

Measuring Process by Typifying Emotional Words

Horst Kächele, Michael Hölzer, Erhard Mergenthaler, Dan Pokorny

Department Psychosomatic Medicine and Psychotherapy

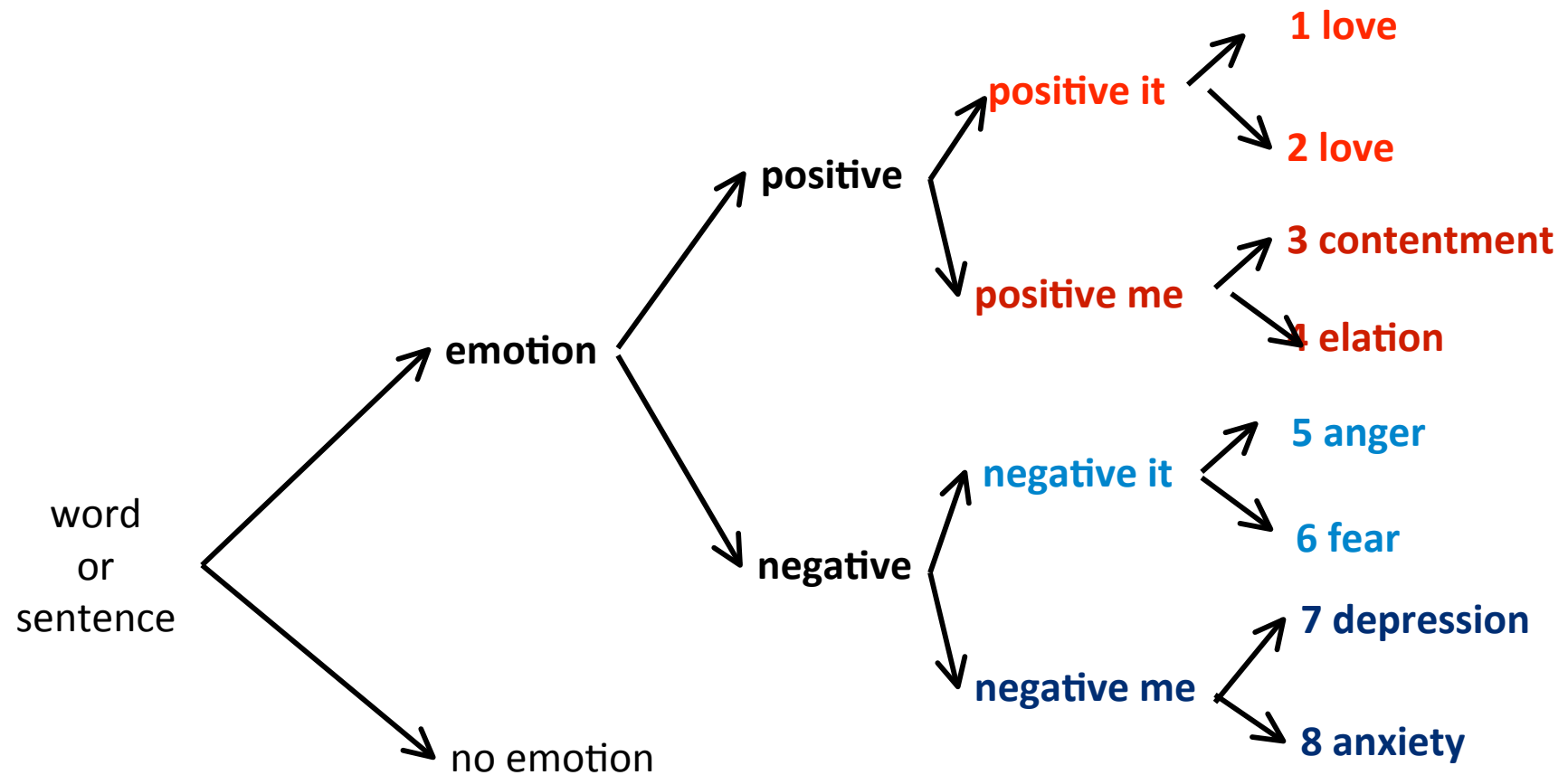
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ADU – Affective Dictionary Ulm

Freud → de Rivera → **Hartwig Dahl** → Michael Hölzer in NY → Ulm



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Dahl – Hölzer – Barry (1992): How to classify emotions. “*hand-rated*” approach.

