NM 404 New Media Project

Digital Mediatization and the Perception of Time

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ABSTRACT

Digital mediatization has vastly changed the world and the way we live. Subsequently, our perception as well. Time is fundamental to life, and time perception may vary. Current study investigates how digital mediatization affects the perception of time. Two experiments were conducted to measure the chronometric and subjective perception of time by comparing the time perception during doing media, doodling and doing nothing. Results showed that chronometric time perception differs from doing nothing to doing media, whereas for doing media and doodling it is equivalent. And subjective perception of time differs from doing nothing to both doodling and doing media. Additionally, a survey-based quasi-experimental study has conducted to see whether the social media usage effects the perceived pace of time on new media platforms & devices. Data from 260 participants indicate that social media usage ability and permanency predict the higher perceived pace of time on digital media.

THEORY & METHOD

Mediation & Mediatization
(Livingstone, Hepp)

Time (Phenomenology vs Dialectic Materialism)

[Spectaclized Time (Debord)]

‘Doing Media’ (Prommer)

Acceleration (Rosa)

Time Perception may vary
(Chronometric & Subjective)

Mediated Time Perception (Görland)

Literature Review

Experimental Designs

- Chronometric Time Perception

→ Interval Reproduction

- Subjective Time Perception

→ Magnitude Estimation

Quasi-Experimental Design

- Social Media Use Measurement and Scale for pace of time

MAIN PURPOSE

The main purpose of the thesis is to fill the gap in the media studies and psychology literature on time perception. The thesis is going to present information about time perception and entangle these to mediatization. Overall, the thesis will scrutinize the relationship between digital mediatization and the time perception. Thus, a multi-disciplinary study will be conducted where media studies and psychology are met. The evidences are based on online surveys and experimental designs.

- Empirical evidence regarding the chronometric time perception during media use

- Empirical evidence regarding the subjective time perception during media use

- Empirical evidence regarding the perceived pace of time on new media platforms & devices

Literature

Boredom level does not affect chronometric time perception but affects subjective time perception. (Watt, 1991; Danckert & Allman, 2005)

Major depression does not affect chronometric time perception but affects subjective time perception. (Oberfeld, 2014)

In in-between times, media use accelerates the perception of the speed of time. (Görland, 2019)

Questions & Hypotheses

- Digital media is ubiquitous
- Time perception may vary
- How does digital media affect the perception of time?

Q-1: Does objective (chronometic) perception of time alter during the use of digital media?
H1: Objective perception of time does not alter during media use.

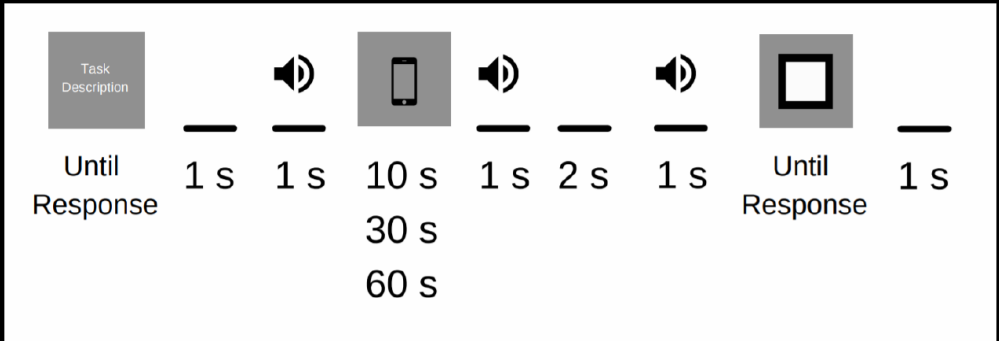
Q-2: Does subjective perception of time alter during the use of digital media?
H2: Subjective perception of time alters during media use.

Q-3: How do users experience the pace of time between various new media platforms & devices?
H3a: The pace of time is perceived higher on new media platforms.
H3b: Social media use ability and permanency predict the perception of higher pace of time during digital media use.

