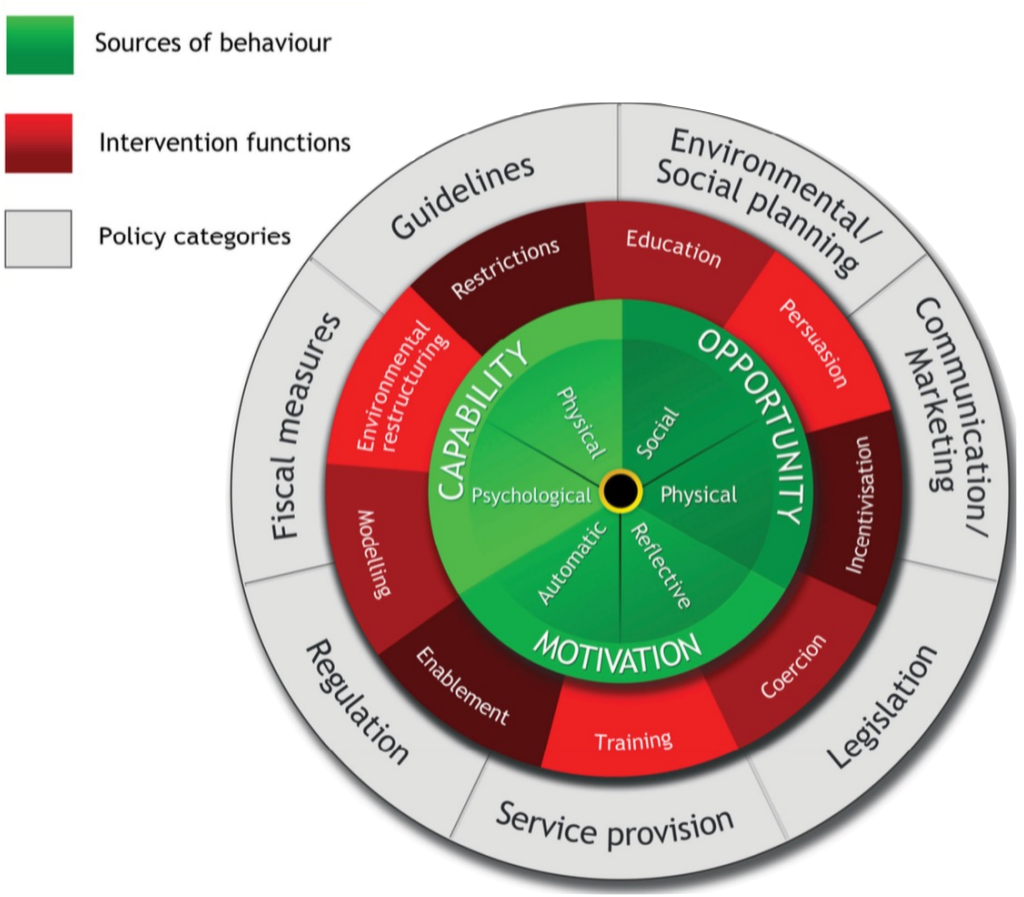


Figure 1 The COM-B system - a framework for understanding behaviour



Michie, S., van Stralen, M. M., & West, R. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. ***Implementation Science, 6***(1), 42.