Computer assisted content analysis

Ulmer Textbank, process research – Mergenthaler, Kächele

English ADU dictionary (Dahl, Hölzer):

list of > 1600 full-form words classified into 8 categories

German ADU dictionary (Hölzer, Pokorny et al.):

list of > 2000 basic-form words, > 26 000 full-form words, classified into 12 categories

ADU – volume A

abandon 7, abandoned 7, abhor 5, abhorrence 5, abhorrent 5, abnormal 7, abused 6, accept 1, acceptable 1, acceptance 1, accepted 1, accepting 1, accepts 1, accord 1, accordance 1, accusation 5, accuse 5, accused 5, accusing 5, ache 8, ached 8, aching 8, activated 4, active 4, actively 4, activities 4, activity 4, admiration 1, admire 1, admired 1, adorable 1, adoration 1, adore 1, adored 1, adores 1, adventuresome 4, adventurous 4, adversity 7, affect 1, affected 1, affecting 1, affection 1, affectionate 1, affects 1, affront 6, affronted 6, afraid 6, aggravated 5, aggravates 5, aggravating 5, aggravation 5, aggressive 5, aghast 7, agitated 8, agitating 8, agonize 7, agonized 7, agonizes 7, agonizing 7, agree 2, agreeable 2, agreeably 2, agreed 2, ailments 7, awkwardly 7, awkwardness 7, alert 4, alerted 4, alienate 6, alienation 6, alive 4, allowed 1, allowing 1, allude 1, alone 7, aloof 7, amaze 2, amazed 2, amazes 2, amazing 2, ambition 4, ambitions 4, ambitious 4, ambivalences 5, ambivalent 5, amuse 4, amused 4, amusing 4, anger 5, angers 5, angrier 5, angrily 5, angry 5, anguished 8, animosity 5, annoy 5, annoyed 5, annoying 5, annoyounce 5, annoyounces 5, annoys 5, antagonism 5, antagonisms 5, antagonistic 5, antagonizing 5, antipathy 5, anxieties 8, anxiety 8, anxious 8, anxiously 8, apathetic 7, apologetic 1, apologetically 1, apologize 1, apologizes 1, apologizing 1, apology 1, appalled 6, appalling 6, appreciate 1, appreciated 1, appreciating 1, appreciation 1, appreciative 1, apprehension 6, apprehensive 6, apprehensiveness 6, approval 1, approvals 1, approve 1, approved 1, approves 1, approving 1, argue 5, argued 5, arguing 5, argument 5, argumentative 5, arguments 5, arrogant 5, ashamed 7, assault 5, assaulted 5, assert 4, asserting 4, assertive 4, assertiveness 4, asserts 4, assurance 1, assure 1, assured 1, astonish 2, astonished 2, astonishes 2, astonishing 2, astonishingly 2, astonishment 2, attach 1, attache 1, attached 1, attaching 1, attachment 1, attachments 1, attack 5, attacked 5, attacking 5, attacks 5, attention 8, attract 2, attracted 2, attracting 2, attraction 2, attractive 2, attracts 2, authoritative 2, autonomy 4, aversion 6, avidly 4, awe 2, awefulness 6, aweinspiring 2, awesome 2, awful 6, awkward 7.

Hartvigs Specimen Case Mrs. C

Psychoanalytic treatment of Mrs. C by H. Dahl

over > 1000 sessions

transcribed sample:

60 sessions in 6 contiguous segments à 10 sessions

N = 223 835 token words (~ 3731 pro session)

n = 5222 emotional token words (~ 87 pro session)

Frequencies of affective categories

ADU category	Patient n=210604	Analyst n=13231	P %	T %	FISHER p
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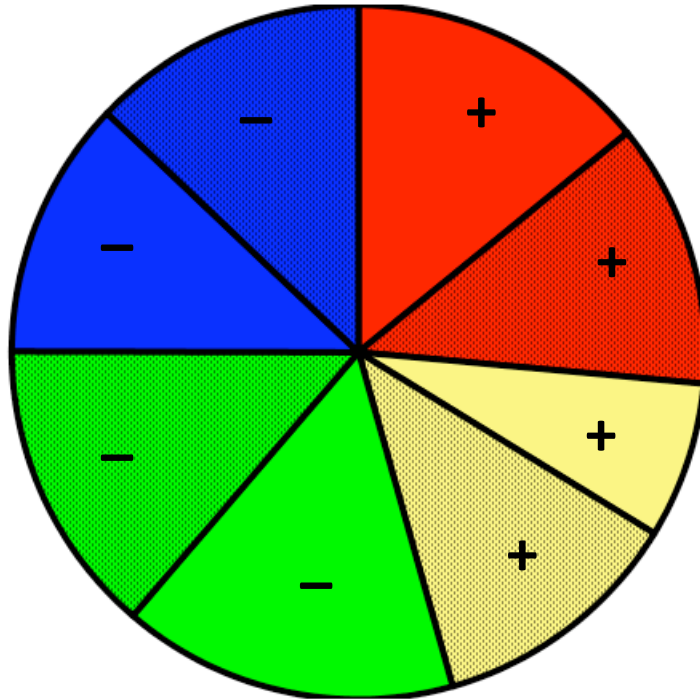
emotion	4840	382	2.30	2.89***	0.000
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positive	2208	131	1.05	0.99	0.278
negative	2632	251	1.25	1.90***	0.000

