

# Online Appendix

## Emotions and Risk Attitudes

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# A Data

## A.1 Questions from the German Socio-Economic Panel

Figure A.1: Translated Questions from the German Socio-Economic Panel

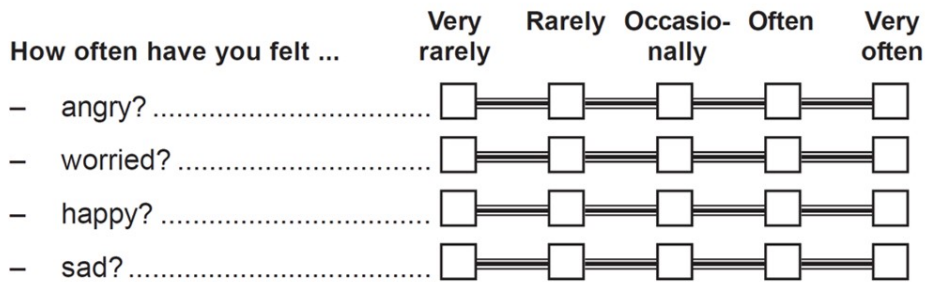
How would you describe yourself:

Are you generally willing to take risks, or do you try to avoid risks?

 Please tick a box on the scale, where the value 0 means: "risk averse" and the value 10 means: "fully prepared to take risks". You can use the values in between to make your estimate.



I will now read to you a number of feelings. Please indicate for each feeling how often or rarely you experienced this feeling in the last four weeks.



*Note:* The figure gives the original questions translated to English asked every year from 2008 through 2015. Note that worried is not an appropriate translation for what was asked in German. The question was about how often a person felt "Angst", for which the usual translation is fear. The questions about emotions and attitudes were normally separated by several items. The question order and the distance between questions changed over time as follows: 2008, emotions question number (qn) 2, risk attitudes qn 10; 2009, emotions qn 117, risk attitudes qn 121; 2010, emotions qn 125, risk attitudes qn 123; 2011, emotions qn 150, risk attitudes qn 121; 2012, emotions qn 2, risk attitudes qn 148; 2013, emotions qn 2, risk attitudes qn 154; 2014, emotions qn 3, risk attitudes qn 4; 2015, emotions qn 2, risk attitudes qn 4; 2016, emotions qn 2, risk attitudes qn 5.

## A.2 Summary Statistics

**Table A.1: Summary Statistics**

Variable	Mean	SD	Min.	Max.	N
<i>Dependent Variables</i>					
Willingness to Take Risks	45.61	23.40	0	100	169,964
<i>Main Independent Variables</i>					
Happiness	3.59	0.76	1	5	169,964
Anger	2.77	1.00	1	5	169,964
Fear	1.93	0.97	1	5	169,964
Positive Emotions	5.25	2.16	-3	9	169,964
<i>Main Controls</i>					
Househ. Net Inc. in 1,000	3.03	2.12	0	200	169,964
Unemployed	0.41	0.49	0	1	169,964
Married	0.61	0.49	0	1	169,964
Child in Househ.	0.31	0.46	0	1	169,964
Life Satisfaction	7.15	1.73	0	10	169,964

*Note:* Househ. Net Inc. in 1,000 denotes household income in 1,000 euros. Child. in Househ. refers to an indicator variable that is 1 if there are children living in the household from 2008 through 2015 or 1 if the household received “Kindergeld” in 2016 where the indicator for children living in the household is not available.

**Table A.2: Time Series Correlations Willingness to Take Risks (WTR)**

	Willingness to Take Risks	Lag 1 WTR	Lag 2 WTR	Lag 3 WTR
Willingness to Take Risks	1.00			
Lag 1 WTR	0.58	1.00		
Lag 2 WTR	0.56	0.57	1.00	
Lag 3 WTR	0.54	0.55	0.55	1.00

*Note:* All correlations are stat. sign. at  $p < 0.01$ .

### A.3 Correlates of Changes in Risk Attitudes

**Table A.3: Correlates of Changes in Risk Attitudes**

Dependent Variable	Will. to Take Risks [0,100] Avg.: 45				
	(1)	(2)	(3)	(4)	(5)
Househ. Net Inc. in 1,000	0.51*** (0.05)	0.26*** (0.05)	0.20*** (0.06)	0.26*** (0.05)	
Househ. Net Inc. Sq./10	-0.02*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	
Unemployed	0.20 (0.18)	-0.40** (0.19)	-0.48** (0.20)	-0.36* (0.19)	
Married	-0.00 (0.29)	0.03 (0.30)	0.08 (0.31)	0.05 (0.30)	
Child in Househ.	-1.43*** (0.22)	-1.22*** (0.23)	-1.15*** (0.24)	-1.23*** (0.23)	
House Owner x Real Est. Prices			0.03*** (0.01)		
Real Estate Prices			0.01 (0.03)		
Subjective Health				0.95*** (0.08)	
Financial Domain					1.92*** (0.29)
Driving Domain					2.33*** (0.33)
Leisure Domain					2.25*** (0.34)
Job Domain					2.06*** (0.31)
Health Domain					1.54*** (0.28)
Trust Domain					1.61*** (0.27)
Individual FE	X	X	X	X	X
Age FE		X	X	X	X
Year FE		X	X	X	X
Observations	169,964	169,964	149,158	169,818	15,134
Individuals	34,176	34,176	26,512	34,176	7,567
R-squared	0.64	0.65	0.64	0.65	0.80

*Note:* The table shows the correlates of risk attitudes. Standard errors (in parentheses) are based on clustering at the individual level. Househ. Net Inc. Sq. refers to squared household income (Househ. Net Inc. in 1,000). House Owner is one if individuals owned parts of their apartment or house in 2007 or, if missing, in 2002. This still leaves some missing values, which leads to fewer observations in columns (3) and (5). Real estate prices (Real Est. Prices) for apartments and houses are taken from the vdp-Immobilienpreisindex. Domain specific measures of willingness to take risks are only available for 2009 and 2014. Values for the domain specific willingness to take risks are standardized. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## A.4 Validity of Emotion Measurement

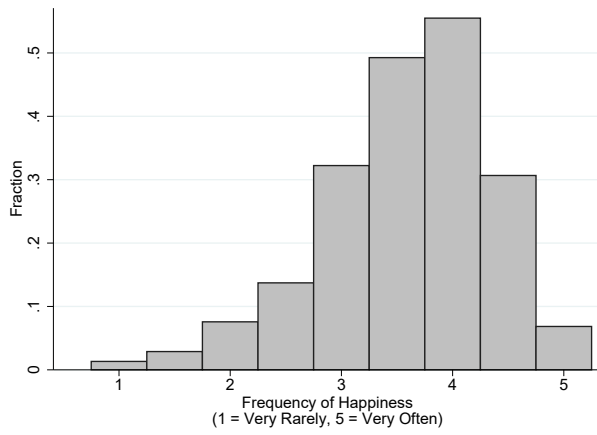
Evidence from psychology also suggests that the use of retrospective judgments of emotions is sensible in the context of this study. For instance, Barrett (1997) reports that individuals accurately recall emotions experienced within the last 90 days. A cursory look at correlations suggest the variation in emotions seems reasonable, as the correlations with life satisfaction have the expected signs confirming previous evidence on the validity of more short-term affective measures (Table A.4, Krueger and Schkade, 2008). In a previous version of the paper, I examine how emotions change around life events to understand what variation emotions capture (Meier, 2019). It seems that emotions move reasonably around life events consistent with previous evidence (Luhmann et al., 2012).

