Browsing Facebook: Envy, Happiness, and Tie Strength?

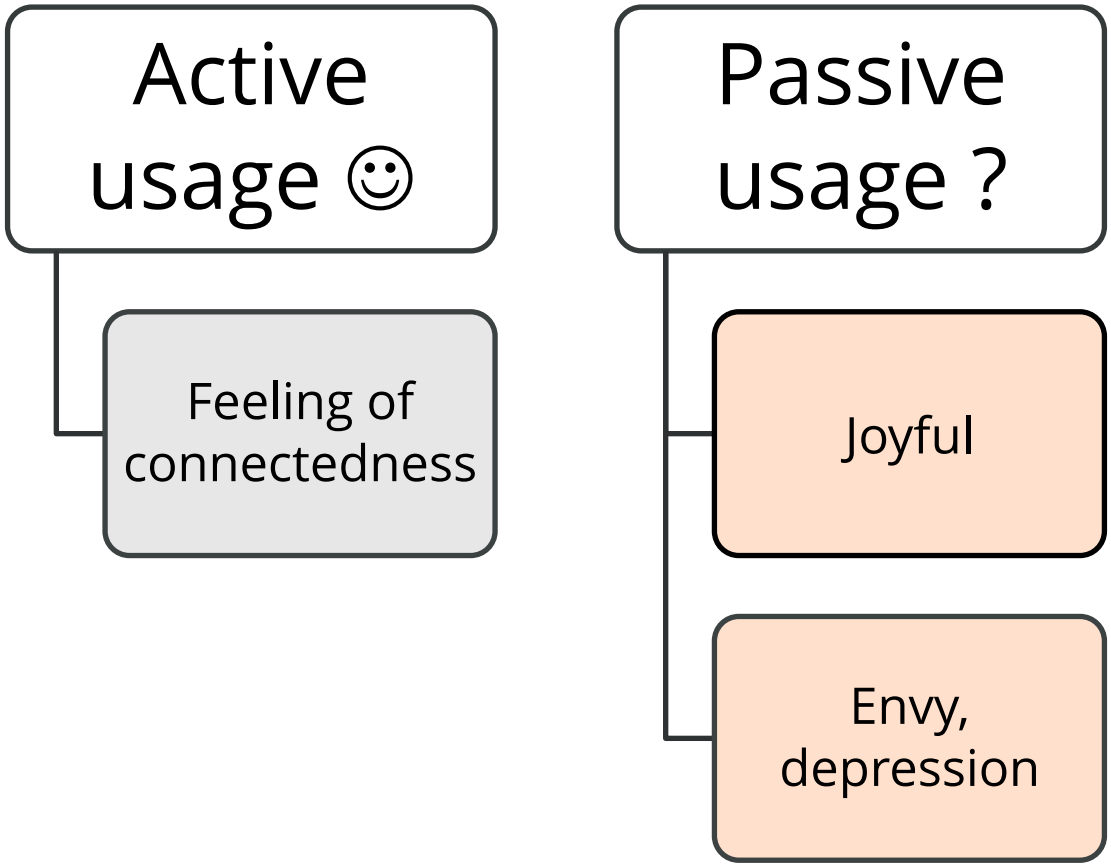
Ruoyun Lin
Sonja Utz
Leibniz Institut für Wissensmedien

Twitters: @ReDefTie @RuoyunLin
Email: r.lin@iwm-tuebingen.de

European Research Council
Established by the European Commission
Supporting top researchers from anywhere in the world

ReDefTie

PSYCHOLOGICAL EFFECTS OF SOCIAL MEDIA USAGE



EMOTIONAL RESPONSES: ON A MESSAGE LEVEL?

Happiness vs. Envy?

Tie strength?