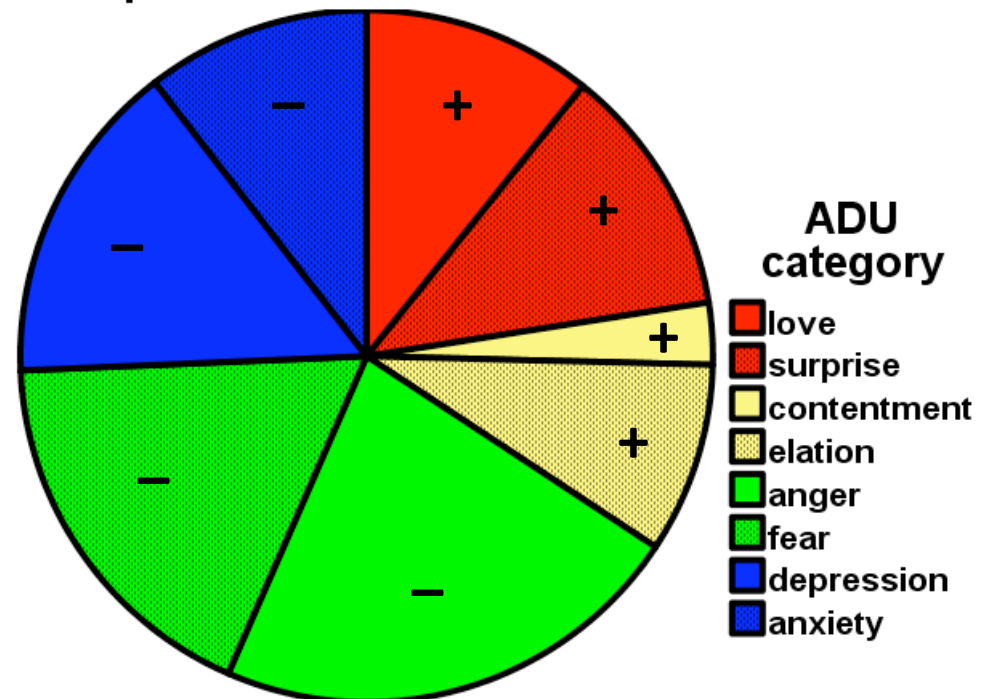
positive it	1280	86	0.61	0.65	0.288
positive me	928	45	0.44*	0.34	0.047
negative it	1424	153	0.68	1.16***	0.000
negative me	1208	98	0.57	0.74**	0.010

love	683	41	0.32	0.31	0.428
surprise	597	45	0.28	0.34	0.137
contentment	353	11	0.17**	0.08	0.008
elation	575	34	0.27	0.26	0.407
anger	758	85	0.36	0.64	0.000
fear	666	68	0.32	0.51***	0.000
depression	583	58	0.28	0.44***	0.001
anxiety	625	40	0.30	0.30	0.478