Robinson and Clore (2002) and others (for a review, see Ciuk, Troy and Jones, 2015) argue that a self-reported, retrospective assessment of emotions following an emotional event reflects the felt emotions if the retrospective assessment does not go beyond “a few weeks.” However, there is a trade-off between present anchoring and personality anchoring in retrospective emotion assessments.

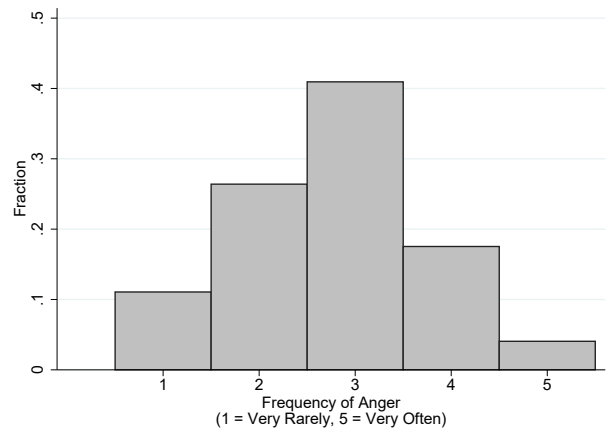
The trade-off depends on the time horizon of the retrospective assessment, whereby a longer time horizon leads to a recall of emotional experiences that is more consistent with one’s personal emotional disposition (Parkinson et al., 1995; Mill, Realo and Allik, 2015). But, even these long-term assessments can be affected by recent events. Individuals being present-biased is potentially helpful here since I am interested in emotional shocks. In contrast, a bias toward emotional dispositions would reduce the variance I can exploit and bias my estimates toward 0 due to the within-individual comparisons over time. A similar effect can be expected by noisy measurement (Krueger and Schkade, 2008). If measurement error is large, my estimates are biased toward 0 and less precise (Krueger and Schkade, 2008). In sum, while imperfect, the emotion measures in the data seem a reasonable approximation of individuals’ recent feelings and, if anything, work against finding a relationship.

## A.5 Descriptive Statistics for the Emotion Variables

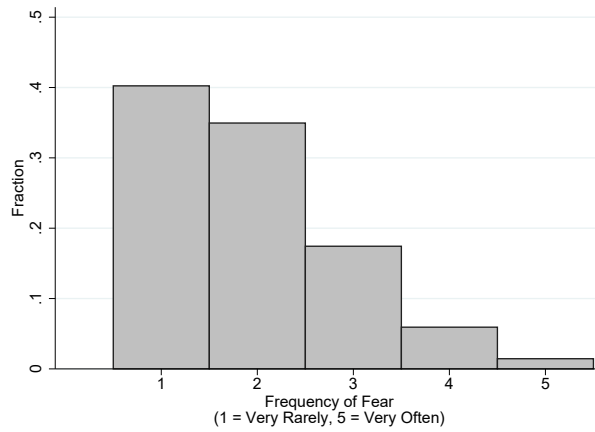
Figure A.2: Distribution of the Emotions



