

Loving yourself more than your neighbor: ERPs reveal online effects of a self-positivity bias

Social Cognitive and Affective Neuroscience

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Supplementary Analyses

Early Components: P1, N1, and P2

Visual examination of the waveform revealed a positivity peaking between 50 and 100 ms (the P1), a negativity peaking around 150 ms (the N1), and a positivity peaking around 250 ms (the P2).

There were no significant main effects or interactions in either the mid-regions or peripheral regions omnibus ANOVAs in the 0 – 50 ms, 50 – 100 ms (P1), or 100 – 200 ms (N1) time windows [all $F_s < 3.3$, $p_s > .05$].

The P2 was analyzed as the mean amplitude between 200 and 300 ms. Both the mid-regions and peripheral regions ANOVAs showed a significant Emotion x Self-Relevance x Region interaction [$F(8, 184) = 4.07$, $p = .005$, $\eta^2 = .151$ and $F(2, 46) = 5.06$, $p = .012$, $\eta^2 = .180$, respectively]. We followed-up this interaction by examining the Emotion x Self-Relevance interaction in the frontal region, where the effect was strongest [$F(2, 46) = 6.00$, $p = .005$, $\eta^2 = .207$]. Here neutral and unpleasant words appeared to have evoked a larger positivity when in the other-relevant context than the self-relevant context [$F(1, 23) = 3.40$, $p = .078$, $\eta^2 = .129$ and $F(1, 23) = 5.70$, $p = .026$, $\eta^2 = .199$, for neutral and unpleasant words respectively] (see Figure 2 and Figure S1). Pleasant words appeared to evoke a larger positivity when in the self-relevant context than the other-relevant context [$F(1, 23) = 4.41$, $p = .047$, $\eta^2 = .161$]. However, visual examination of the grand means (Figure 2) and difference waves (Figure S1) suggested that this effect for pleasant words was, in fact, due to overlap from the following negativity.

Late Positivity (500 – 800 ms)

Results on the late positivity will be presented and discussed in comparison with the results of our previous study with the same stimuli but a different task (Fields & Kuperberg, 2012) in a future paper. This paper will focus on how task influences the allocation of attention to motivationally relevant stimuli as indexed by the late positivity. What is important to note for the current paper is that overlap from the late positivity cannot account for results in the N400 time window: the effect of self-relevance for pleasant words did not reach significance in either the full late positivity time window (500 – 800 ms) or in the smaller 500 – 600 ms, 600 – 700 ms, or 700 – 800 ms time windows [all $F_s < 4.3$, $p_s > .05$]. In addition, the self-other contrast for pleasant words showed a different (more posterior) scalp distribution in these later time windows than in the 300-500 ms time window (see Figure S1).