patient



therapist



ADU
category

- love
- surprise
- contentment
- elation
- anger
- fear
- depression
- anxiety

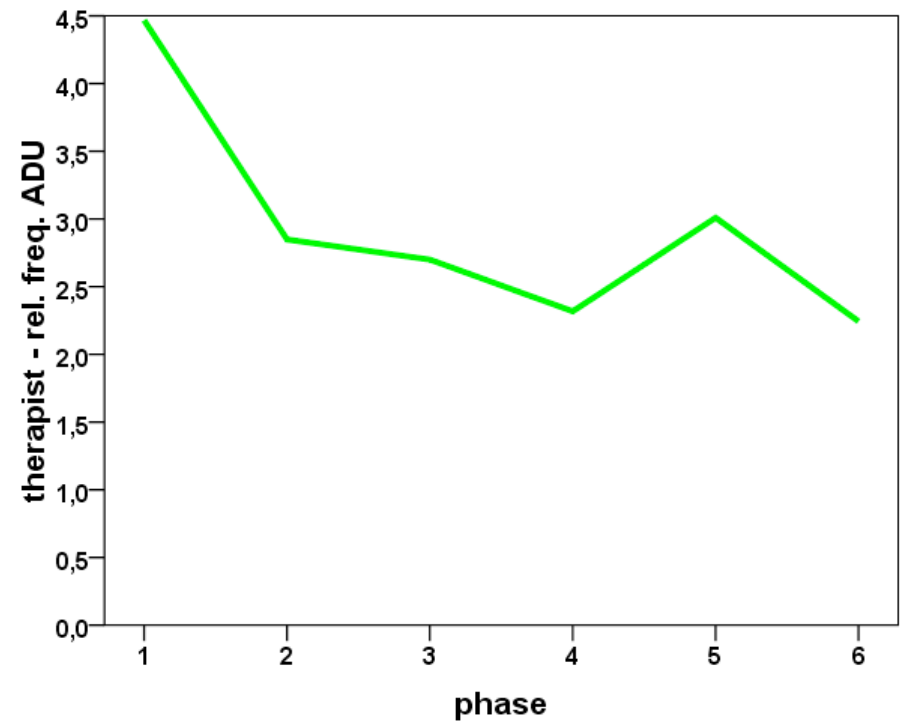
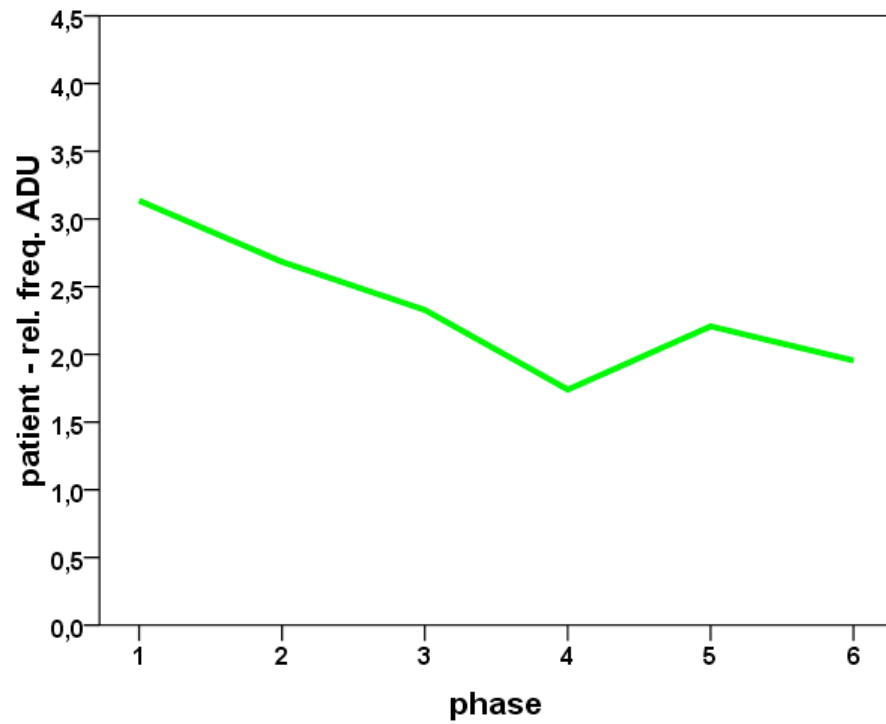
Most frequent affective words

PATIENT (n=210604 tokens)					THERAPIST (n=13231 tokens)				
	WORD	ADU category	abs	‰		WORD	ADU category	abs	‰
1	wondering	2 surprise	175	0.83		afraid	6 fear	26	1.97
2	afraid	6 fear	150	0.71		stupid	7 depressivity	19	1.44
3	angry	5 anger	107	0.51		angry	5 anger	16	1.21
4	upset	8 anxiety	106	0.50		love	1 love	10	0.76
5	care	1 love	67	0.32		wonder	2 surprise	10	0.76
6	love	1 love	65	0.31		sound	4 elation	8	0.60
7	involved	1 love	65	0.31		strong	4 elation	6	0.45
8	nice	2 surprise	62	0.29		attention	8 anxiety	6	0.45
9	strong	4 elation	59	0.28		guilty	7 depressivity	6	0.45
10	bothered	6 fear	57	0.27		alone	7 depressivity	5	0.38
11	trouble	8 anxiety	56	0.27		strongly	4 elation	5	0.38
12	attention	8 anxiety	51	0.24		opposite	5 anger	5	0.38
13	annoyed	5 anger	49	0.23		curious	1 love	5	0.38
14	nervous	8 anxiety	48	0.23		foolish	7 depressivity	5	0.38
15	awful	6 anxiety	47	0.22		troubled	8 anxiety	5	0.38

