

Supplementary Material to

Thönes, S., & Oberfeld, D. Time perception in depression: A meta-analysis. *Journal of Affective Disorders*. doi: 10.1016/j.jad.2014.12.057.

Supplementary Table 1

Diagnostic criteria, treatment, gender, and age of depressive and control subjects as well as covered tasks and time interval ranges for each study included in the meta-analysis.

Study and country	Diagnostics	Treatment	Depressives					Controls					Task	I. R.		
			Age		Gender			Age		Gender						
			M	SD	N Ma	N Fe	N	M	SD	N Ma	N Fe	N				
Wyrick & Wyrick (1977) (US)	MAACL	varying dosages of amitriptyline	35.3		15	15	30	33.6		15	15	30	Est(p,r)	Sho Med Lon Exp		
Kitamura and Kumar (1982) (UK)	Depressive mood; PSE (Catego Computer System)	“Variety of treatment”	42.4		13	10	23			“Matched”			Exp			
Kitamura and Kumar (1983) (UK)	see (1982)												Est(p,r)	Sho Med Lon Pro Lon		

Study and country	Diagnostics	Treatment	Depressives					Controls					Task	I. R.		
			Age		Gender			Age		Gender						
			M	SD	N Ma	N Fe	N	M	SD	N Ma	N Fe	N				
Tysk (1984) (Sweden)	DSM-III (maj dep)	“Psychotropic drugs”											Est(p,r)	Sho Med		
								56								
Münzel, et al. (1988) (Germany)	ICD-9 (unipol, bipol, neurotic)	“Drugs”	44.3	13.0	11	36	47	44.0	13.0	4	12	16	Est(r)	Med Lon		
Rammsayer (1990) (Germany)	DSM-III (maj dep)		57.25	11.7	15	18	33	31.50	10.95	36	44	80	Dis	U sh		
Mundt, et al. (1998) (Germany)	ICD-9; DSM-III (maj dep)		43.20	9.38	24	16	40	40.20	12.50	8	7	15	Pro	Sho Med		
Sevigny, et al. (2003) (Canada)	Dep: BDI score > 14 Con: BDI score < 8	none	22.3		2	13	15	22.1		5	15	20	Dis	U sh Sho		

<i>Bschor, et al. (2004) (Germany)</i>	DSM-4; HDRS score > 14	“psychotropic medication”	52.8	15.3	6	26	32	45.7	17.8	13	18	31	Est(p)	Sho Med Lon
													Pro	Sho Med
														Exp
<i>Mahlberg, et al. (2008) (Germany)</i>	DSM-4; HDRS score > 14	“psychotropic medication”	51.7	15.7	6	22	28	46.1	18.0	14	16	30	Rep	Sho Med
<i>Gil and Droit- Volet (2009) (France)</i>	Dep: BDI score ≥ 9 Con: BDI score 0 to 3	none	27	4.5	6	13	19	26	3	24	19	43	Dis	U sh
<i>Msetfi, et al. (2012) exp. 1 (UK)</i>	Dep: BDI score ≥ 9 Con: BDI score < 9	none	“matched”	9	9	18	“matched”	9	9	18		Dis	U sh Sho	
<i>Msetfi, et al. (2012) exp. 2 (UK)</i>	Dep: BDI score ≥ 9 Con: BDI score < 9	none	“matched”	22	20	42	“matched”	20	17	37		Dis	U sh Sho	
<i>Kornbrot et al. (2013) (UK)</i>	Dep: BDI score ≥ 7 Con: BDI score < 7	none	19.90			21	19.90				21	Est(p)	Sho Med	
													Pro	Sho Med

<i>Oberfeld, et al. (2014) (Germany)</i>	DSM-IV (maj dep)	partly on medication	35.23	10.9	7	15	22	25.03	4.58	11	11	22	Est(p,r)	U sh
													Sho	Med
													Pro	U sh
													Sho	Med
													Rep	U sh
													Sho	Med
Exp														
<i>Mioni et al. (in prep) (Italy)</i>	BDI	partly medicated; psycho- therapy	49.85	8.08	2	10	12	45.82	13.65	5	12	17	Pro	U sh
													Rep	sho

Note. Empty cells represent missing information in primary studies. Kitamura and Kumar (1982) and Kitamura and Kumar (1983) used the same sample of subjects. Data in quotation marks refer to statements from the primary studies. Multiple Affect Adjective Check List (MAACL); Present State Examination (PSE); Hamilton's Rating Scale for Depression (HRS); Beck Depression Inventory II (BDI); Est = Time estimation; (r) = retrospective; (p) = prospective; (p,r) = prospective and retrospective; Pro = Time production; Rep = Time reproduction; Dis = Duration discrimination; Exp = Time experience (unrelated to interval ranges); I. R. = Interval range; lon = long; med = medium; sho = short; u sh = ultra short; maj dep = major depression; unipol = unipolar depression; bipol = bipolar depression; neurotic = neurotic depression; Ma = male; Fe = Female; M = Mean; SD = Standard deviation; N = sample size.