(a) Happiness

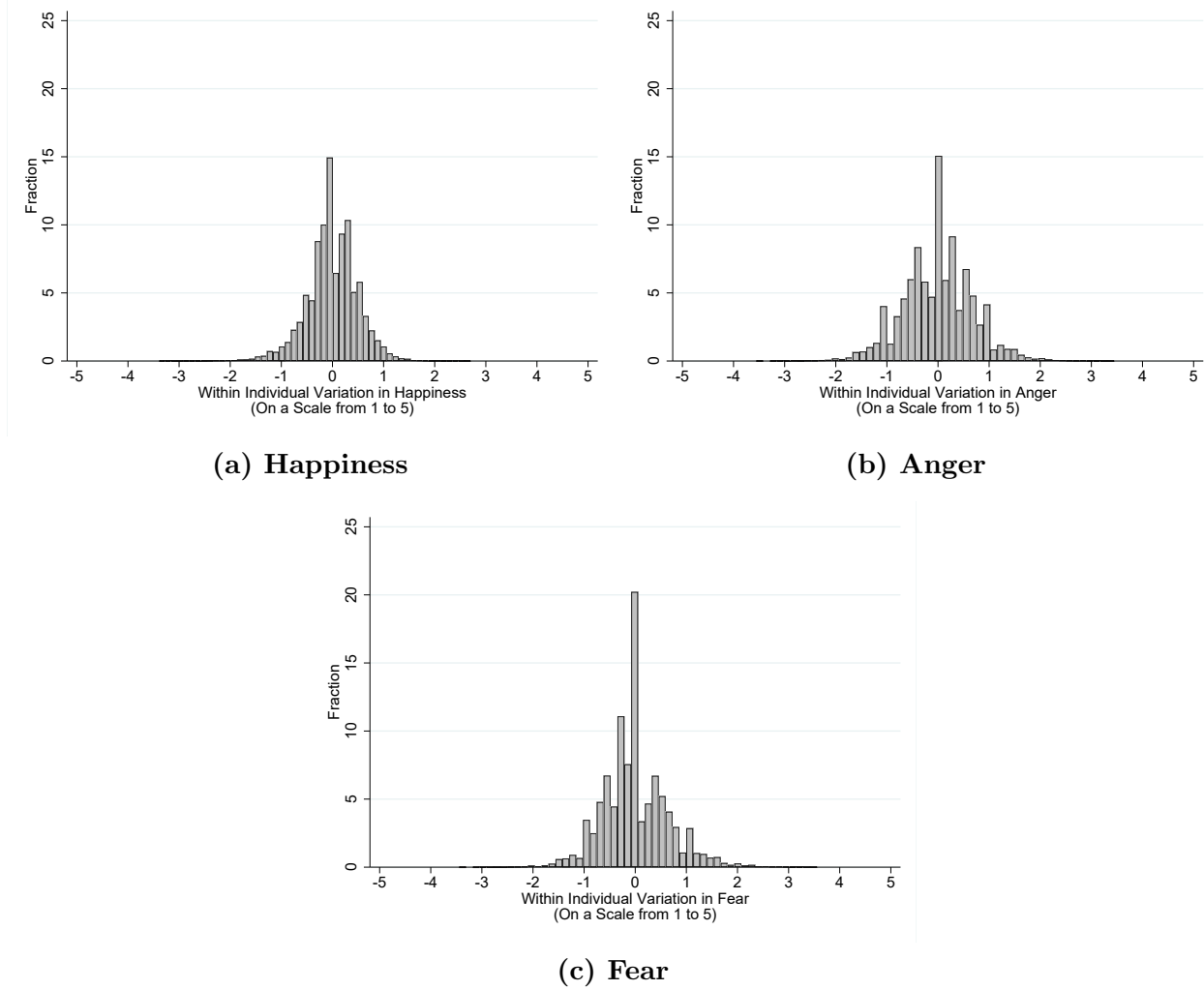


(b) Anger



(c) Fear

**Figure A.3: Within Individual Variation in Emotions**



*Note:* The figure shows the residuals from OLS regressions of each emotion on dummy variables for each of the individuals (individual fixed effects). An observation is an individual–year residual. The residual is 0 if the individual did not deviate from her mean value of the corresponding emotion.

**Table A.4: Raw Correlations Between Emotions and Life Satisfaction**

	Happiness	Anger	Fear	Life Satisfaction
Happiness	1.00			
Anger	-0.36	1.00		
Fear	-0.46	0.34	1.00	
Life Satisfaction	0.53	-0.30	-0.33	1.00

*Note:* All correlations are stat. sign. at  $p < 0.01$ .

**Table A.5: Correlations of Changes in Emotions**

	Happiness Res.	Anger Res.	Fear Res.	Life Satisfaction Res.
Happiness Res.	1.00			
Anger Res.	-0.25	1.00		
Fear Res.	-0.31	0.23	1.00	
Life Satisfaction Res.	0.32	-0.16	-0.19	1.00

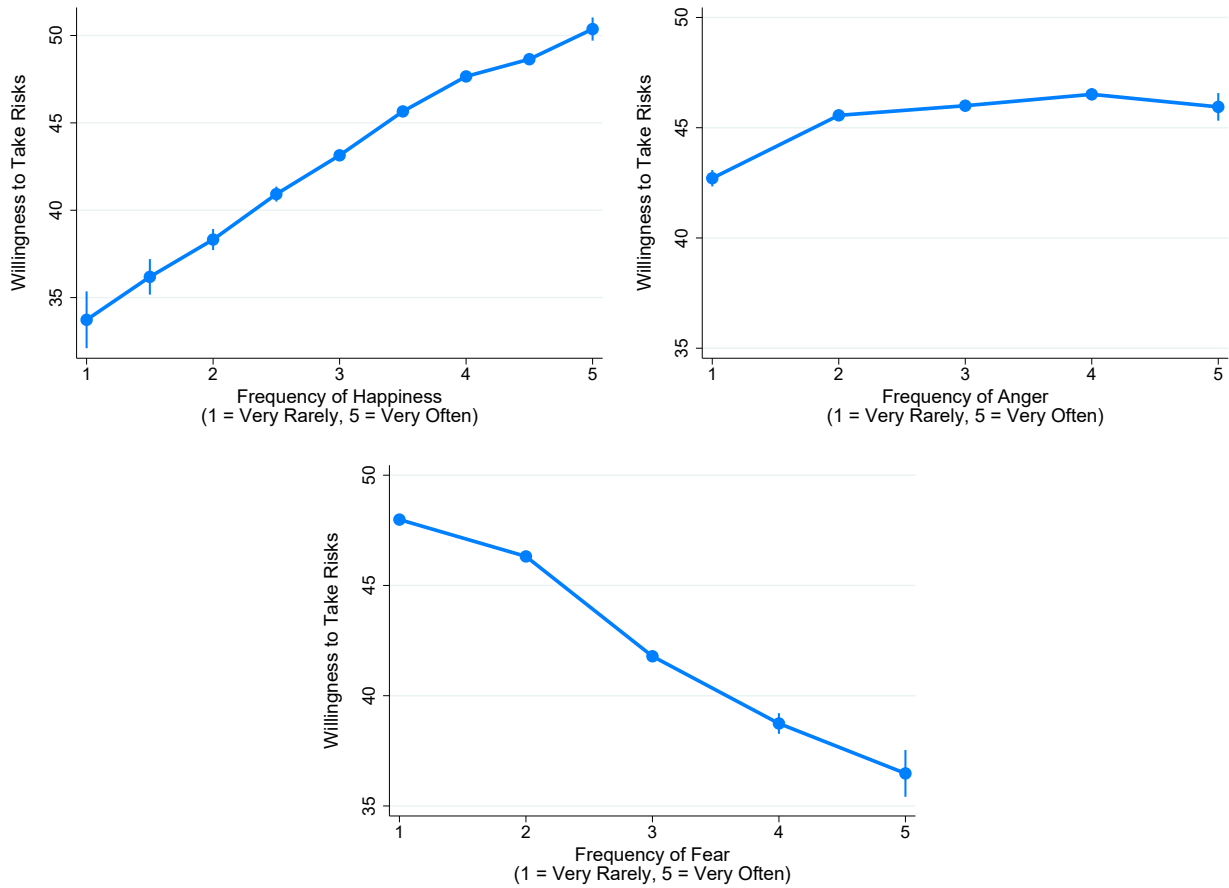
*Note:* All correlations are stat. sign. at  $p < 0.01$ . The above correlations give the correlations between residuals (Res.) from regressions of each emotion on individual fixed effects.