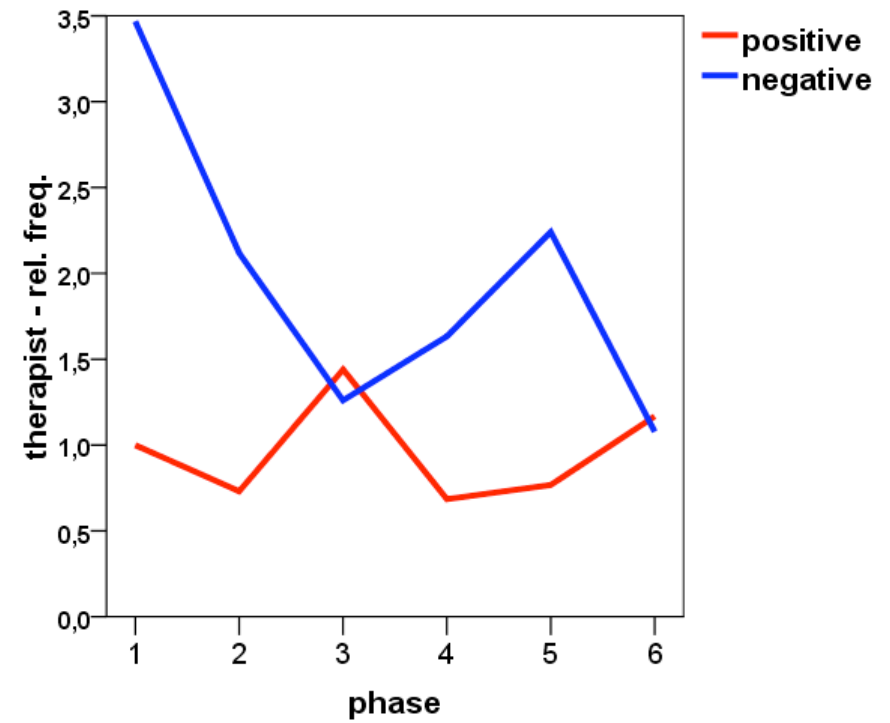
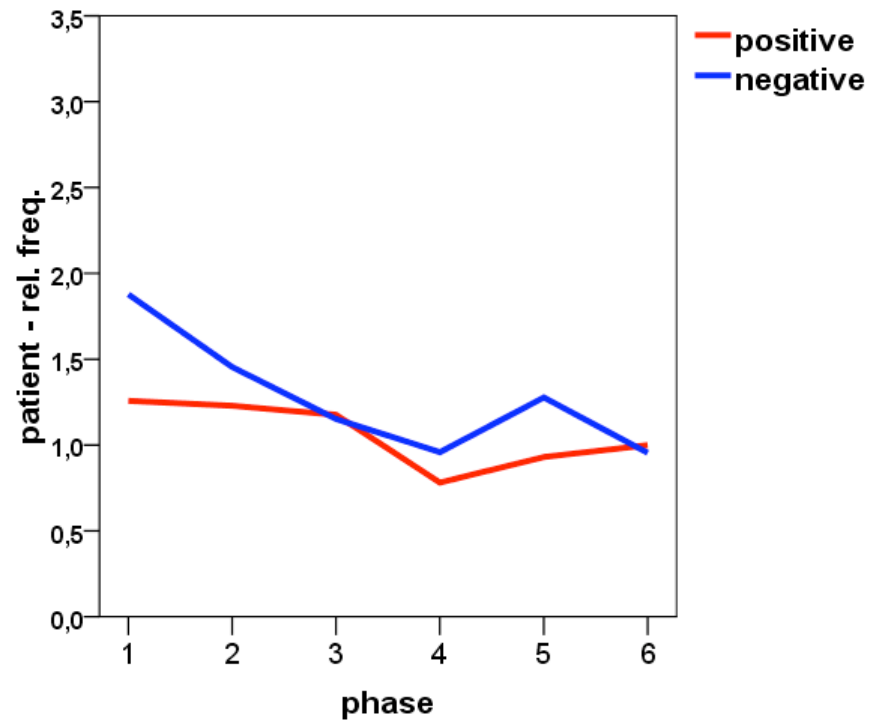
SPECIFIC FOR PATIENT WORD ADU CATEGORY	PATIENT n=210604	THERAPIST n=13231	PATIENT ‰	THERAPIST ‰	Fisher Test p
upset 8 anxiety	106	1	0.50	0.08	0.011*
wondering 2 surprise	175	4	0.83	0.30	0.017*
involved 1 love	65	-	0.31	-	0.019*
nice 2 surprise	62	-	0.29	-	0.023*
bothered 6 fear	57	-	0.27	-	0.031*
annoyed 5 anger	49	-	0.23	-	0.050*
nervous 8 anxiety	48	-	0.23	-	0.054~
awful 6 fear	47	-	0.22	-	0.057~
accept 1 love	44	-	0.21	-	0.068~
happy 3 contentment	40	-	0.19	-	0.087~