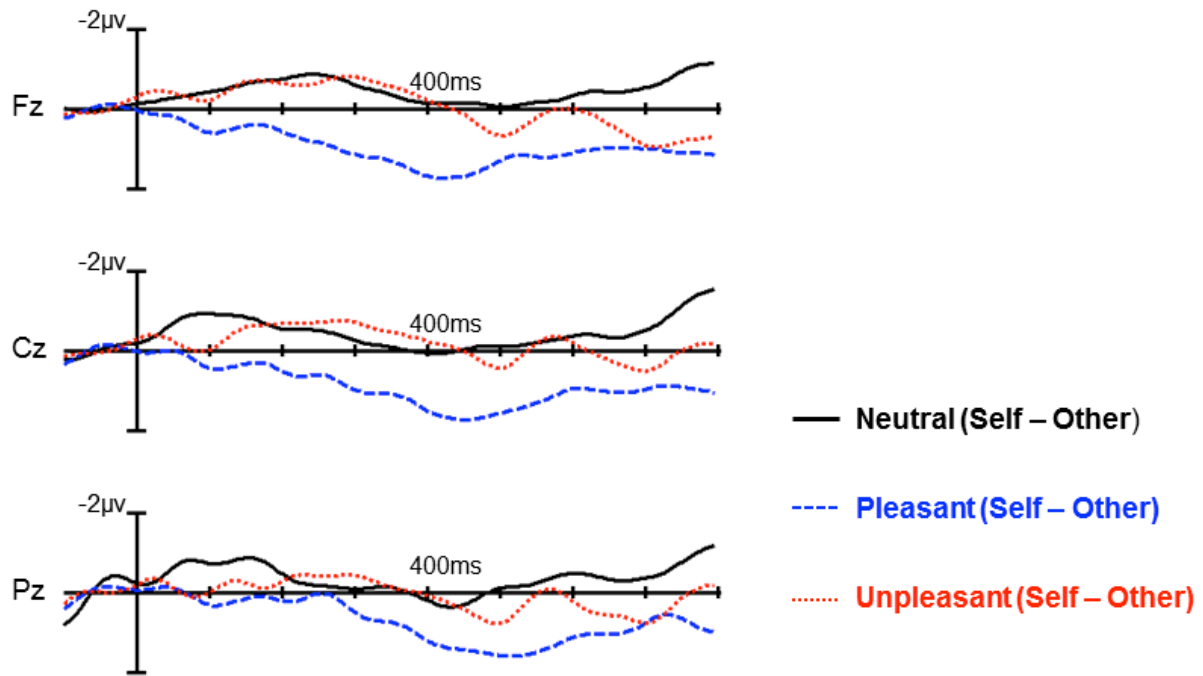


Figure S1. *Self – other difference waves.*

Waveforms show the effect of Self-Relevance (self-relevant – other-relevant) for each Emotion condition. They are low-pass filtered with a half-amplitude cutoff at 5 Hz for viewing purposes.

Table S1: Additional Stimulus Examples

This table contains 50 scenarios randomly selected from the full set of 222 scenarios. The full set of stimuli is available from the first author (Eric.Fields@tufts.edu).

| Other Condition | Self Condition |
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| The judges all give Henry a score in the competition. It is a real <u>tribute/appraisal/insult</u> to/of his work. | The judges all give you a score in the competition. It is a real <u>tribute/appraisal/insult</u> to/of your work. |
| Sebastian is trying a new recipe for dinner tonight. It is <u>magnificent/rich/repugnant</u> when he tastes it. | You are trying a new recipe for dinner. It is <u>magnificent/rich/repugnant</u> when you taste it. |
| Cynthia is in charge of a class of kids. The children are <u>adorable/occupied/uncontrollable</u> her first day. | You are in charge of a class of kids. The children are <u>adorable/occupied/uncontrollable</u> your first day. |
| The saleswoman is talking to Lamar in the store. She is quick to <u>help/answer/pressure</u> him that day. | The saleswoman is talking to you in the store. She is quick to <u>help/answer/pressure</u> you that day. |
| Helen is babysitting for her neighbor's kids. She cooks dinner and the children <u>love/eat/refuse</u> it. | You are babysitting for your neighbor's kids. You cook dinner and the children <u>love/eat/refuse</u> it. |
| After a long walk Rita sits on a bench. She is filled with <u>ecstasy/thoughts/despair</u> at that moment. | After a long walk you sit on a bench. You are filled with <u>ecstasy/thoughts/despair</u> at that moment. |
| Leland's family is meeting for dinner. His mother is always so <u>tender/conversational/irritable</u> around her children. | Your family is meeting for dinner. Your mother is always so <u>tender/conversational/irritable</u> around her children. |
| Justin is playing a game he's never tried before. Everyone around him <u>claps/watches/jeers</u> the whole time. | You are playing a game you've never tried before. Everyone around you <u>claps/watches/jeers</u> the whole time. |
| The UPS driver brings the delivery into Ella's house. She is <u>thrilled/curious/worried</u> to see it. | The UPS driver brings the delivery into your house. You are <u>thrilled/curious/worried</u> to see it. |
| Roger and his co-workers go on a company retreat. By the end he is <u>fond/acquainted/aggravated</u> of/with everyone at his office. | You and your co-workers go on a company retreat. By the end you are <u>fond/acquainted/aggravated</u> of/with everyone at your office. |
| Janice arrives at a benefit. Other attendees think her outfit is <u>stunning/reasonable/horrendous</u> at/for the event. | You arrive at a benefit. Other attendees think your outfit is <u>stunning/reasonable/horrendous</u> at/for the event. |
| The manager knows that Joanne is changing jobs. He is responsible for her <u>celebration/paperwork/problems</u> this week. | The manager knows that you are changing jobs. He is responsible for your <u>celebration/paperwork/problems</u> this week. |