(Granovetter, 1973)

- Strong tie (best friend)
- Weak tie (acquaintance)

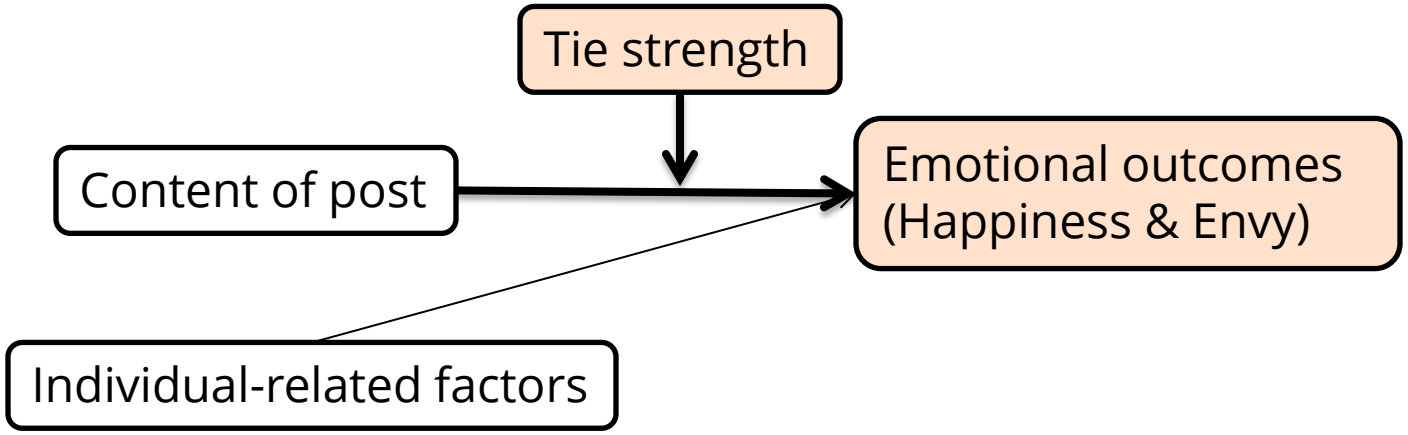
RESEARCH QUESTIONS

RQ1: What are the most prevalent *momentary* emotional outcomes after reading a post on Facebook?

RESEARCH QUESTIONS

RQ1: What are the most prevalent *momentary* emotional outcomes after reading a post on Facebook?

RQ2: Does tie strength between the poster and reader moderate the emotions (happiness and envy)?



THEORETICAL BACKGROUND

RQ2: Does tie strength between the poster and reader moderate the emotions (happiness and envy)?

Happiness is contagious!

Emotional Contagion

(Hatfield et al. 1993; Kramer, 2012)

Empathy is more pronounced when relationship is closer

Perception-Action Model

(Norscia & Palagi, 2011)

Stronger tie→ intensified emotions

THEORETICAL BACKGROUND

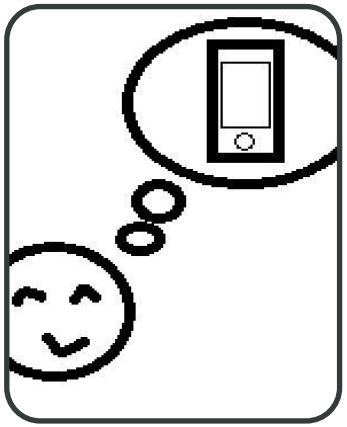
RQ2: Does tie strength between the poster and reader moderate the emotions (happiness and envy)?

- **Upward Social comparison** (Festinger, 1954)
- Preconditions (Smith,2004; Tesser, 1984)
  - Self-relevance
  - Perceived similarity
- **Benign envy**: moving up motivation
- **Malicious envy**: pulling down

OVERVIEW OF TWO STUDIES

Correlational Study 1: Report posts and feelings

- IVs: Tie Strength & Content Valence
- DVs: Happiness & Envy (General)



Experimental Study 2: Mocked up scenarios

- IVs: Tie Strength (Manipulated)
- DVs: Happiness & Benign/Malicious Envy

DESIGN & PROCEDURE OF STUDY 1

Correlational Study 1: Report posts and feelings

- IVs: Tie Strength & Content Valence
- DVs: Happiness & Envy (General)

Mood

Report post X 4

- Emotional responses
- Positivity of content
- Tie strength

Facebook usage and Personality

Sample: 207 American respondents; 598 posts from FB friends

RESULTS OF STUDY 1

RQ1: What are the most prevalent *momentary* emotional outcomes after reading a post on Facebook?