SPECIFIC FOR THERAPIST WORD ADU CATEGORY	PATIENT n=210604	THERAPIST n=13231	PATIENT ‰	THERAPIST ‰	Fisher Test p
stupid 7 depressivity	30	19	0.14	1.44	0.000***
sound 4 elation	11	8	0.05	0.60	0.000***
troubled 8 anxiety	2	5	0.01	0.38	0.000***
afraid 6 fear	150	26	0.71	1.97	0.000***
defying 5 anger	-	3	-	0.23	0.000***
foolish 7 depressivity	7	5	0.03	0.38	0.000***
ignore 6 fear	1	3	0.00	0.23	0.001***
wonder 2 surprise	43	10	0.20	0.76	0.001***
casually 3 contentment	2	3	0.01	0.23	0.002**
angry 5 anger	107	16	0.51	1.21	0.002**

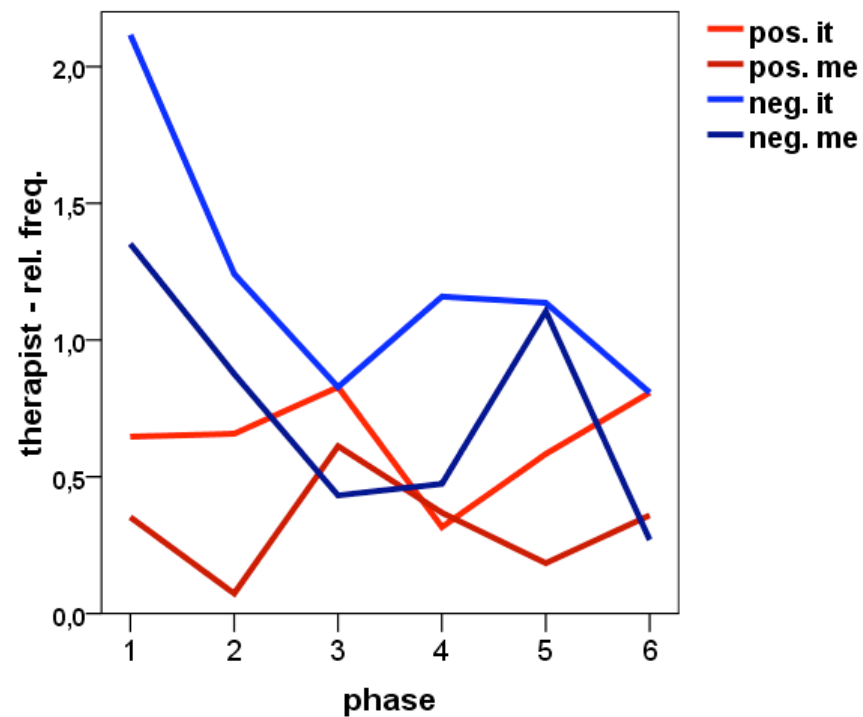
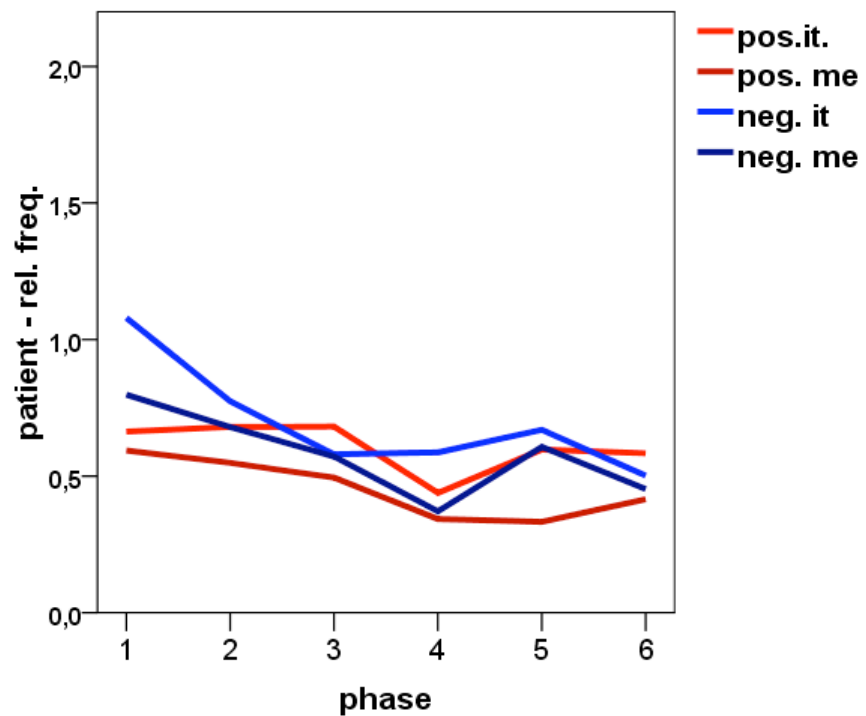
Time trends: Emotion, total