## B Results: Emotions and Risk Attitudes

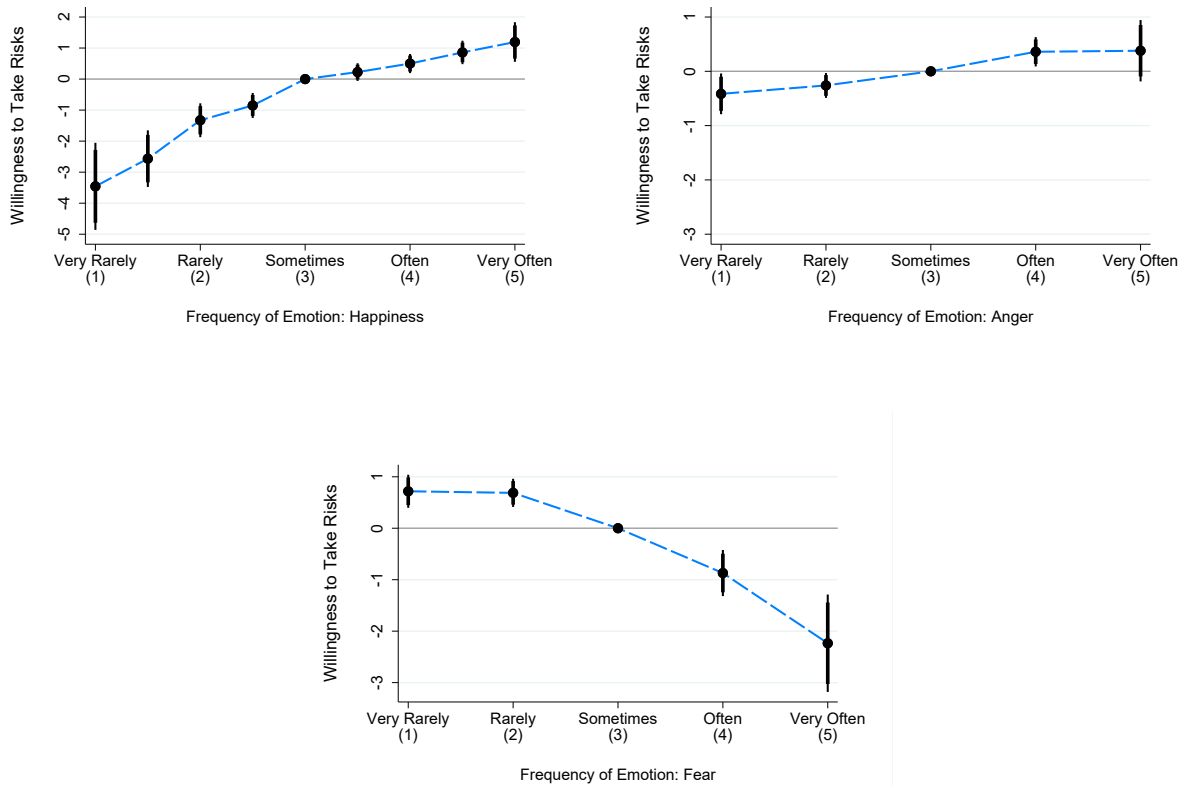
### B.1 Raw Relationships and Functional Form

Figure B.1: Raw Relationship Between Willingness to Take Risks and Emotions



*Note:* The blue line in all graphs shows the relationships between average willingness to take risks by the frequency of recently experienced emotions. 95% confidence intervals are given by the vertical blue lines.

**Figure B.2: Nonparametric Relationships Between Risk Attitudes and Emotions**



*Note:* The black dots are coefficient estimates, depicted with their 90% (thick line) and 95% (thin line) confidence intervals. The coefficient estimates result from regression of the willingness to take risks on all emotion realization dummies, all fixed effects, and controls. The reference category for each emotion is “Sometimes”.

**Table B.1: Ordered Logit: Emotions and Risk Attitudes**

Dependent Variable	Willingness to Take Risks [0,100]				
	(1)	(2)	(3)	(4)	(5)
Happiness	0.49*** (0.02)	0.11*** (0.01)	0.11*** (0.01)	0.11*** (0.01)	0.11*** (0.01)
Anger	0.36*** (0.02)	0.02*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.03*** (0.01)
Fear	-0.14*** (0.02)	-0.05*** (0.01)	-0.06*** (0.01)	-0.06*** (0.01)	-0.06*** (0.01)
Individual FE		X	X	X	X
Age FE			X	X	X
Year FE				X	X
Month FE				X	X
Controls					X
Observations	169,964	169,964	169,964	169,964	169,964
Individuals	34,176	31,504	31,504	31,504	31,504

*Note:* The table shows the estimated relationships between the frequency of emotions felt on a scale from 1 to 5 and willingness to take risks using the ordered logit fixed effects estimator developed by Baetschmann et al. (2020). Standard errors (in parentheses) are based on clustering at the individual level. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## B.2 Heterogeneities

**Table B.2: Heterogeneity in the Population**

Dependent Variable	Willingness to Take Risks [0,100]							
	High Inc. 47	Low Inc. 43	Uni. 47	Nonuni. 45	Employed 48	Unempl. 42	Male 50	Female 42
Avg.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Happiness	0.74*** (0.11)	1.22*** (0.16)	0.65*** (0.14)	0.97*** (0.12)	0.76*** (0.12)	1.03*** (0.15)	0.94*** (0.14)	0.87*** (0.12)
Anger	0.24*** (0.08)	0.23** (0.12)	0.16 (0.10)	0.30*** (0.08)	0.17** (0.08)	0.37*** (0.11)	0.18* (0.09)	0.33*** (0.09)
Fear	-0.50*** (0.09)	-0.51*** (0.12)	-0.52*** (0.11)	-0.52*** (0.09)	-0.44*** (0.09)	-0.59*** (0.11)	-0.52*** (0.11)	-0.51*** (0.09)
Individual FE	X	X	X	X	X	X	X	X
Age FE	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X
Month FE	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X
Observations	110,309	59,655	61,577	104,679	100,728	69,236	79,349	90,615
Individuals	25,928	16,586	12,294	22,298	24,192	18,002	15,876	18,302
R-squared	0.68	0.66	0.67	0.64	0.68	0.66	0.64	0.64

*Note:* The table shows the estimated relationships between the frequency of emotions felt and willingness to take risks using OLS. Standard errors (in parentheses) are based on clustering at the individual level. High Inc. refers to above median income of €2,100 of the full SOEP sample. Uni. refers to more than vocational education. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table B.3: Emotions and Risk Attitudes Across Domains**

Dependent Variable	Willingness to Take Risks [0,100]						
	General	Finance	Driving	Leisure	Job	Health	Trust
	42	21	32	34	34	29	34
Avg.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Happiness	1.14*** (0.31)	0.32 (0.30)	0.44 (0.34)	0.23 (0.34)	-0.18 (0.41)	-0.29 (0.35)	0.77** (0.34)
Anger	0.51** (0.23)	0.64*** (0.23)	0.53** (0.25)	0.43* (0.25)	0.60** (0.30)	0.97*** (0.26)	0.21 (0.25)
Fear	-0.37 (0.24)	0.38 (0.24)	0.15 (0.28)	-0.18 (0.26)	-0.40 (0.32)	0.03 (0.27)	0.38 (0.27)
Individual FE	X	X	X	X	X	X	X
Age FE	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X
Month FE	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X
Observations	20,658	20,266	18,916	19,988	15,924	20,550	20,588
Individuals	10,329	10,133	9,458	9,994	7,962	10,275	10,294
R-squared	0.76	0.74	0.79	0.77	0.75	0.72	0.73

*Note:* The table shows the estimated relationships between the frequency of emotions felt and domain-specific willingness to take risks using OLS. Standard errors (in parentheses) are based on clustering at the individual level. This data is only available for 2009 and 2014. Note that there are some missing values for the domain-specific questions. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## B.3 Robustness Checks