Connected	66.4%	**Envious**	12.4%
Happy	64.2%	Jealous	11.0%
Informed	63.7%	Annoyed	10.0%
Entertained	53.7%	Frustrated	9.7%

RESULTS OF STUDY 1

RQ2: Does tie strength between the poster and reader moderate the emotions (happiness and envy)?

H1:

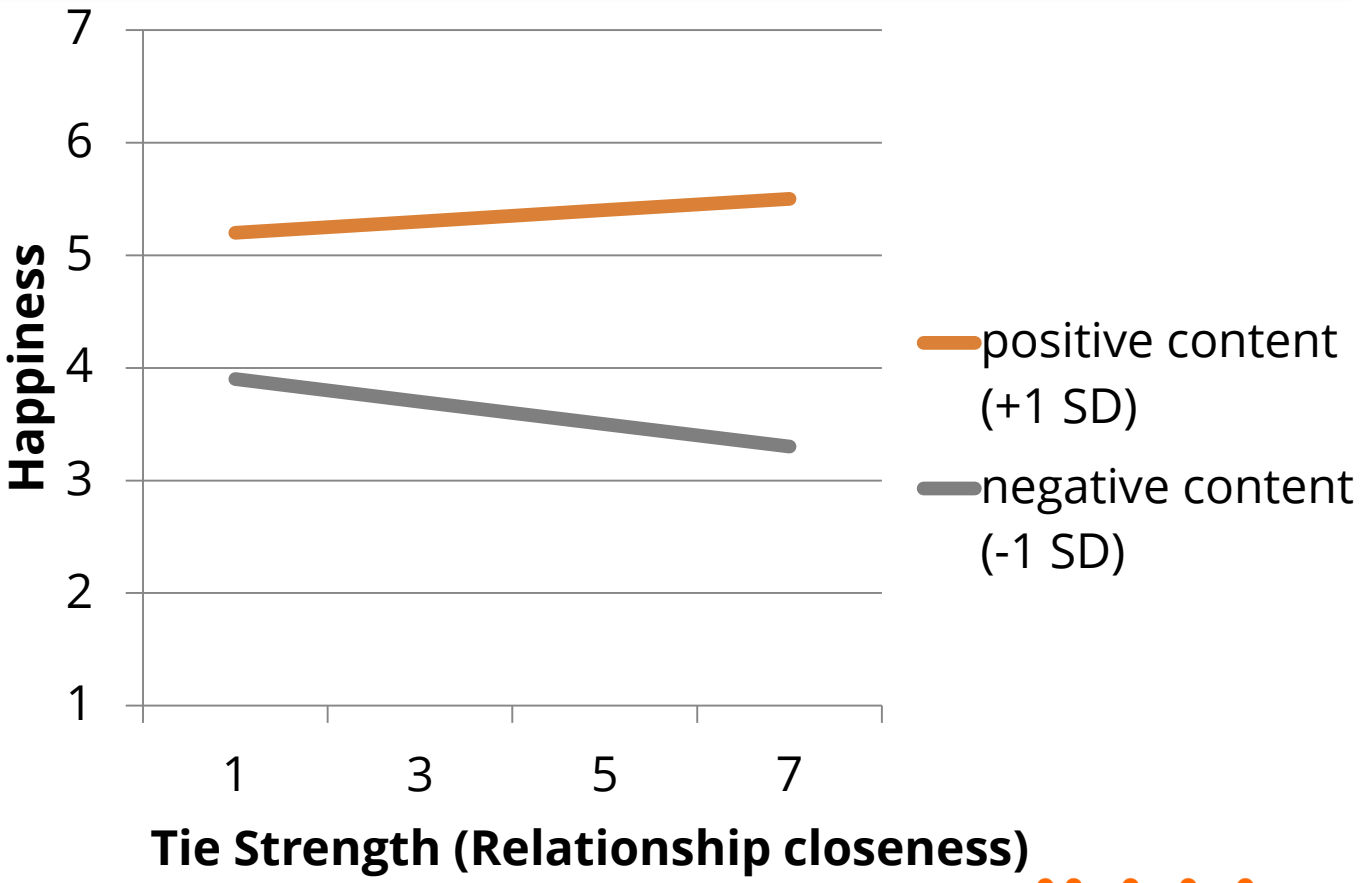
The stronger the tie strength,

→happier after reading a **positive** post

→ less happy after reading a **negative** post

RESULTS OF STUDY 1

RQ2: Does tie strength between the poster and reader moderate the emotions (happiness and envy)?



RESULTS OF STUDY 1

RQ2: Does tie strength between the poster and reader moderate the emotions (happiness and envy)?

Multi-level linear regressions for ENVY:

- **No effect of tie strength**
- **Positive content** is a significant predictor of envy
- People with higher **self-esteem** are less likely to report envy

SUMMARY & LIMITATIONS OF STUDY 1

- **Positive emotions are more prevalent than negative emotions.**

- **The stronger the tie strength, the stronger the effect of emotional contagion.**

→ Mock up posts, manipulate tie strength

- **No effect of tie strength in predicting envy.**

→ Further differientiate **benign** and **malicious** envy, and take self-relevance of the compared domain into control