Time trends: positive and negative emotions



Time trends: positive and negative emotions

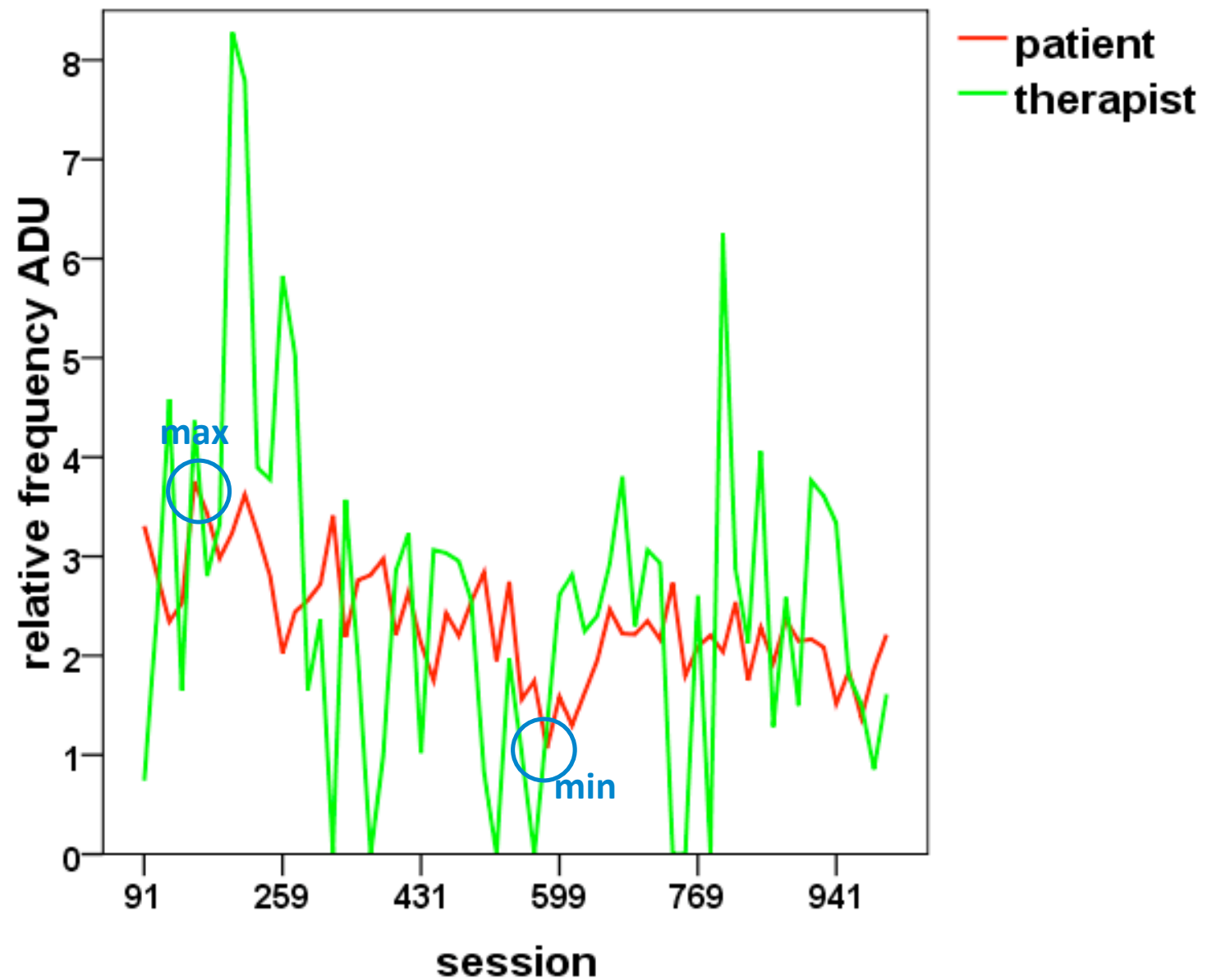


Time trends: Relative frequencies vs. time

(60 sessions, 6 phases) Spearman correlation

ADU category	PATIENT N=60 sessions	THERAPIST N=60 sessions	PATIENT N=6 phases	THERAPIST N=6 phases
emotion	-.63***	-.20	-.83*	-.66
positive	-.39**	-.05	-.77~	+.09
negative	-.50***	-.18	-.83~	-.60
positive it	-.12	-.04	-.60	-.03
positive me	-.43***	+.02	-.83~	+.20
negative it	-.44***	-.07	-.77~	-.83*
negative me	-.37**	-.29*	-.71	-.60
love	+.05	+.08	-.09	+.14
surprise	-.19	-.00	-.60	-.14
contentment	-.18	+.12	-.77~	+.46
elation	-.46***	-.01	-.83~	-.14
anger	-.23~	+.01	-.49	-.49
fear	-.51***	-.17	-.83*	-.60
depression	-.39**	-.12	-.83*	-.14
anxiety	-.18	-.29*	-.54	-.71

Time trends: positive and negative emotions



Mrs. C., session 95. ADU by patient: 3.75% (=maximum)

SESSION BEGINNING ...

(four-minute silence)

P: just separate things came into my mind. and *(clears throat)* I don't know, I guess I've been trying to decide which one is sort of more importantly on my mind. one was the; it's all /; one was, uhm, a feeling I had this morning when I was j -, I just happened to, my eye was caught by a letter I'd thrown away by my mother. and the parts showing from the wastebasket was where she signed her name, said, "love_1" and then signed, "mama". and for some reason it had, had a very strong_4 feeling of, well, anger_5 was the only way I could describe it but it was more than anger_5 or it was a variety of things. and it made me feel uncomfortable_8. and I ended up just feeling angry_5. and this really surprised_2 me. it wasn't a letter I'd received recently and that just, it caught my eye quickly and I quickly had this very intense feeling. and I sort of had to fight_5 against it. and then I r -, just was, well, feeling surprised_2 that I'd felt that way. and I think the reason I felt the anger_5 and, I don't know, a variety of emotions was somehow, seeing the word, love_1, [...] but very often, if I am enjoying_4 having intercourse, it's when I suddenly realize I'm enjoying_4 it that something will happen and I, I lose my ability to enjoy_4 it. I, it's almost as if I have to not let myself, now, to punish_5 myself for having enjoyed_4 it.

T: that's when you get uptight_8.

P: yeah.

Mrs. C., session 598. ADU by patient: 1.07% (=minimum)

SESSION BEGINNING ...

(seven-minute silence)

