

Combining Panel Data with Genetics

The advantages of longitudinal data to discern nature-nurture influences on behavior

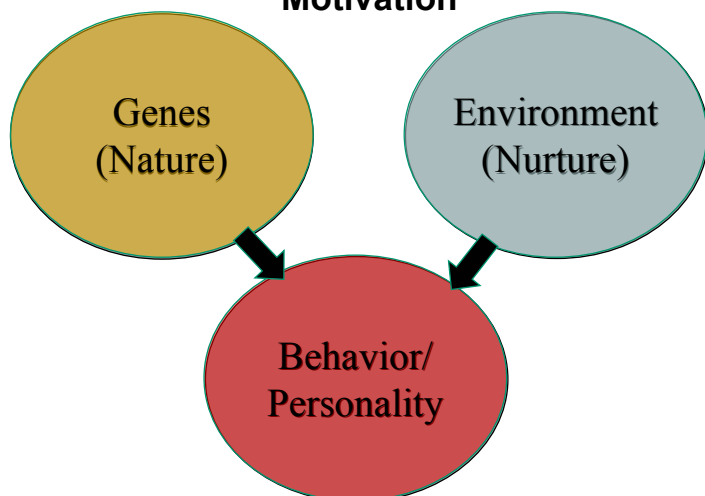
Core Team

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Current Partners

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Motivation



Problems with most studies of molecular genetics on behavior

- No or very little information about the social, economic, and autobiographical backgrounds of the subjects
- Only cross-sectional data, in some cases with low reliability (which is often not even known)
- Often extremely homogenous “student samples”

Methods and Survey Results

	2005	2007	2008
Number of subjects	1012	490	250
Gender			
Female (in %)	53,7	52,2	56,4
Male	46,3	47,8	43,6
German citizen			
Yes	95,8	95,9	96,0
No	4,3	4,1	4,0
Age			
15-19	6,1	5,5	5,2
20-29	14,3	9,8	12,4
30-39	15,2	15,5	14,8
40-49	19,7	21,8	22,4
50-59	15,0	16,5	16,8
60-69	15,5	17,4	18,4
> 70 years	14,1	13,5	10,0
Part of Germany			
West	79,5	77,4	72,8
East	20,6	22,7	27,2

Sample

- Third wave of a pretest for an “Innovative Sample” of SOEP
- Representative for the population in Germany
- ~250 participants who gave written informed consent and genetic material via saliva samples (second pretest running with another ~250 subjects)

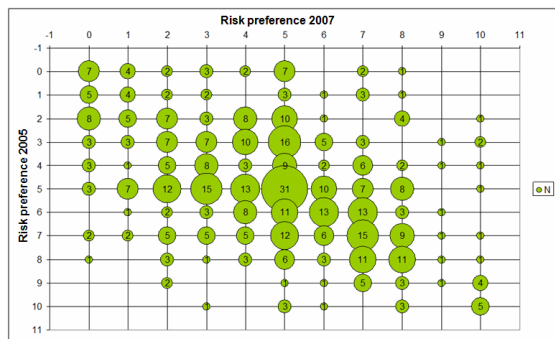
Funding: ERC and BMBF

Available survey data on participants (examples)

- Personal traits (e.g., Big Five)
- Socio-economic characteristics
- Repeated questions on risk and trust preferences
- Repeated experiment on time and risk preference

→ high reliability by repeated measurement; control for life-events

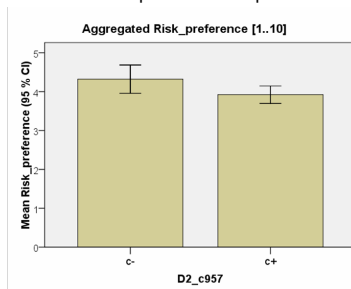
Very First Substantial Test-Results



Robustness of riskiness question (2005 and 2007)	N	%	Cum.	N	%	Cum.
robust risktakers (0-4)	81	16,5	16,5	34	13,6	13,6
robust risky (5-10)	103	21,0	37,6	63	25,2	38,8
robust amoralist (5)	54	11,0	48,6	31	12,4	51,2
rest	252	51,4	100,0	122	48,8	100,0
total	490	100,0	100,0	250	100,0	100,0

¹ difference of 2008 and 2007: -2

Dopamine 2 receptor influences risk preference



only subjects with stable risk preferences

p < 0.05 (n=128)

Related publications

- Weber, Bernd; Schupp, Jürgen; Reuter, Martin; Montag, Christian; Siegel, Nico; Dohmen, Thomas; Sunde, Uwe; Huffman, David; Wagner, Gert; Falk, Armin (2008). Combining Panel Data and Genetics – Proof of Principle and First Results. Society for Neuroeconomics Annual Meeting, 2008.
- Schupp, Jürgen; Weber, Bernd; Reuter, Martin; Jänsch, Agnes; Siegel, Nico; Falk, Armin; Dohmen, Thomas; Sunde, Uwe; Wagner, Gert (2008). Biomarker und Soziologie sozialer Ungleichheit in der Gesundheit: neuere Entwicklungen in den Messmethoden soziologischer Verlaufsforschung. Kongress der DGS in Jena, 2008.