Table B.4: Unconditional Relationships, Participation, and Magnitude

Dependent Variable	Willingness to Take Risks [0,100]								
	(1)	(2)	(3)	(4)	(5)	(6)	Freq. Part. (7)	Standardization (8) (9)	
Happiness	1.02*** (0.08)						0.88*** (0.09)		
Anger		-0.02 (0.06)				0.23*** (0.06)	0.25*** (0.07)		
Fear			-0.66*** (0.07)			-0.56*** (0.07)	-0.53*** (0.07)		
Happiness Item				1.05*** (0.08)		0.97*** (0.08)			
Sadness Item					-0.35*** (0.06)	-0.07 (0.06)			
Std. Happiness								0.69*** (0.07)	0.69*** (0.07)
Std. Anger								0.25*** (0.06)	0.25*** (0.06)
Std. Fear								-0.49*** (0.07)	-0.49*** (0.07)
Std. Household Inc.								0.25** (0.11)	0.48*** (0.11)
Std. Household Inc. Sq.									-0.01*** (0.00)
Individual FE	X	X	X	X	X	X	X	X	X
Age FE	X	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X	X
Month FE	X	X	X	X	X	X	X	X	X
Controls	X	X	X	X	X	X	X	X	X
Observations	169,964	169,964	169,964	169,964	169,964	169,964	153,672	169,964	169,964
Individuals	34,176	34,176	34,176	34,176	34,176	34,176	26,030	34,176	34,176
R-squared	0.65	0.65	0.65	0.65	0.65	0.65	0.64	0.65	0.65

*Note:* The table shows the estimated relationships between the frequency of emotions felt and willingness to take risks using OLS. Standard errors (in parentheses) are based on clustering at the individual level. Happiness is an index of (happiness - sadness)/2+3. Happiness Item or Sadness Item refers to the use of just the happiness question or just the sadness question, respectively. Freq. Part. indicates individuals that participated 3 times or more often. Household Inc. refers to household income. Std. refers to each of the corresponding variables being standardized. Std. Household Inc. Sq. is the quadratic function of Std. Household Inc. Standardization refers to the standardization of the emotions and household income. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

# C Alternative Explanations

**Table C.1: Alternative Economic Explanations — General Economic Environment, the Business Cycle, and Health**

Dependent Variable	Willingness to Take Risks [0,100]								
	Crisis Years		Econ. Env.		Business Cycle			Health	
	No	Yes					Linear	Dummies	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Happiness	0.84*** (0.11)	0.84*** (0.19)	0.90*** (0.09)	0.96*** (0.10)	0.90*** (0.09)	0.89*** (0.09)	0.91*** (0.09)	0.78*** (0.09)	0.76*** (0.09)
Anger	0.27*** (0.08)	0.13 (0.14)	0.25*** (0.06)	0.27*** (0.07)	0.26*** (0.06)	0.25*** (0.06)	0.25*** (0.06)	0.29*** (0.06)	0.28*** (0.06)
Fear	-0.67*** (0.08)	-0.27* (0.14)	-0.51*** (0.07)	-0.52*** (0.08)	-0.51*** (0.07)	-0.50*** (0.07)	-0.50*** (0.07)	-0.45*** (0.07)	-0.43*** (0.07)
Econ. Policy Uncertainty			0.04 (0.14)						
ZEW Sentiment			-0.04 (0.04)						
Prev. Week Avg. Trading Volume in 1,000,000				0.03 (0.27)					
Prev. Day Trading Volume in 1,000,000				0.31* (0.16)					
Prev. Week Avg. Stock Market Return				0.12 (0.12)					
Prev. Day Stock Market Return				0.03 (0.05)					
Subjective Health								0.78*** (0.08)	
Individual FE	X	X	X	X	X	X	X	X	X
Age FE	X	X	X	X	X	X	X	X	X
Year FE	X	X	X	X				X	X
Month FE	X	X	X	X				X	X
Year × Month FE					X				
Year × Week FE						X			
Year × Month × State FE							X		
Health Dummies									X
Controls	X	X	X	X	X	X	X	X	X
Observations	117,849	52,115	169,964	138,859	169,964	169,960	169,964	169,818	169,818
Individual Clusters	30,072	19,411	34,176	33,414	34,176	34,176	34,176	34,176	34,176
R-squared	0.70	0.69	0.65	0.67	0.65	0.65	0.66	0.65	0.65

*Note:* The table shows the estimated relationships between the frequency of emotions felt and willingness to take risks using OLS. Standard errors (in parentheses) are based on clustering at the individual level. Crisis years are defined as the years from 2008–2010, referring to the financial crisis. Econ. Env. denotes the columns where I take into account variables capturing the economic environment, such as economic policy uncertainty. The monthly Economic Policy Uncertainty Index (Econ. Policy Uncertainty) for Germany is from Baker, Bloom and Davis (2016, 2018) and based on the frequency of mentions of economic policy uncertainty in newspaper articles. The ZEW Index for Economic Sentiment (ZEW Sentiment) is based on interviews about the situation of the German economy with economists and analysts. Stock market return and trade volume (in 1 mio.) stem from the DAX, the main German stock market index. Prev. is shorthand for previous. Subjective Health ranges from 1 (“Very Bad”) to 5 (“Very Good”). It is included linearly in column (8) and each realization as a dummy in column (9). \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table C.2: Alternative Economic Explanations — Background Risk**

Dependent Variable	Willingness to Take Risks [0,100]			
	Financ. Worries		Retirement Age	
	Yes	Yes	Yes	No
Avg.	46	48	40	47
	(1)	(2)	(3)	(4)
Happiness	0.89*** (0.09)	0.78*** (0.12)	0.90*** (0.19)	0.89*** (0.10)
Anger	0.26*** (0.06)	0.16** (0.08)	0.29** (0.14)	0.23*** (0.07)
Fear	-0.49*** (0.07)	-0.41*** (0.09)	-0.52*** (0.14)	-0.51*** (0.08)
Worried About Personal Financ. Sit.	-0.37*** (0.10)			
Worried About Job Security	-0.25** (0.13)			
Individual FE	X	X	X	X
Age FE	X	X	X	X
Year FE	X	X	X	X
Month FE	X	X	X	X
Controls	X	X	X	X
Observations	169,358	96,654	41,128	127,973
Individuals	34,100	21,692	7,867	27,590
<i>R</i> -squared	0.65	0.67	0.63	0.66

*Note:* The table shows the estimated relationships between the frequency of emotions felt and willingness to take risks using OLS. Standard errors (in parentheses) are based on clustering at the individual level. Financ. Worries refers to either including worries about the personal financial situation (Worried About Personal Financ. Sit.) or worries about job security (Worried About Job Security). Only a subset of individuals was asked about whether they worry about their job security. Worries about the financial situation or job security range from “Not Concerned at All” to “Very Concerned” on a scale from 1 to 3. Retirement Age Yes indicates individuals older than 64, No indicates individuals younger than 64. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