EXPERIMENTS

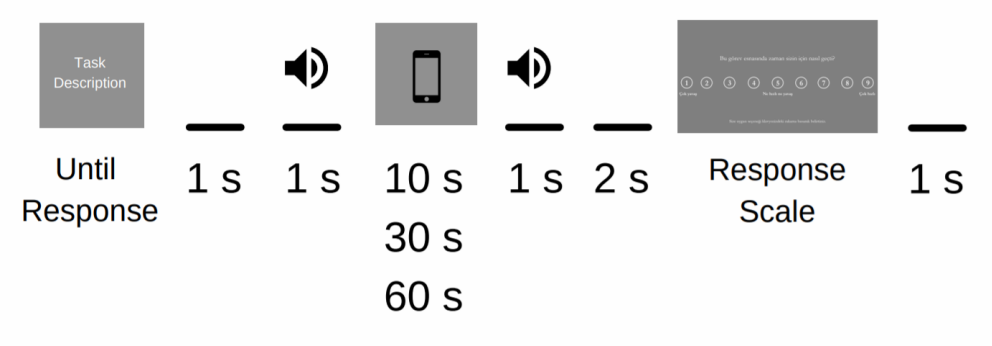
Does media use alter chronometric time perception compared to doing nothing and non-digital activity?

- Interval Reproduction Method

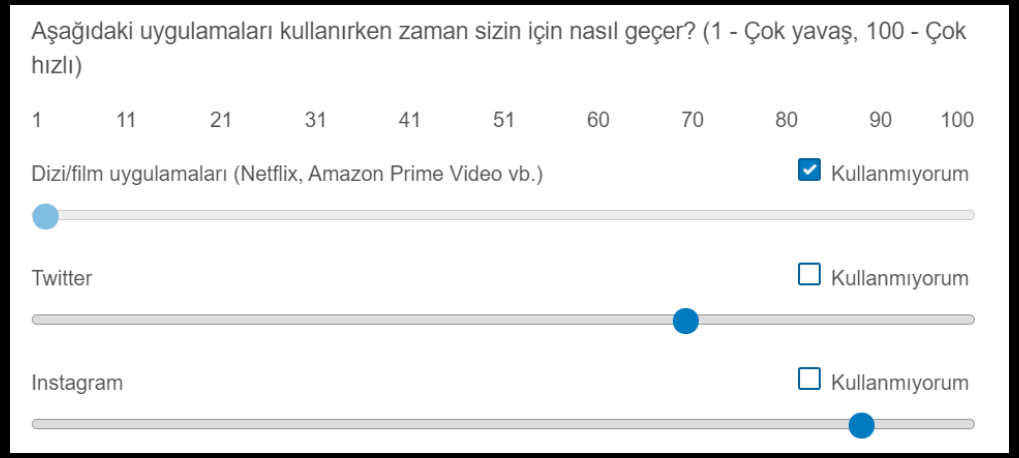


Does media use alter subjective time perception compared to doing nothing and non-digital activity?

- Magnitude Estimation Method



How do users experience the pace of time between various new media platforms & devices?



Softwares

jamovi Stats. Open. Now.

PsychoPy Psychology software in Python

Pavlovia

qualtrics XM

RESULTS

26 Participants (6 Outliers)

Q1:

1- During media use chronometric time is perceived faster compared to doing nothing.
2- Chronometric time perception for doodling and digital media use are significantly equivalent at all the intervals.
3- Time is underestimated, *id est* perceived faster than it really is, during digital media use and doodling at long intervals.

40 Participants (6 Outliers)

Q2:

1- During media use and doodling, time is evaluated faster compared to doing nothing.
2- Evaluation of intervals' magnitude neither differs nor is equivalent (except for 10s) between doodling and doing media.

260 Participants (6 Outliers)

Q3:

1- The perceived pace of time is significantly higher on new media use compared to non-digital times.
2- Social media use ability and permanency predict the higher perceived pace of time on new media platforms positively, whereas during non-digital media use negatively (except for Smart TV and Facebook).
3- When age decreases, perceived pace of time increases on new media platforms. And *vice versa* for Facebook and non-digital times.
4- Perceived pace of time is higher for females compared to males on instant messaging apps, Instagram, and smartphone.