DESIGN & PROCEDURE OF STUDY 2

Report 3 FB friends

- Strong tie
- Mid tie
- Weak tie

Vacation Scenario

- Emotions: Happiness; Benign envy; Malicious envy
- Self-relevance

iPhone 6 Scenario

- Emotions: Happiness; Benign envy; Malicious envy
- Self-relevance

Measure relationship closeness

Measure personality

Sample: 194 German Participants

ReDefTie

Leibniz-Institut für Wissensmedien

HYPOTHESES OF STUDY 2

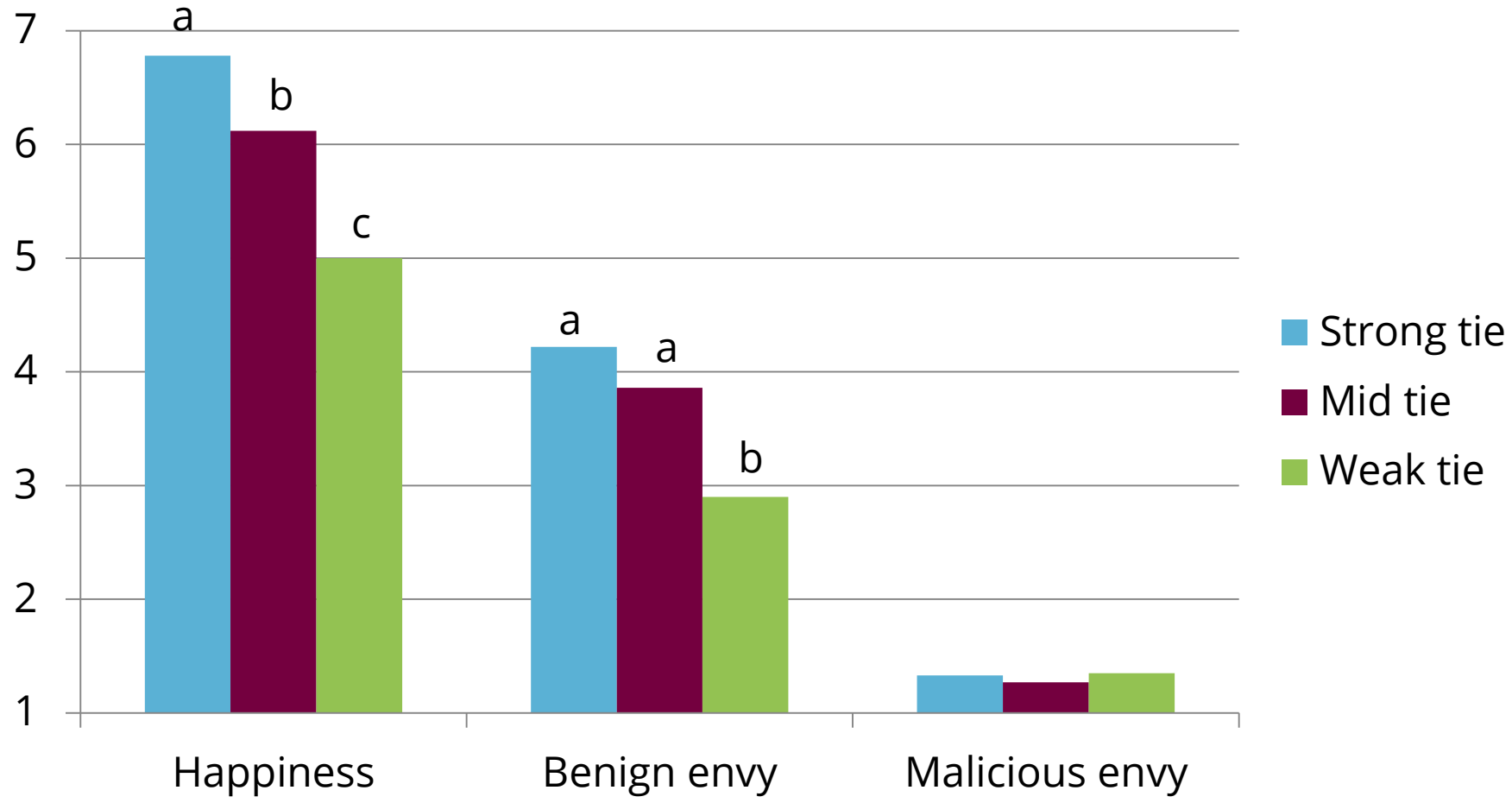
H2: stronger tie → **more happiness**

Benign envy: moving up motivation
Malicious envy: pulling down

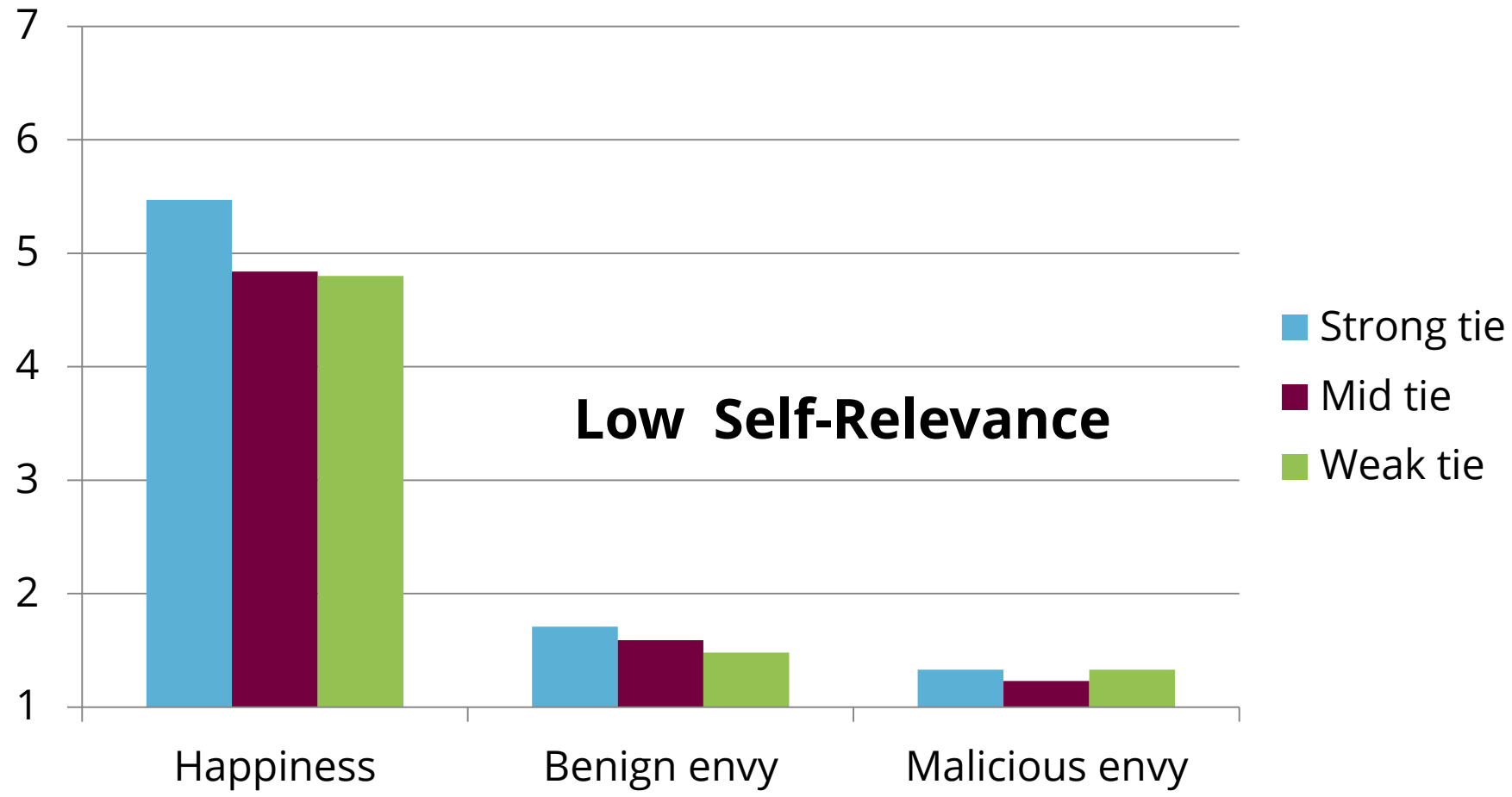
H3: stronger tie → **more benign envy**

H4: stronger tie → **less malicious envy**

RESULTS OF STUDY 2 (vacation scenario)



RESULTS OF STUDY 2 (iPhone6 scenario)



LINEAR REGRESSIONS FOR ENVY

	Benign envy		Malicious envy	
	Vacation	iPhone	Vacation	iPhone