**Table C.3: Alternative Psychological Explanations**

Dependent Variable	Willingness to Take Risks [0,100]				
	(1)	(2)	(3)	(4)	(5)
Happiness	0.51*** (0.09)	0.50*** (0.09)	0.86*** (0.10)	0.84*** (0.10)	0.44*** (0.11)
Anger	0.33*** (0.06)	0.33*** (0.06)	0.24*** (0.07)	0.24*** (0.07)	0.32*** (0.07)
Fear	-0.41*** (0.07)	-0.40*** (0.07)	-0.61*** (0.08)	-0.61*** (0.08)	-0.50*** (0.08)
Life Satisfaction	0.69*** (0.04)				0.70*** (0.05)
Risktaking Lag			-0.10*** (0.00)		
Lagged Happiness				0.15 (0.10)	0.09 (0.10)
Lagged Anger				0.03 (0.07)	0.04 (0.07)
Lagged Fear				-0.13* (0.08)	-0.12 (0.08)
Individual FE	X	X	X	X	X
Age FE	X	X	X	X	X
Year FE	X	X	X	X	X
Month FE	X	X	X	X	X
L.-Sat. D.		X			
Controls	X	X	X	X	X
Observations	169,964	169,964	135,788	135,788	135,788
Individual Clusters	34,176	34,176	34,176	34,176	34,176
R-squared	0.65	0.65	0.69	0.69	0.69

*Note:* The table shows the estimated relationships between the frequency of emotions felt and willingness to take risks using OLS. Standard errors (in parentheses) are based on clustering at the individual level. Lagged refers to the observation of an individual in the last survey wave he or she answered before the current survey. L.-Sat. D. indicate that I account for dummies of all realizations of life satisfaction. Date FE are fixed effects for each date a survey was taken. There are some missing values for the day of the interview. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## D Event Study: Death of a Parent or Child

**Table D.1: Death of a Parent or Child — First Stage**

Dependent Variable	Positive Emotions		Happiness	Anger	Fear
	(1)	(2)	(3)	(4)	(5)
Death of a Parent or Child	-0.52*** (-8.61)	-0.52*** (-8.63)	-0.22*** (-9.58)	-0.05 (-1.56)	0.08*** (2.92)
After Death	-0.08 (-1.06)	-0.08 (-1.04)	-0.05 (-1.56)	0.05 (1.35)	-0.01 (-0.22)
Individual FE	X	X	X	X	X
Age FE	X	X	X	X	X
Year FE	X	X	X	X	X
Month FE	X	X	X	X	X
Income & Wealth Controls		X			
Observations	8,250	8,241	8,250	8,250	8,250
Individuals	1,118	1,118	1,118	1,118	1,118
<i>R</i> -squared	0.61	0.61	0.57	0.49	0.55

*Note:* The table shows the estimated relationships between the death of a parent or child and the frequency of emotions felt. Standard errors (in parentheses) are based on clustering at the individual level. After Death is an indicator variable that is 1 from the survey wave at bereavement onward. Income & Wealth Controls contain household income, household income squared, and income from assets (rent income, an indicator for missing rent income, ln dividend income, and ln of losses at capital markets). There are 9 missing values for returns from assets (Ln Capital Inv. Loss and Ln Dividend Income). \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table D.2: Death of a Parent or Child — Monotonicity**

Dependent Variable	Positive Emotions												Anger												
	Older	Younger	High Inc.	Low Inc.	Employed	Unempl.	Older	Younger	High Inc.	Low Inc.	Employed	Unempl.	Older	Younger	High Inc.	Low Inc.	Employed	Unempl.							
Avg.	-1.2	-0.9	-0.8	-1.7	-0.9	-1.5	2.8	3.1	2.8	2.9	2.9	2.8	2.9	2.9	2.9	2.9	2.9	2.8							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(1)	(2)	(3)	(4)	(5)	(6)							
Death of a Parent or Child	-0.45***	-0.65***	-0.51***	-0.44***	-0.51***	-0.43***	-0.03	-0.09	-0.04	-0.07	-0.02	-0.12**	(-6.71)	(-4.80)	(-7.24)	(-3.55)	(-7.26)	(-3.51)	(-1.03)	(-1.38)	(-1.09)	(-1.32)	(-0.61)	(-2.10)	
After Death	-0.06	-0.25	-0.10	-0.12	-0.03	-0.33**	0.03	0.11	0.05	-0.01	0.04	0.07	(-0.70)	(-1.48)	(-1.11)	(-0.68)	(-0.36)	(-2.01)	(0.70)	(1.53)	(1.22)	(-0.09)	(1.00)	(0.92)	
Individual FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Age FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Month FE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Observations	6,195	2,055	5,535	2,715	5,712	2,538	6,195	2,055	5,535	2,715	5,712	2,538	6,195	2,055	5,535	2,715	5,712	2,538	6,195	2,055	5,535	2,715	5,712	2,538	6,195
Individuals	919	414	916	576	904	504	919	414	916	576	904	504	919	414	916	576	904	504	919	414	916	576	904	504	919
R-squared	0.63	0.58	0.62	0.64	0.62	0.65	0.50	0.49	0.52	0.52	0.49	0.57	0.63	0.58	0.62	0.64	0.62	0.65	0.50	0.49	0.52	0.52	0.49	0.57	0.63

*Note:* The table shows the estimated relationships between the death of a parent or child and the frequency of emotions felt. Standard errors (in parentheses) are based on clustering at the individual level. After Death is an indicator variable that is 1 from the survey wave at bereavement onward. High Inc. refers to above median income of €2,100 of the full SOEP sample. Un. refers to more than vocational education. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table D.3: Death of a Parent or Child — Event Study Specifications**

Dependent Variable	Willingness to Take Risks [0,100]			
	Reduced Form		IV	
	(1)	(2)	(3)	(4)
Death of a Parent or Child	-1.16** (0.49)	-1.15** (0.48)		
Positive Emotions			2.26** (0.98)	2.05** (0.86)
Ind. 2 Waves Before – 2 W. After	0.02 (0.44)		0.31 (0.49)	
Individual FE	X	X	X	X
Age FE	X	X	X	X
Year FE	X	X	X	X
Month FE	X	X	X	X
Observations	8,250	8,250	8,250	8,250
Individuals	1,118	1,118	1,118	1,118
<i>R</i> -squared	0.62	0.62	–	–

*Note:* The table shows the estimated relationship between the frequency of emotions felt and willingness to take risks using OLS or IV as indicated. Standard errors (in parentheses) are based on clustering at the individual level. Ind. 2 Waves Before to – 2 W. After is an indicator variable that is one for all surveys ranging from 2 survey waves before death up to and including the third survey wave after death (that is, it is one for distance –2 to +2 in survey waves). \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table D.4: Death of a Parent or Child — Index Specifications