Supplementary Table 2

Effect sizes (g), effect size variances ($Var(g)$), and corresponding 95% confidence intervals for each pair of means reported by the primary studies.

Study	Task	Interval range	Interval duration [s]	g	$Var(g)$	CI _L	CI _U	Note (discrimination and experience measures)
Wyrick & Wyrick (1977)	Est	short	5	0.05	0.07	-0.45	0.56	
			10	0.22	0.07	-0.28	0.73	
		medium	20	0.20	0.07	-0.30	0.71	
			80	0.23	0.07	-0.27	0.74	
			160	0.70	0.07	0.18	1.22	
			240	0.54	0.07	0.03	1.06	
		long	900	2.13	0.10	1.50	2.77	
			1800	2.09	0.10	1.47	2.72	
	Exp			1.46	0.08	-2.03	-0.89	Questionnaire: How quickly does time pass in different situations? (scale: 1 <i>slowly</i> – 7 <i>quickly</i>)
Kitamura & Kumar (1982)	Exp			0.87	0.10	-1.47	-0.26	Questionnaire: How quickly does time pass in different everyday life situations? (scale: 1 <i>slowly</i> – 5 <i>quickly</i>)
				0.27	0.09	-0.85	0.31	
				0.00	0.09	-0.58	0.58	
Kitamura & Kumar (1983)	Est	short	5	0.36	0.09	-0.23	0.94	
			5	0.90	0.10	0.29	1.51	
			5	0.39	0.09	-0.20	0.99	
			10	0.48	0.09	-0.11	1.07	
			10	0.74	0.09	0.15	1.34	

Study	Task	Interval range	Interval duration [s]	<i>g</i>	Var(<i>g</i>)	CI _L	CI _U	Note (discrimination and experience measures)
medium		medium	10	0.33	0.09	-0.26	0.93	
			20	0.60	0.09	0.01	1.20	
			20	0.87	0.10	0.27	1.48	
			20	0.40	0.09	-0.20	1.00	
			80	0.55	0.09	-0.05	1.14	
			80	0.83	0.09	0.22	1.43	
			80	0.60	0.10	0.00	1.21	
			160	0.59	0.09	-0.01	1.19	
			160	0.68	0.09	0.09	1.28	
			160	0.44	0.09	-0.16	1.04	
			240	0.17	0.09	-0.42	0.76	
			240	0.48	0.09	-0.11	1.06	
			240	0.16	0.09	-0.43	0.76	
		long	900	0.07	0.09	-0.51	0.66	
			900	0.15	0.09	-0.43	0.74	
			900	0.18	0.09	-0.42	0.78	
			1800	0.43	0.09	-0.17	1.02	
			1800	0.13	0.09	-0.45	0.71	
			1800	0.22	0.09	-0.37	0.81	
Pro	long	long	30	0.86	0.10	-1.47	-0.26	
			30	0.36	0.09	-0.94	0.22	
			30	0.49	0.09	-1.09	0.11	

Study	Task	Interval range	Interval duration [s]	<i>g</i>	Var(<i>g</i>)	CI _L	CI _U	Note (discrimination and experience measures)
<i>Tysk (1984)</i>	Est	short	7.5	0.44	0.05	-0.02	0.89	
		medium	17.5	0.10	0.05	-0.34	0.55	
			27.5	0.41	0.05	-0.05	0.86	
			450	-0.61	0.06	-1.07	-0.14	
	Pro	short	10	-0.27	0.05	-0.19	0.72	
		medium	20	-0.39	0.05	-0.06	0.84	
			30	0.78	0.06	-1.24	-0.32	
<i>Münzel, et al. (1988)</i>	Est	medium	240	0.38	0.08	-0.19	0.95	
			240	0.24	0.08	-0.33	0.81	
			240	0.53	0.09	-0.05	1.10	
		long	1800	0.00	0.08	-0.57	0.57	
	Pro	medium	240	0.37	0.08	-0.94	0.20	
			short	1	-0.53	0.09	-0.05	1.10
			5	0.08	0.08	-0.65	0.48	
			10	0.20	0.08	-0.76	0.37	
	Exp			0.93	0.09	-1.52	-0.34	Questionnaire: How quickly does time pass in different everyday life situations? (scale: 1 <i>slowly</i> – 5 <i>quickly</i>)
				-0.52	0.10	-0.1	1.14	
				-0.17	0.10	-0.44	0.79	
				-0.20	0.10	-0.41	0.82	
				0.70	0.10	-1.32	-0.07	
<i>Rammsayer (1990)</i>	dis	ultra sh	0.05	0.95	0.05	0.52	1.37	Two-interval task (First or second interval longer?). Performance measure: difference limen (DL)