Relationship closeness	**0.013*** **	**0.005** **	-0.001	-0.001
Dispositional envy	**0.209***	**0.167** **	**0.251*** **	**0.158** **
Self-relevance	**0.294*** **	**0.187*** **	0.020	0.049
Perceived control	-0.081***	-0.010	-0.023†	-0.023†
Age	-0.004	0.025**	-0.010†	-0.005
Male	-0.256	0.126	0.297	0.014
Constant	0.559	0.133	0.761**	0.955***
R2	0.49	0.23	0.23	0.11
N	143	143	143	143

Summary

- Multi-method approach
- Positive emotions are more prevalent than negative emotions.
- Tie strength moderates happiness and benign envy
- But not for envy and malicious envy (personality)

Thanks for your attention!

Twitters: @ReDefTie @RuoyunLin
Email: r.lin@iwm-tuebingen.de

Backup slides

Correlation Statistics in Study 1

Correlation Statistics in Study 1

Pearson's Corelations	1	2	3	4	5
1. Happiness (DV)	1.00				
2. Envy (DV)	0.12**	1.00			
3. Positive content	0.70***	0.10*	1.00		
4. Relationship	0.30***	-0.03	0.16***	1.00	
5. Mood	0.27***	-0.20***	0.13**	0.15**	1.00
6. Self-esteem	0.16***	-0.20***	0.11*	0.11*	0.46***

*$p<0.05$; **$p<0.01$; ***$p<0.001$

Results of Exploratory Study 1: Multi-Level Linear Regression

Results of the Random-Effects Multi-Level Linear Models Tested in Study 1 (Unstandardized Coefficient Followed by z Values Based on Robust Standard Errors)

	Happiness	Envy
Positive content	0.625	0.161
	(16.30)***	(4.00)***
Relationship closeness	0.095	-0.031
	(2.89)**	(0.68)
Positive content X Relationship closeness	0.078	0.016
	(2.22)*	(0.48)
Mood	0.178	-0.028
	(3.46)**	(0.39)
Self-esteem	0.045	-0.258
	(1.08)	(3.84)***
Constant	-0.018	0.010
	(0.47)	(0.17)
N	587	574

*$p<0.05$; **$p<0.01$; ***$p<0.001$

Note. Random effects models were preferred based on the results of Hausman tests. All variables were standardized before putting into the models.