Conclusion

Although digital media activity and non-digital media activity does not differ on chronometric time perception, access to digital media is much easier and widespread. Therefore, the time has fastened in our everyday life with digital mediatization.

The perceived pace of time is much higher during digital media use compared to non-digital times. Hence, time flows and it is compressed in digital mediatized societies.

I hope time had flowed for you during the presentation (:

Thank you for your attention…

I'll be glad hearing your questions and critiques…

Qs regarding analyses

Experiment 1

Within Subjects Effects

	Sum of Squares	df	Mean Square	F	p	η^2_p
activity	0.4035	2	0.2018	3.709	0.0315	0.129
Residual	2.7197	50	0.0544			
interval	1.3527	2	0.6763	12.638	< .0001	0.336
Residual	2.6759	50	0.0535			
activity ✻ interval	0.0747	4	0.0187	0.472	0.7562	0.019
Residual	3.9564	100	0.0396			

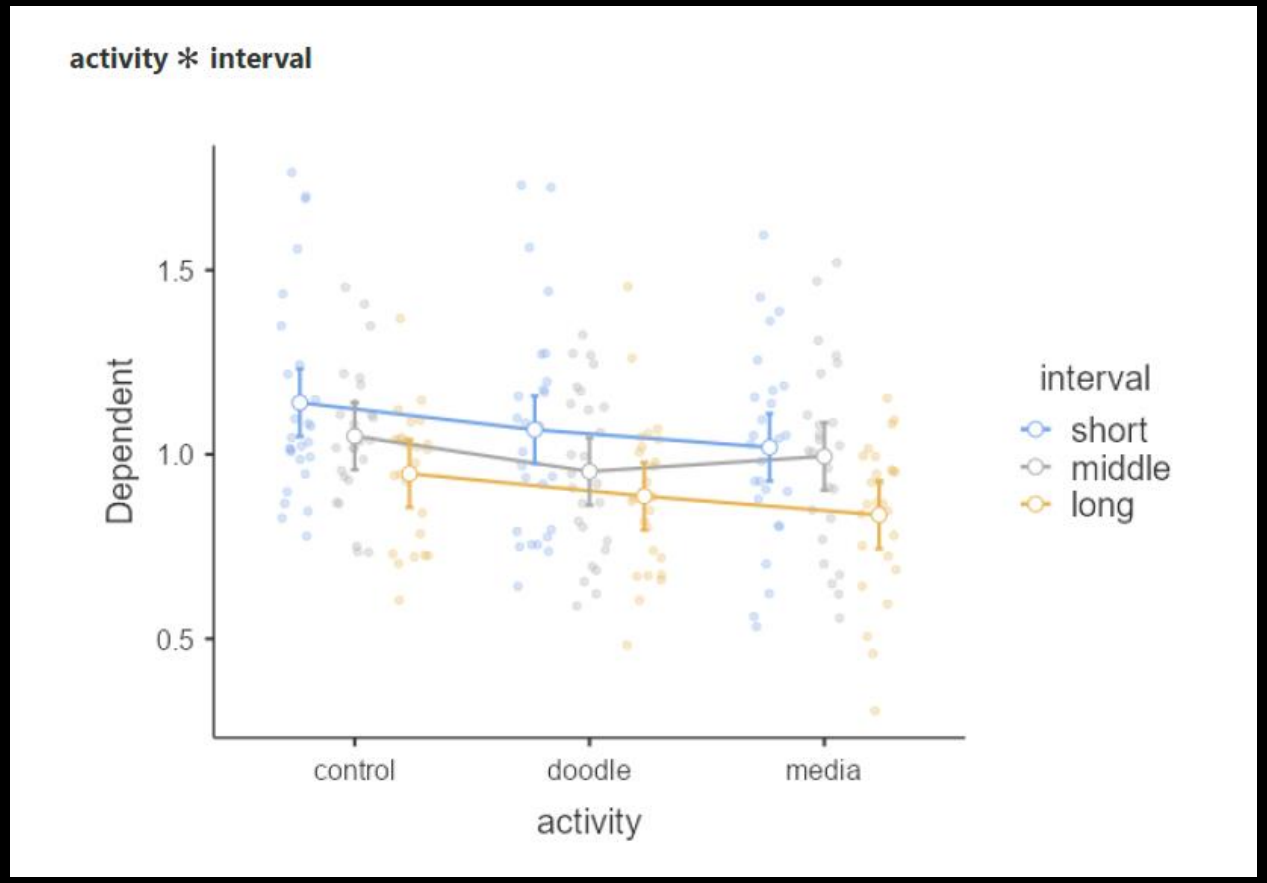
Note. Type 3 Sums of Squares

Post Hoc Comparisons - activity

Comparison							
activity		activity	Mean Difference	SE	df	t	$P_{bonferroni}$
control	-	doodle	0.0769	0.0373	50.0	2.058	0.1344
	-	media	0.0961	0.0373	50.0	2.574	0.0392
doodle	-	media	0.0193	0.0373	50.0	0.516	1.0000

Post Hoc Comparisons - interval

Comparison							
interval		interval	Mean Difference	SE	df	t	$P_{bonferroni}$
short	-	middle	0.0761	0.0370	50.0	2.05	0.1358
	-	long	0.1853	0.0370	50.0	5.00	< .0001