Dependent Variable	Willingness to Take Risks [0,100]										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Happiness	6.34**										
	(2.70)										
Happiness Standardized		3.12**									
		(1.33)									
Positive Emotions Z-Value Weights			7.44**								
			(3.16)								
Good Mood Principal Component				5.27**							
				(2.30)							
Risky Emotions					2.46**						
					(1.04)						
Risky Emotions Without Fear						2.87**					
						(1.21)					
Risky Emotions, Equal Weights							4.03**				
							(1.70)				
Risk Emotions, Equal Weights Std.								3.99**			
								(1.69)			
Risky Emotions Z-Value Weights									8.12**		
									(3.43)		
Happiness Item										19.02*	
										(10.25)	
Sadness Item											-3.81**
											(1.60)
After Death	0.84	0.85	0.79	0.90	0.63	0.67	0.51	0.50	0.74	1.28	0.75
	(0.80)	(0.81)	(0.79)	(0.85)	(0.74)	(0.75)	(0.72)	(0.72)	(0.77)	(1.16)	(0.78)
Individual FE	X	X	X	X	X	X	X	X	X	X	X
Age FE	X	X	X	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X	X	X	X
Month FE	X	X	X	X	X	X	X	X	X	X	X
Observations	8,250	8,250	8,250	8,250	8,250	8,250	8,250	8,250	8,250	8,250	8,250
Individuals	1,118	1,118	1,118	1,118	1,118	1,118	1,118	1,118	1,118	1,118	1,118

*Note:* The table shows the estimated relationship between the frequency of emotions felt and willingness to take risks using IV. Standard errors (in parentheses) are based on clustering at the individual level. The differences in coefficient sizes come from differences in scaling and variation in the first stage strength.

Happiness is an index of  $(\text{happiness} - \text{sadness})/2 + 3$ . Happiness Item or Sadness Item refers to the use of just the happiness question or just the sadness question, respectively. Happiness Standardized refers to the sum of Happiness Item standardized and Sadness Item standardized. Positive Emotions Z-Value Weights are a combination of happiness and fear weighted by their first stage z-values. Good Mood Principal Component is the first principal component of happiness, sadness, anger, and fear. It captures 50% of the variation in emotion and based on the factor loadings captures the positive/negative mood dimension to emotions (factor loadings: happiness item 0.41, sadness item -0.57, anger -0.47, fear -0.53). Risky Emotions refers to an index of  $\text{happiness} \times 2 - \text{fear} + \text{anger}$ . Risky Emotions Without Fear refer to the same index, but excluding Fear. Risky Emotions, Equal Weights is an index that gives all emotions equal weight in the following form:  $\text{happiness} - \text{fear} + \text{anger}$ . Risky Emotions Equal Weights Std. is an index that gives all emotions equal weight but each emotion item is standardized before aggregation. Risky Emotions Z-Value Weights is an index that weights each emotion according to their first stage z-value. Note that the first stage for happiness item is weaker than for the sadness item which inflates the corresponding coefficient value for the happiness item on the second stage in column 10 (the first stage for only the happiness item is  $-0.07$ ,  $se=0.02$ , and  $0.37$ ,  $se=0.03$ , for only the sadness item). After Death is an indicator variable that is 1 from the survey wave at bereavement onward.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table D.5: Death of a Parent or Child — Exclusion Restriction I**

Dependent Variable	Net. Househ. Income	Ln Dividend Income	Ln Loss Capital Inv.	Married	Unemployed	Income from Rent	Real Estate Value	Worried Financial Sit.	Job Security	Life Satisfaction
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Avg.	3.03	4.5	.14	.61	.41	.13	53.97	.84	.54	7.15
Death of Parent or Child	-0.011 (0.025)	0.013 (0.059)	0.041 (0.027)	0.007 (0.006)	-0.002 (0.010)	-0.004 (0.006)	0.047 (0.189)	0.026 (0.017)	0.008 (0.022)	-0.068 (0.046)
After Death	-0.012 (0.038)	-0.002 (0.073)	-0.080** (0.039)	-0.016 (0.010)	0.016 (0.013)	-0.003 (0.009)	-0.481 (0.329)	-0.002 (0.021)	-0.002 (0.028)	-0.120** (0.057)
Individual FE	X	X	X	X	X	X	X	X	X	X
Age FE	X	X	X	X	X	X	X	X	X	X
Year FE	X	X	X	X	X	X	X	X	X	X
Month FE	X	X	X	X	X	X	X	X	X	X
Observations	8,250	8,250	8,250	8,250	8,250	8,241	8,020	8,228	5,598	8,250
Individuals	1,118	1,118	1,118	1,118	1,118	1,118	1,064	1,118	917	1,118
R-squared	0.88	0.70	0.29	0.90	0.79	0.81	0.99	0.63	0.60	0.61

*Note:* The table shows the relation between the death of a parent or child and an array of outcome variables. Standard errors (in parentheses) are based on clustering at the individual level. After Death is an indicator variable that is 1 from the survey wave at bereavement onward. Household income (Net. Househ. Income) is denoted in €1,000. The rent income indicator is 1 if the individual indicated income from renting out apartments or houses (this information is not available for all individuals). Real estate value denotes the interaction between real estate prices and home ownership in 2007 or 2002 if missing in 2007. Only a subset of individuals was asked about whether they worry about their job security. Worries about the financial situation (Worried Financial Sit.) or job security (Job Security) range from “not concerned at all” to “very concerned” on a scale from 1 to 3.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table D.6: Death of a Parent or Child — Exclusion Restriction II**

Dependent Variable	Positive Emotions Predicted Based On FE and:			
	Income Employed Married	+ Assets	+ Financial Worries	+ Life Sat.
	(1)	(2)	(3)	(4)
Death of a Parent or Child	0.00 (0.00)	0.00 (0.00)	-0.01 (0.01)	-0.02 (0.03)
After Death	-0.00* (0.00)	-0.01* (0.00)	-0.00 (0.01)	-0.04 (0.03)
Individual FE	X	X	X	X
Age FE	X	X	X	X
Year FE	X	X	X	X
Month FE	X	X	X	X
Observations	8,250	8,012	5,413	5,413
Individuals	1,118	1,064	872	872
<i>R</i> -squared	0.87	0.96	0.74	0.71

*Note:* The table shows the estimated relationship between the frequency of positive emotions felt as predicted based on the covariates indicated in the column headings and the death of a parent or a child. After Death is an indicator variable that is 1 from the survey wave at bereavement onward. Standard errors (in parentheses) are based on clustering at the individual level. The predicted positive emotions which are the dependent variables are predicted bases on the following covariates: Column (1) uses predicted positive emotions based on household income (linear and squared), an unemployment dummy, and a dummy including marriage which are the standard controls I use. Column (2) additionally includes ln dividend income, ln of losses at capital markets, rent income, and real estate value in the prediction of positive emotions. Column (3) additionally includes worries about the personal financial situation and about job security. Column (4) additionally includes life satisfaction. All columns use individual, age, year, and month fixed effects for prediction.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table D.7: Death of a Parent or Child — Exclusion Restriction III**