Descriptive results for Study 2

Descriptive Statistics in Study 2

Variables	Scenario	n	Mean	SD	Min	Max
Happiness	Vacation	147	5.93	1.41	1.00	7.00
	iPhone	147	5.05	1.78	1.00	7.00
Envy	Vacation	147	3.11	1.87	1.00	7.00
	iPhone	147	1.70	1.35	1.00	7.00
Benign Envy	Vacation	147	3.64	1.58	1.00	7.00
	iPhone	147	1.60	0.82	1.00	4.67
Malicious Envy	Vacation	147	1.32	0.62	1.00	5.00
	iPhone	147	1.29	0.66	1.00	4.67
Relationship	Vacation	147	47.90	36.41	0.00	100.00
	iPhone	147	52.23	37.14	0.00	100.00
Self-relevance	Vacation	147	5.43	2.82	0.00	10.00
	iPhone	147	0.70	1.56	0.00	8.00
Perceived control	Vacation	147	2.95	2.90	0.00	10.00
	iPhone	147	4.14	3.60	0.00	10.00
Mood		146	6.99	1.85	1.00	10.00
Dispositional envy		147	2.13	0.98	1.00	6.00
Dispositional happiness		147	4.56	1.17	1.00	7.00
Age		143	24.86	6.29	18.80	65.10
Male		147	0.15	0.36	0.00	1.00

Between-Group Comaprisons: ANOVAs

Descriptive Results of the Dependent Variables by Group (Mean Values Followed by Standard Deviation) in Study 2

	Scenario	Strong tie group	Mid tie group	Weak tie group	F (2,144)
Happiness	Vacation	6.78_a (0.51)	6.12_b (1.11)	5.00_c (1.66)	27.36***
	iPhone	5.47 (1.75)	4.84 (1.91)	4.80 (1.61)	2.25
Envy	Vacation	3.57 (1.81)	3.04 (1.84)	2.77 (1.91)	2.30
	iPhone	1.72 (1.39)	1.47 (1.14)	1.93 (1.50)	1.43
Benign	Vacation	4.22_a (1.33)	3.86_a (1.59)	2.90_b (1.51)	10.52***
Envy	iPhone	1.71 (0.97)	1.59 (0.73)	1.48 (0.73)	0.90
Malicious	Vacation	1.33 (0.62)	1.27 (0.45)	1.35 (0.75)	0.23
Envy	iPhone	1.33 (0.66)	1.23 (0.58)	1.33 (0.74)	0.39

**$p<0.01$; ***$p<0.001$

Linear Regressions for Happiness

Results of the Regression Models on Happiness Tested in Study 2 (Unstandardized Coefficient Followed by T Values Based on Robust Standard Error)

	Happiness (vacation)	Happiness (iPhone)
Relationship	0.022	0.013
	(7.52)***	(3.27)**
Mood	0.080	0.135
	(1.26)	(1.55)
Age	0.039	0.042
	(4.25)***	(2.28)*
Male	-0.208	-0.123
	(1.17)	(0.25)
Dispositional Happiness	0.058	0.150
	(0.66)	(1.09)
Constant	3.126	1.735
	(6.25)***	(2.41)*
R^2	0.38	0.15
N	142	142

*$p<0.05$; **$p<0.01$; ***$p<0.001$

Linear Regressions for Envy

Results of the Regression Models on Envy Tested in in Study 2 (Unstandardized Coefficient Followed by T Values Based on Robust Standard Error)