middle	-	long	0.1092	0.0370	50.0	2.95	0.0146



Qs regarding analyses

Experiment 1

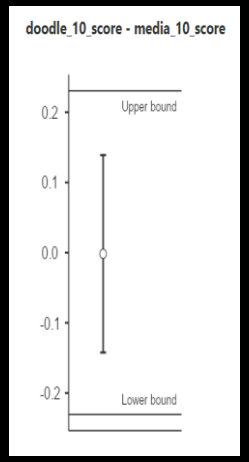
Binomial Test

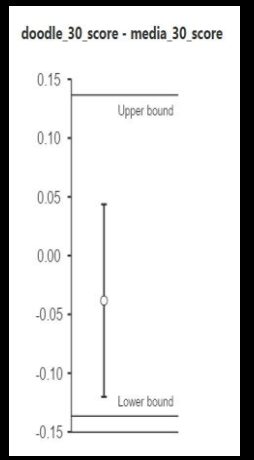
	Level	Count	Total	Proportion	p
control_10_estimation	overestimated	21	31	0.677	0.0708
	underestimated	10	31	0.323	0.0708
control_30_estimation	overestimated	18	30	0.600	0.3616
	underestimated	12	30	0.400	0.3616
control_60_estimation	overestimated	14	32	0.438	0.5966
	underestimated	18	32	0.563	0.5966
doodle_10_estimation	overestimated	15	32	0.469	0.8601
	underestimated	17	32	0.531	0.8601
doodle_30_estimation	overestimated	13	32	0.406	0.3771
	underestimated	19	32	0.594	0.3771
doodle_60_estimation	overestimated	9	31	0.290	0.0294
	underestimated	22	31	0.710	0.0294
media_10_estimation	overestimated	16	31	0.516	1.0000
	underestimated	15	31	0.484	1.0000
media_30_estimation	overestimated	15	32	0.469	0.8601
	underestimated	17	32	0.531	0.8601
media_60_estimation	overestimated	4	31	0.129	< .0001
	underestimated	27	31	0.871	< .0001

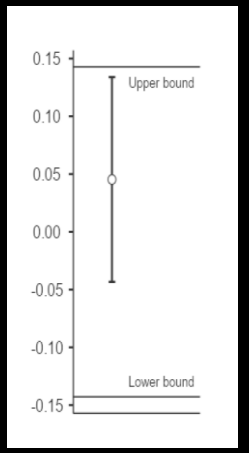
Note. H_a is proportion ≠ 0.5

TOST Results

			t	df	p
doodle_10_score	media_10_score	t-test	-0.0202	30	0.9840
		TOST Upper	-2.80	30	0.0044
		TOST Lower	2.76	30	0.0048
doodle_30_score	media_30_score	t-test	-0.7925	31	0.4341
		TOST Upper	-3.62	31	0.0005
		TOST Lower	2.04	31	0.0252
doodle_60_score	media_60_score	t-test	0.8686	29	0.3922
		TOST Upper	-1.87	29	0.0358
		TOST Lower	3.61	29	0.0006