P: I don't know, just thinking about this morning, mainly I think in, of the feeling I keep getting is that I don't, I don't want to talk now. and, uhm, *(clears throat)* I suppose I, I also had the feeling this morning I think, that I didn't want to come today, and I, I would imagine that's probably partly in reaction to not coming last wee -, at the end of last week. *(pause)* but also, when I think about today, uhm, well I was thinking mainly about going to *smq this morning to see if there was anything on sale I wanted. and I'd gone with *fni, who then stayed in town, *pwrz, to do some other things, and I went home. and I had *fso with me, and she had *fyh. and, at some point I'm thinking about her arrangements in leaving *mydn, and uh, not so much about john, but I think the feeling I had this morning was very much that *fni knew what to do, or I don't know, somehow, anyway, that she, she was more in control, in charge. and I again, was feeling in some way like a little girl tagging along after her. *(pause)*

T: why didn't you want to come?

Mrs. C., extremes compared ...

Session 95. ADU 3.75% (=maximum)

(four-minute silence)

P: just separate things came into my mind. and *(clears throat)* I don't know, I guess I've been trying to decide which one is sort of more importantly on my mind. one was the; it's all /; one was, uhm, a feeling I had this morning when I was j -, I just happened to, my eye was caught by a letter I'd thrown away by my mother. and the parts showing from the wastebasket was where she signed her name, said, "love_1" and then signed, "mama". and for some reason it had, had a very strong_4 feeling of, well, anger_5 was the only way I could describe it but it was more than anger_5 or it was a variety of things. and it made me feel uncomfortable_8. and I ended up just feeling angry_5. and this really surprised_2 me. it wasn't a letter I'd received recently and that just, it caught my eye quickly and I quickly had this very intense feeling. and I sort of had to fight_5 against it. and then I r -, just was, well, feeling surprised_2 that I'd felt that way. and I think the reason I felt the anger_5 and, I don't know, a variety of emotions was somehow, seeing the word, love_1, [...] but very often, if I am enjoying_4 having intercourse, it's when I suddenly realize I'm enjoying_4 it that something will happen and I, I lose my ability to enjoy_4 it. I, it's almost as if I have to not let myself, now, to punish_5 myself for having enjoyed_4 it.

T: *that's when you get uptight_8.*

P: yeah.

Session 598. ADU 1.07% (=minimum)

(seven-minute silence)

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T: *why didn't you want to come?*