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| Jenna goes to the bank. She notices her balance is <u>larger/congruous/smaller</u> than/with what she expected. | You go to the bank. You notice your balance is <u>larger/congruous/smaller</u> than/with what you expected. |
| Liza sees someone approaching her. She thinks he is coming to <u>greet/talk/kill</u> (to) her today. | You see someone approaching you. You think he is coming to <u>greet/talk/kill</u> (to) you today. |
| Gwyneth is part of a performance. The next day their show is <u>recommended/reviewed/trashed</u> in the paper. | You are part of a performance. The next day your show is <u>recommended/reviewed/trashed</u> in the paper. |
| Carlotta is learning a new dance. Her partner realizes she is a <u>natural/student/fool</u> when they try it. | You are learning a new dance. Your partner realizes you are a <u>natural/student/fool</u> when you try it. |
| Winston's parents have recently moved. He <u>enjoys/visits/resents</u> the new house. | Your parents have recently moved. You <u>enjoy/visit/resent</u> the new house. |
| Harriet goes to her high school reunion. All night she feels <u>comfortable/stirred/wretched</u> at the event. | You go to your high school reunion. All night you feel <u>comfortable/stirred/wretched</u> at the event. |
| Ron is working on a research paper. Information on his topic is <u>ample/varied/scarce</u> in the library. | You are working on a research paper. Information on your topic is <u>ample/varied/scarce</u> in the library. |
| Larry sees his extended family over the holidays. The kids view him as an <u>inspiration/adult/idiot</u> when he's around. | You see your extended family over the holidays. The kids view you as an <u>inspiration/adult/idiot</u> when you're around. |
| Amanda is taking a challenging class. Her professor thinks she is quite <u>bright/vocal/stupid</u> at times. | You are taking a challenging class. Your professor thinks you are quite <u>bright/vocal/stupid</u> at times. |
| Bethany sees her old teacher at the supermarket. She feels all the <u>gratitude/memories/bitterness</u> coming back. | You see your old teacher at the supermarket. You feel all the <u>gratitude/memories/bitterness</u> coming back. |
| Mona is up late at an event. She is <u>energetic/awake/exhausted</u> throughout the evening. | You are up late at an event. You are <u>energetic/awake/exhausted</u> throughout the evening. |
| Ally is getting together with someone new. Everyone thinks this person is having a <u>good/discernible/troubling</u> effect on her life. | You are getting together with someone new. Everyone thinks this person is having a <u>good/discernible/troubling</u> effect on your life. |
| Greg's relatives are visiting him. They <u>encourage/stay/embarrass</u> (with) him all the time. | Your relatives are visiting you. They <u>encourage/stay/embarrass</u> (with) you all the time. |
| Phyllis goes shopping on Friday. She is quite <u>elated/absorbed/upset</u> by the experience. | You go shopping on Friday. You are quite <u>elated/absorbed/upset</u> by the experience. |
| Nora takes a cab while on vacation. The driver is <u>helpful/silent/aggressive</u> on the way to her hotel. | You take a cab while on vacation. The driver is <u>helpful/silent/aggressive</u> on the way to your hotel. |