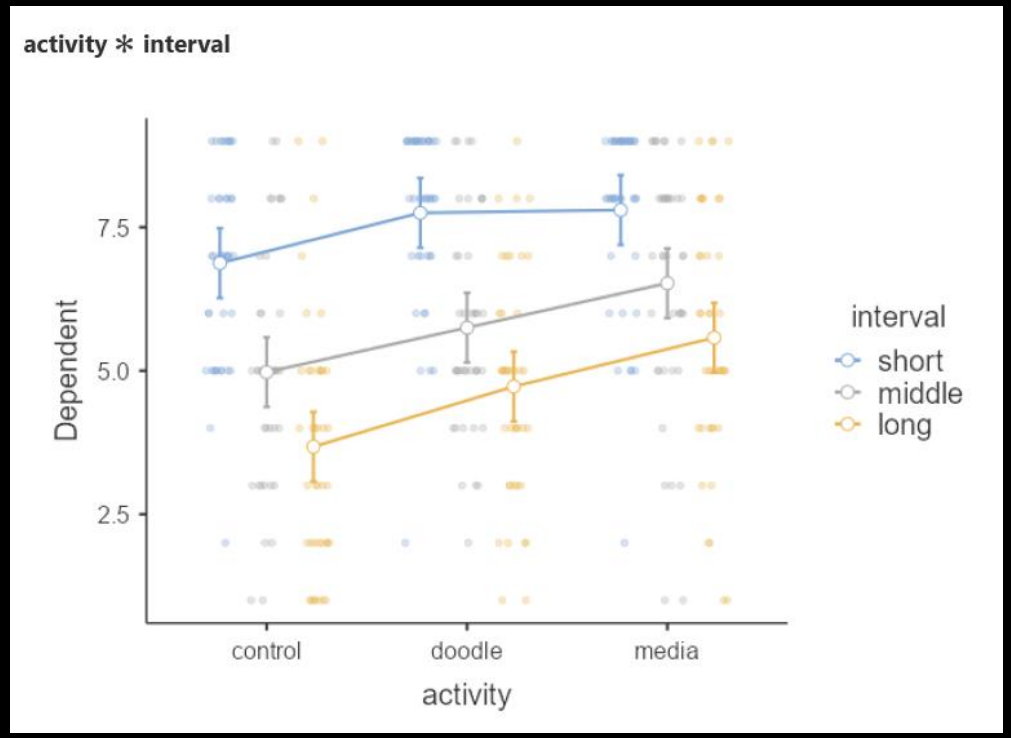






Qs regarding analyses

Experiment 2



Within Subjects Effects

	Sphericity Correction	Sum of Squares	df	Mean Square	F	p	η^2_p
activity	None	129.9	2	64.97	18.07	< .0001	0.317
	Greenhouse-Geisser	129.9	1.78	72.99	18.07	< .0001	0.317
Residual	None	280.5	78	3.60			
	Greenhouse-Geisser	280.5	69.43	4.04			
interval	None	484.0	2	242.02	66.22	< .0001	0.629
	Greenhouse-Geisser	484.0	1.29	374.04	66.22	< .0001	0.629
Residual	None	285.1	78	3.65			
	Greenhouse-Geisser	285.1	50.47	5.65			
activity ∗ interval	None	12.2	4	3.06	1.82	0.1285	0.044
	Greenhouse-Geisser	12.2	3.45	3.54	1.82	0.1389	0.044
Residual	None	262.7	156	1.68			
	Greenhouse-Geisser	262.7	134.72	1.95			