Dependent Variable	Willingness to Take Risks [0,100]			
	Young Dropped	Life Changing Dropped	Employm. Change Dropped	Unhealthy Dropped
Avg.	44	45	45	45
	(1)	(2)	(3)	(4)
Positive Emotions	3.27** (1.47)	3.48*** (1.28)	3.76* (2.13)	3.10** (1.43)
After Death	1.30 (0.91)	1.24 (0.85)	0.49 (1.17)	1.14 (1.20)
Individual FE	X	X	X	X
Age FE	X	X	X	X
Year FE	X	X	X	X
Month FE	X	X	X	X
Observations	6,195	7,798	3,783	4,573
Individuals	919	1,057	546	620

*Note:* The table shows the estimated relationship between the frequency of positive emotions felt and willingness to take risks using IV. Standard errors (in parentheses) are based on clustering at the individual level. I drop individuals younger than 45 (1), who stated their life changed completely because of death (2), individuals that switched the employment status any time during the sample period (3), and all individuals which experience at least one death where I know that the dead were either “less than satisfactorily” healthy 3 months before they died or in need of care (according to the interviewed relative) in column (4). Information on (2) and (4) are only available from 2009 onward and contain a lot of missing values. I only drop the individuals where I know that life changed or which indicated that the person who died was unhealth. Therefore, I leave all individuals from 2008 in the sample. After Death is an indicator variable that is 1 from the survey wave at bereavement onward. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



**Table D.8: Death of a Loved One or a Colleague and Choice Under Risk**

Dependent Variable	Reduced Form		First Stage		IV	
	Risktaking [0,1], Avg. 0.67		Mood [1–7], Avg. 5.7		Risktaking	
	(1)	(2)	(3)	(4)	(5)	(6)
Death of a Close Person	-0.10*** (0.03)	-0.09*** (0.03)	-0.29** (0.12)	-0.28** (0.12)		
Good Mood					0.31* (0.18)	0.32* (0.18)
Age FE	X	X	X	X	X	X
Controls		X		X		X
Observations	1,951	1,951	1,951	1,951	1,951	1,951
<i>R</i> -squared	0.05	0.11	0.04	0.08	–	–

*Note:* The table shows the estimated relationship between mood and risky choice using IV. Standard errors (in parentheses) are robust to heteroscedasticity. The data stem from the Dutch LISS panel and corresponding surveys documented in (Drerup, Enke and von Gaudecker, 2017; Bosmans et al., 2017) and on the LISS website. Individuals had the choice to divide Euro 100 between three options: index fund, specific stock, or savings account. I use the share invested in the first two as the dependent variable. Researchers who conducted the experiment later on invested 100 Euros in the way subjects allocated the funds for 1 of 10 subjects. Death refers to a variable which is 1 if the individual had experienced the death of a loved one or a colleague within at most the last 12 months and stated that the event affected them “A Lot” or “Extremely Much” as opposed to “A Fair Amount”, “A Lot” or “Not at All”. Otherwise it takes value 0, as long as the individual gave a response to the question. Out of the 1,951 individuals for which I have data on mood, risktaking, and the shock, 111 individuals experienced a severe shock. Good Mood refers to a question about how an individual feels at the moment where they can answer from 1, “Very Bad” to 7, “Very Good”. I include age fixed effects, as well as controls for gender, net household income, net household income squared, an indicator for whether the individual is married, and dummies indicating employment status as indicated. The OLS estimates show positive, but imprecisely estimated relationships between mood and choosing the risky option ( $\beta = 0.005$ ,  $se = 0.007$ ). One reason for the imprecision could be that mood and choice were measured relatively far apart temporally. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## E Mechanisms

Table E.1: Expectations, Impulsiveness, and Perceived Control

Dependent Variable	Riskt.			High Control	
		Impulsive			
		No	Yes		
Avg.	43	37	47	4.3	
	(1)	(2)	(3)	(4)	(5)
Happiness	0.53*** (0.16)	1.05*** (0.18)	0.77*** (0.13)	0.22*** (0.02)	0.22*** (0.02)
Anger	0.35*** (0.11)	0.03 (0.13)	0.30*** (0.09)	-0.03** (0.02)	-0.03** (0.02)
Fear	-0.20 (0.12)	-0.51*** (0.14)	-0.45*** (0.10)	-0.14*** (0.02)	-0.14*** (0.02)
Expected Life Satisfaction in 5 Years	0.57*** (0.07)				
Individual FE	X	X	X	X	X
Age FE	X	X	X	X	X
Year FE	X	X	X	X	X
Month FE	X	X	X	X	X
Controls	X	X	X		X
Observations	68,033	40,194	71,045	18,994	18,994
Individuals	25,513	6,010	10,686	9,497	9,497
R-squared	0.70	0.59	0.60	0.70	0.70

*Note:* All specifications shown use OLS. Standard errors (in parentheses) are based on clustering at the individual level. Riskt. denotes risk attitudes / willingness to take risks. Impulsive–No refers to below median self-assessed general impulsiveness (scale from 0, “Not at All Impulsive” to 10 “Very Impulsive” – the median is 5). The data on impulsiveness is available for 2008 and 2013, the sample split is done based on answers to the 2008 question. High control refers to the individuals feeling in control over their lives. The corresponding question on whether individuals feel in control of their lives was asked in 2010 and 2015. The responses were recorded on a scale from 1 “Does Not Apply” to 7 “Fully Applies”. I inverted the scale, meaning that 7 is highest perceived control and 1 lowest perceived control. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## F Data Sources

- German Socio-Economic Panel:  
<https://www.diw.de/de/soep>
- vdp-Immobilienpreisindex:  
[https://www.pfandbrief.de/site/de/vdp/statistik/statistik/statistik\\_uebersicht.html](https://www.pfandbrief.de/site/de/vdp/statistik/statistik/statistik_uebersicht.html)
- Economic Policy Uncertainty:  
[http://www.policyuncertainty.com/europe\\_monthly.html](http://www.policyuncertainty.com/europe_monthly.html)
- ZEW Sentiment:  
<https://www.zew.de/en/publikationen/zew-gutachten-und-forschungsberichte/forschungsberichte/konjunktur/zew-finanzmarktreport/>
- Dax Trading Volume and Returns:  
<https://finance.yahoo.com/quote/%5EGDAXI/history/?guccounter=1>
- LISS Panel (Longitudinal Internet Studies for the Social sciences):  
<https://www.lisdata.nl/about-panel>