	Envy		Benign Envy		Malicious Envy	
	Vacation	iPhone	Vacation	iPhone	Vacation	iPhone
Relationship	0.007 (1.80)†	0.001 (0.49)	0.013 (5.17)***	0.005 (2.90)**	-0.001 (0.49)	-0.001 (0.54)
Dispositional Envy	0.633 (5.37)**	0.320 (2.68)**	0.209 (2.19)*	0.167 (2.76)**	0.251 (4.22)***	0.158 (2.64)**
Self-relevance	0.243 (4.78)***	0.343 (4.19)***	0.294 (7.95)***	0.187 (4.70)***	0.020 (1.26)	0.049 (0.92)
Perceived control	-0.112 (2.53)*	-0.059 (2.48)*	-0.081 (2.31)*	-0.010 (0.63)	-0.023 (1.78)†	-0.023 (1.74)†
Age	-0.052 (4.19)***	0.003 (0.30)	-0.004 (0.33)	0.025 (3.19)**	-0.010 (1.82)†	-0.005 (0.72)
Male	-0.091 (0.24)	-0.105 (0.44)	-0.256 (0.80)	0.126 (0.69)	0.297 (1.34)	0.014 (0.08)
Constant	0.615 (1.21)	0.304 (0.71)	0.559 (1.35)	0.133 (0.43)	0.761 (3.53)**	0.955 (3.73)***
R^2	0.38	0.26	0.49	0.23	0.23	0.11
N	143	143	143	143	143	143

†$p < 0.1$; *$p<0.05$; **$p<0.01$; ***$p<0.001$

Benign envy (vacation scenario)

Wie würdest du deine Gefühle **nach dem Lesen des Posts** beschreiben?

	überhaupt nicht						sogar sehr
	1	2	3	4	5	6	7
Ich beneide ${q://QID26/ChoiceTextEntryValue} um den Urlaub.	○	○	○	○	○	○	○
Ich bewundere ${q://QID26/ChoiceTextEntryValue}.	○	○	○	○	○	○	○
Ich will mich mehr darum bemühen, auch einen solchen Urlaub zu machen.	○	○	○	○	○	○	○

- I felt benign envy towards XX
- I admire XX
- I wanted to try harder to have such a vacation as well

Alpha: 0.74

Malicious envy (vacation scenario)

Wie würdest du deine Gefühle **nach dem Lesen des Posts** beschreiben?

	überhaupt nicht						sogar sehr
	1	2	3	4	5	6	7
Ich missgönne ${q://QID26/ChoiceTextEntryValue} den Urlaub.	○	○	○	○	○	○	○
Ich habe negative Gedanken gegenüber ${q://QID26/ChoiceTextEntryValue}.	○	○	○	○	○	○	○
Es ist unfair, dass ${q://QID26/ChoiceTextEntryValue} einen solchen Urlaub machen kann, aber ich nicht.	○	○	○	○	○	○	○

- I felt malicious envy towards XX
- I had negative thoughts about XX
- It is unfair that XX can go on such a vacation

Alpha: 0.84

Manipulations: tie strength

Schreibe dir bitte den Vornamen oder den Spitznamen von einem deiner Facebook-Freunde auf, der mit folgenden Kriterien entsprechend der vorherigen Illustration übereinstimmt, damit wir im Folgenden auf ihn oder sie Bezug nehmen können.

Es ist sehr wichtig, dass du nicht jemanden aussuchst, mit dem du zusammenlebst oder eine Liebesbeziehung führst.

Bitte schreibe den Vornamen von einem deiner **engen Freunde** auf Facebook auf (oder einen Spitznamen).

Bitte schreibe den Vornamen von einem deiner **gewöhnlichen Facebook-Freunde** auf (oder einen Spitznamen).

Bitte schreibe den Vornamen von einer deiner **losen Bekanntschaften** auf Facebook auf (oder einen Spitznamen).

Manipulation check & relationship closeness

Zu Beginn des Experiments hast du drei deiner Facebook-Freunde/Bekanntschaften genannt: ${q://QID26/ChoiceTextEntryValue}, ${q://QID27/ChoiceTextEntryValue} und ${q://QID28/ChoiceTextEntryValue}. Wie stark schätzt du deine emotionale Bindung zu ihnen ein?