Note. Type 3 Sums of Squares

Post Hoc Comparisons - activity

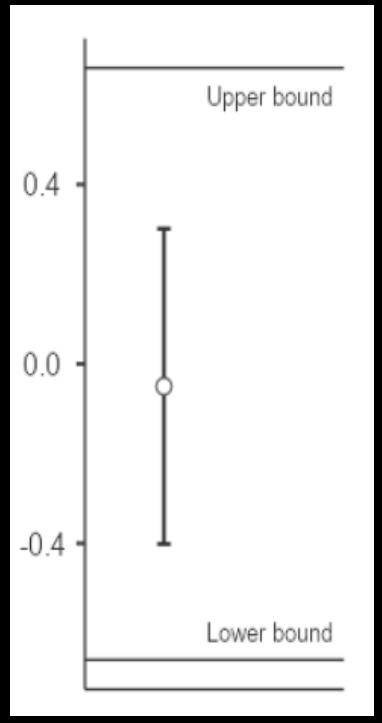
Comparison			Mean Difference	SE	df	t	$P_{bonferroni}$
activity		activity					
control	-	doodle	-0.900	0.245	78.0	-3.68	0.0013
	-	media	-1.458	0.245	78.0	-5.96	< .0001
doodle	-	media	-0.558	0.245	78.0	-2.28	0.0759

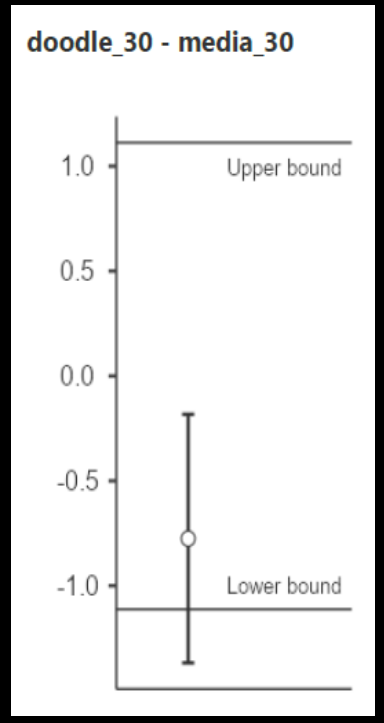
Post Hoc Comparisons - interval

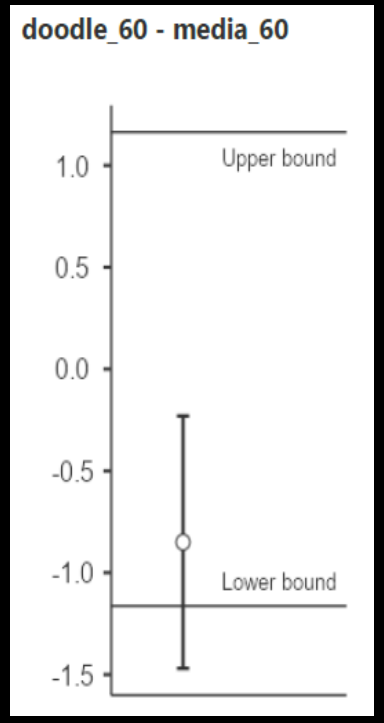
Comparison			Mean Difference	SE	df	t	$P_{bonferroni}$
interval		interval					
short	-	middle	1.73	0.247	78.0	6.99	< .0001
	-	long	2.82	0.247	78.0	11.41	< .0001
middle	-	long	1.09	0.247	78.0	4.42	< .0001

Qs regarding analyses

Experiment 2







TOST Results

			t	df	p
doodle_10	media_10	t-test	-0.240	39	0.8118
		TOST Upper	-3.40	39	0.0008
		TOST Lower	2.923	39	0.0029
doodle_30	media_30	t-test	-2.204	39	0.0335
		TOST Upper	-5.37	39	< .0001
		TOST Lower	0.959	39	0.1718
doodle_60	media_60	t-test	-2.311	39	0.0262
		TOST Upper	-5.47	39	< .0001
		TOST Lower	0.852	39	0.1998