Study	Task	Interval range	Interval duration [s]	<i>g</i>	Var(<i>g</i>)	CI _L	CI _U	Note (discrimination and experience measures)
corresponding to 70.7% correct (adaptive procedure)								
<i>Mundt, et al. (1998)</i>	Pro	short	10	-0.13	0.09	-0.47	0.72	
		medium	30	0.87	0.10	-1.48	-0.25	
			60	0.74	0.10	-1.35	-0.13	
			120	0.61	0.10	-1.21	0.00	
	Rep	medium	10	0.18	0.09	-0.41	0.78	
			30	-0.92	0.10	-1.54	-0.30	
			60	-0.55	0.09	-1.15	0.05	
			120	-0.63	0.10	-1.23	-0.02	
	Exp			0.83	0.10	-1.44	-0.22	Visual analogue scale: How quickly did the last hour pass (slowly – fast)?
				0.95	0.10	-1.57	-0.33	
<i>Sevigny, et al. (2003)</i>	Dis	ultra sh	0.1	0.55	0.12	-0.13	1.24	One interval task (short or long interval presented?)
			0.5	-0.06	0.12	-0.73	0.61	Performance measure: %correct
		short	1.2	0.75	0.12	0.06	1.44	
<i>Bschor, et al. (2004)</i>	Est	short	8	0.00	0.06	-0.50	0.49	
		medium	43	-0.15	0.06	-0.65	0.34	
			109	-0.40	0.06	-0.90	0.10	
		long	760.2	0.59	0.07	0.09	1.10	
	Pro	short	7	-0.39	0.06	-0.11	0.89	
		medium	35	0.67	0.07	-1.18	-0.16	
			90	1.00	0.07	-1.53	-0.48	
	exp			0.98	0.07	-1.51	-0.46	Visual analogue scale: How do you experience the

Study	Task	Interval range	Interval duration [s]	<i>g</i>	Var(<i>g</i>)	CI _L	CI _U	Note (discrimination and experience measures)
flow of time today (slow – fast)?								
Mahlberg, et al. (2008)	Rep	short	1	1.09	0.08	0.53	1.64	
			6	0.98	0.08	0.44	1.53	
		medium	37	0.09	0.07	-0.43	0.60	
Gil & Droit-Volet	Dis	ultra sh	1	-0.17	0.08	-0.71	0.37	Temporal bisection task; anchor durations (a.d.): 400 and 1600 ms (Is the interval presented more similar to the short or to the long a.d.? Performance measure: weber fractions)
Msetfi, et al. (2012) Exp. 1	Dis	short	1	0.84	0.12	0.16	1.52	Two-interval task (First or second interval longer?). Performance measure: DL corresponding to 75% correct (adaptive procedure)
Msetfi, et al. (2012) Exp. 2	Dis	short	1	0.34	0.05	-0.10	0.79	See Msetfi et al. (2012) Exp. 1
Oberfeld, et al. (2014)	Est	ultra sh	0.5	-0.12	0.09	-0.71	0.47	
		short	2	0.27	0.09	-0.32	0.87	
		medium	60	-0.12	0.09	-0.71	0.47	
		long	1800	-0.33	0.09	-0.93	0.26	
	Pro	ultra sh	0.5	0.01	0.09	-0.60	0.58	
		short	2	0.20	0.09	-0.80	0.39	
		medium	60	0.21	0.09	-0.80	0.38	
	Rep	ultra sh	0.5	-0.10	0.09	-0.69	0.50	
		short	2	-0.09	0.09	-0.68	0.51	
		medium	60	-0.37	0.09	-0.97	0.23	

Study	Task	Interval range	Interval duration [s]	<i>g</i>	Var(<i>g</i>)	CI _L	CI _U	Note (discrimination and experience measures)
	Exp			0.05	0.09	-0.64	0.54	Visual analogue scale: How do you experience the flow of time today (slow – fast)?
<i>Kornbrot, et al. (2013)</i>	Est	short	4.33	-0.40	0.10	-1.01	0.21	
		medium	10.86	-0.78	0.10	-1.40	-0.15	
			19.21	-0.86	0.10	-1.50	-0.23	
			33.78	-0.55	0.10	-1.16	0.07	
			60.92	-0.52	0.10	-1.14	0.09	
	Pro	short	4.33	-0.71	0.10	0.08	1.33	
		medium	10.86	-0.66	0.10	0.04	1.28	
			19.21	-0.76	0.10	0.14	1.39	
			33.78	-0.67	0.10	0.05	1.29	
			60.92	-0.59	0.10	-0.03	1.21	
<i>Mioni, et al. (in prep)</i>	Pro	ultra sh	0.5	-1.09	0.16	0.30	1.88	
		short	1	-0.69	0.15	-0.07	1.45	
			1.5	0.02	0.14	-0.76	0.72	
	Rep	ultra sh	0.5	0.47	0.15	-0.28	1.22	
		short	1	0.77	0.15	0.01	1.54	
			1.5	0.24	0.14	-0.51	0.98	