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| Geoff works for a large company. He always feels quite <u>successful/engrossed/incompetent</u> in his deals. | You work for a large company. You always feel quite <u>successful/engrossed/incompetent</u> in your deals. |
| Gabrielle sees her friend's newborn baby for the first time. The baby <u>beams/stares/screams</u> at her from the crib. | You see your friend's newborn baby for the first time. The baby <u>beams/stares/screams</u> at you from the crib. |
| Georgina is watching a new movie. Right away she finds the plot <u>captivating/complex/irritating</u> in this film. | You are watching a new movie. Right away you find the plot <u>captivating/complex/irritating</u> in this film. |
| Karen takes her car in for an inspection. The mechanic says her engine is <u>pristine/Japanese/broken</u> in this vehicle. | You take your car in for inspection. The mechanic says your engine is <u>pristine/Japanese/broken</u> in this vehicle. |
| Bernie plans to transfer to a different university. His parents find his reasons <u>satisfying/obvious/unsatisfying</u> when he brings up the idea. | You plan to transfer to a different university. Your parents find your reasons <u>satisfying/obvious/unsatisfying</u> when you bring up the idea. |
| Trish starts a new job today. After her first day, her boss thinks she is <u>well-suited/adequate/problematic</u> for this job. | You start a new job today. After your first day, your boss thinks you are <u>well-suited/adequate/problematic</u> for this job. |
| Lola writes a short story. When she posts it online, people comment to say that the plot is <u>enthraling/sensible/tedious</u> throughout. | You write a short story. When you post it online, people comment to say that the plot is <u>enthraling/sensible/tedious</u> throughout. |
| Dylan's friend always expresses what she thinks. She says his outfit is <u>fashionable/noticeable/hideous</u> today. | Your friend always expresses what she thinks. She says your outfit is <u>fashionable/noticeable/hideous</u> today. |
| Ann is meeting with her adviser about an important decision. After she speaks, he <u>congratulates/responds/disagrees</u> (to/with) her immediately. | You are meeting with your adviser about an important decision. After you speak, he <u>congratulates/responds/disagrees</u> (to/with) you immediately. |
| Wanda is working late on her first day. People think she is an <u>asset/intern/imbecile</u> to/in the company. | You are working late on your first day. People think you are an <u>asset/intern/imbecile</u> to/in the company. |
| A man knocks on Sandra's hotel room door. She sees that he has a <u>gift/tray/gun</u> in his hand. | A man knocks on your hotel room door. You see that he has a <u>gift/tray/gun</u> in his hand. |
| After the dentist finishes his examination, he talks to Christina. He says her teeth are <u>healthy/flossed/unhealthy</u> now. | After the dentist finishes his examination, he talks to you. He says your teeth are <u>healthy/flossed/unhealthy</u> now. |
| DeAndre gets a haircut on Tuesday. People think his look is <u>stylish/altered/ridiculous</u> the next day. | You get a haircut on Tuesday. People think your look is <u>stylish/altered/ridiculous</u> the next day. |

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| At Brendan's job there are regular meetings to discuss everyone's progress. At every meeting, he is <u>lauded/mentioned/humiliated</u> during the process. | At your job there are regular meetings to discuss everyone's progress. At every meeting, you are <u>lauded/mentioned/humiliated</u> during the process. |
| Penny sees some people hiking ahead. When she catches up, they <u>befriend/turn/ignore</u> (toward) her immediately. | You see some people hiking ahead. When you catch up, they <u>befriend/turn/ignore</u> (toward) you immediately. |
| Corey is looking for an apartment. The first place he sees is <u>excellent/vacant/ugly</u> when he looks around. | You are looking for an apartment. The first place you see is <u>excellent/vacant/ugly</u> when you look around. |
| Hank's old colleague comes back to the company this week. When she sees him for the first time she gives him a <u>present/memo/glare</u> in the hallway. | Your old colleague comes back to the company this week. When she sees you for the first time she gives you a <u>present/memo/glare</u> in the hallway. |
| Delia works in a restaurant. Tonight her customers leave more <u>tips/food/mess</u> than usual. | You work in a restaurant. Tonight your customers leave more <u>tips/food/mess</u> than usual. |
| Rachel tells the children to go to sleep. Her voice seems very <u>sweet/steady/angry</u> that night. | You tell the children to go to sleep. Your voice seems very <u>sweet/steady/angry</u> that night. |
| Conrad is reading his campus newspaper. He sees a picture of himself that is <u>flattering/printed/unflattering</u> on the front page. | You are reading your campus newspaper. You see a picture of yourself that is <u>flattering/printed/unflattering</u> on the front page. |
| The team is talking about Eric as a new team member. People say he is the <u>best/oldest/worst</u> one. | The team is talking about you as a new member. People say you are the <u>best/oldest/worst</u> one. |
| A man rings Leticia's doorbell. He has come to <u>thank/deliver/assault</u> (to) her today. | A man rings your doorbell. He has come to <u>thank/deliver/assault</u> (to) you today. |
| Carter sees his co-workers daily. They are always <u>complimenting/watching/fighting</u> him during the lunch break. | You see your co-workers daily. They are always <u>complimenting/watching/fighting</u> you during the lunch break. |