The Behavior Change Wheel

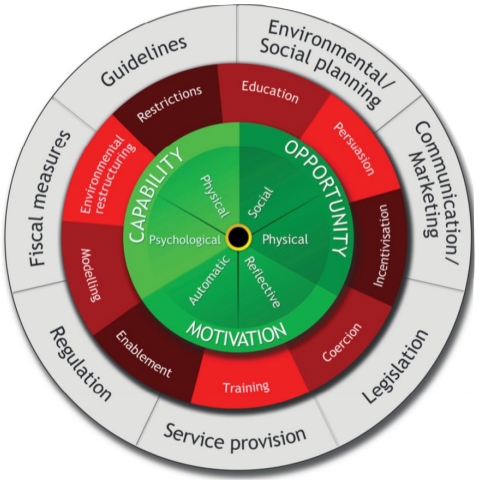


Table 1 Definitions of interventions and policies

Interventions	Definition	Examples
Education	Increasing knowledge or understanding	Providing information to promote healthy eating
Persuasion	Using communication to induce positive or negative feelings or stimulate action	Using imagery to motivate increases in physical activity
Incentivisation	Creating expectation of reward	Using prize draws to induce attempts to stop smoking
Coercion	Creating expectation of punishment or cost	Raising the financial cost to reduce excessive alcohol consumption
Training	Imparting skills	Advanced driver training to increase safe driving
Restriction	Using rules to reduce the opportunity to engage in the target behaviour (or to increase the target behaviour by reducing the opportunity to engage in competing behaviours)	Prohibiting sales of solvents to people under 18 to reduce us for intoxication
Environmental restructuring	Changing the physical or social context	Providing on-screen prompts for GPs to ask about smoking behaviour
Modelling	Providing an example for people to aspire to or imitate	Using TV drama scenes involving safe-sex practices to increas condom use
Enablement	Increasing means/reducing barriers to increase capability or opportunity[1]	Behavioural support for smoking cessation, medication for cognitive deficits, surgery to reduce obesity, prostheses to promote physical activity

Michie, S., van Stralen, M. M., & West, R. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. ***Implementation Science, 6***(1), 42.

Summary

- Strengths: Duckworth et al. contribute a categorization of self-control change strategies for many important behavior change problems in applied domains (health, finance, addiction, well-being)
- Limitations: emphasis on individual behavior relative to systemic factors, lack of a larger taxonomy of behavior change interventions, and systematic and comprehensive (e.g., meta-analytic) assessment of efficacy – such efforts are, however, taking place in psychology at large and there is increased attention to pluralistic taxonomies and their impact (e.g., behavior change wheel).

Mock exam and Q&A

- We will make mock exam available today (May 13th) over ADAM; answers will be made available next week
- Please submit questions for Q&A (May 20th) by the end of the week (Friday, May 16th)

Session information

Sessions take place Tuesdays, 10.15-11.45, Biozentrum, Maurice E. Müller Saal U1.111.

Please note that the **Exam** takes place on 03.06.2025, from 08.00 to 10.00, at the DSBG Neubau, Sporthalle 1. The **Repeat Exam** is scheduled for 21.07.2025, from 10.00 to 12.00, at the Biozentrum, Hörsaal U1.131.

#	Date	Topic	Slides	Instructor
1	18.02.2025	Emotion: What is an emotion?	pdf	Mata
2	25.02.2025	Emotion: What is an emotion? (continued)	pdf	Mata
3	18.03.2025	Emotion: Neural bases	pdf	Tisdall
4	25.03.2025	Emotion: Regulation	pdf	Mata
5	01.04.2025	Emotion: Well-being	pdf	Mata
6	08.04.2025	Motivation: What is motivation?	pdf	Mata
7	15.04.2025	Motivation: Extrinsic vs intrinsic motivation		Mata
8	29.04.2025	Motivation: Neural bases		Tisdall
9	06.05.2025	Motivation: Cooperation and morality		Theisen
10	13.05.2025	Applications		Mata
11	20.05.2025	Wrap-up and Q&A		Mata
12	03.06.2025	Exam (DSBG Neubau)		
13	21.07.2025	Repeat Exam (Biozentrum)		

Note. Slides will be made available shortly before each session.

16:30 Welcome
16:35 Lightning Talks
16:45 User-centered data science
Viviane Pinti | Digital Health Trainee, Swiss Post
17:00 UX and data science
Javier Bargas-Avila | UX Career Coach, Astrolabium
17:15 Data science and AI for the public sector
Christina Leuker | Manager, PD - Berater der öffentlichen Hand
17:30 Discussion (followed by Apéro)

Data Analytics for Psychology and Business

Meet-the-Expert Event

23.5.2025 | 16:30-17:30 | Faculty of Psychology

Missionsstrasse 64a, Seminar Room 00.0010

Course evaluation

https://evasys.unibas.ch/evasys/online.php?pswd=LQQTC