# The Way You Make Me Feel: Evidence for Individual Differences in Affective Presence

## Noah Eisenkraft[1] and Hillary Anger Elfenbein[2]

[1]Department of Management, The Wharton School, University of Pennsylvania; and [2]Department of Organizational Behavior, Olin Business School, Washington University in St. Louis

## Abstract

How much do individuals consistently influence the way other people feel? Data from 48 work groups suggest there are consistent individual differences both in the emotions that people tend to experience (*trait affect*) and in the emotions that people tend to elicit in others (*trait affective presence*). A social relations model analysis revealed that after controlling for emotional contagion, the variance in emotions that people feel is explained by both trait affect (31% of positive affect and 19% of negative affect) and trait affective presence (10% of positive affect and 23% of negative affect). These analyses suggest that affective presence exerts as much influence over interaction partners' negative feelings as does these interaction partners' own trait affect. Positive affective presence correlated with greater network centrality, and negative affective presence correlated with lower agreeableness and greater extraversion.

Research at the intersection of individual differences and emotions has often focused on person-level stability in individuals' own affective states. There is extensive evidence for intraindividual consistency in affective experience. In longitudinal research on the stability of affect, Watson and Walker (1996) found medium-to-large correlations ($r$s = .36–.46) between initial self-reports and self-reports taken 6 and 7 years later. Studies using experience-sampling methods also demonstrate that across a wide range of situations, some people consistently feel positive whereas other people consistently feel negative (e.g., Diener & Larsen, 1984; Oishi, Diener, Scollon, & Biswas-Diener, 2004; Penner, Shiffman, Paty, & Fritzsche, 1994). These results support the case for consistent individual differences in *trait affect*, that is, the emotions that people tend to experience.

The present work adopted a complementary perspective: Instead of examining stability in individuals' own affective states, we investigated whether there is stability in the affective states that individuals bring out in their interaction partners. As lexical evidence can provide insights into personality constructs (Goldberg, 1993; John & Srivastava, 1999), we argue that the prevalence of adjectives and transitive verbs such as *infuriating*, *calming*, *boring*, and *exciting* suggest that people can be categorized based on the way they make others feel. However, these labels may reflect idiosyncratic relationships or momentary events, not the consistent affective response an individual can trigger across a range of interaction partners. We hypothesized that some individuals consistently make others feel happy and some individuals consistently make others feel angry, calm, or sad.

In the experiment reported in this article, we measured the extent to which people's self-reported emotions are explained by who they are interacting with, in other words, by their partner's *trait affective presence*. We investigated whether individuals consistently lead others to experience the same affective response by asking every member of 48 work groups to describe how they typically feel during their interactions with each other member of their group. If different people exhibited the same affective response in the presence of a particular interaction partner, we would have evidence for trait-level affective presence. Our research strategy of sampling different people's affective responses to the same focal individual was adapted from the experience-sampling designs that researchers use to investigate trait affect. Those designs

**Corresponding Author:**
Noah Eisenkraft, Department of Management, The Wharton School,
University of Pennsylvania, 3620 Locust Walk, Room 3116 SH-DH,
Philadelphia, PA 19104-6370
E-mail: nce@wharton.upenn.edu

examine the extent to which people have the same affective responses across different situations (Diener & Larsen, 1984; Oishi et al., 2004; Penner et al., 1994); our design examines the extent to which individuals trigger the same affective response in different people. We also present exploratory analyses on potential correlates of trait affective presence.

## Method
### *Participants*

The entire first-year master's of business administration (M.B.A.) class at a major university ($N$ = 239; 70% male and 30% female) completed measures as part of a required course on organizational behavior. A majority of the participants were U.S. citizens (57%), whereas most of the remaining students were citizens of countries in Asia (19%), Europe (10%), and Latin American (8%). Before data collection, administrators assigned students to 1 four-person work group and 47 five-person work groups through block randomization designed to diversify group membership across sex, national origin, and previous work experience. The members of each work group enrolled in all the same classes, worked together on every group project, and frequently socialized outside class.

### *Measures*

We collected data in three stages during the fall semester.

***Stage 1: Big Five personality dimensions.*** All but 1 participant completed personality questionnaires during Week 1. We measured the Big Five personality dimensions of Agreeableness ($M$ = 5.35, $SD$ = 0.89), Conscientiousness ($M$ = 5.66, $SD$ = 0.91), Extraversion ($M$ = 5.02, $SD$ = 1.18), Neuroticism ($M$ = 3.55, $SD$ = 1.16), and Openness ($M$ = 5.63, $SD$ = 0.82) using the Ten-Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003), which shows high test-retest reliability and high convergent validity with other widely used Big Five measures (Gosling et al., 2003).

***Stage 2: Experienced emotions.*** After 1 month, participants evaluated how much they felt eight affective states—angry, bored, calm, enthusiastic, happy, relaxed, sad, and stressed—on average, during their interactions with each of the other 3 or 4 members of their work groups. These emotions were selected because they (a) cover all four quadrants of previously theorized two-dimensional affective space (Russell, 1980; Watson & Tellegen, 1985) and (b) are socially acceptable to acknowledge in this particular participant setting. We used these data to estimate both trait affect and trait affective presence.

In addition to estimating how much trait affect and trait affective presence influenced each of the eight discrete emotions, we aggregated the emotions data into measures that correspond to the two dimensions of affective space: positive affect, which comprised the emotions happy, enthusiastic,

bored (reverse-scored), and sad (reverse-scored; = .73), and negative affect, which comprised stressed, angry, calm (reverse-scored), and relaxed (reverse-scored; = .86; Diener & Emmons, 1984; Watson & Tellegen, 1985). Structural equation models confirmed that this two-factor structure of affect fit the data better, $\chi^2$(19, $N$ = 952) = 862.3, goodness-of-fit index (*GFI*) = .793, root-mean-square error of approximation (*RMSEA*) = .216, comparative fit index (*CFI*) = .813, Bayesian information criterion (*BIC*) = 731.72, than a single global factor of positivity-negativity, comprising happy, enthusiastic, calm, relaxed, bored (reverse-scored), sad (reverse-scored), stressed (reverse-scored), and angry (reverse-scored), which would occur if participants merely reported global evaluations reflecting liking or general regard, $\chi^2$(20, $N$ = 952) = 1367.9, *GFI* = .721, *RMSEA* = .266, *CFI* = .707, *BIC* = 1,230.7.

***Stage 3: Social networks.*** Given the possibility that the emotions one elicits in others could influence the formation of effective social networks, after 2 months, the participants completed a social network questionnaire regarding their strongest friendship connections (i.e., "with whom you interact frequently and whom you like a great deal") among all 238 of their classmates. The variable *network centrality* ($M$ = 6.96, $SD$ = 3.55) reflects the number of people who listed the participant as a close friend (Wasserman & Faust, 1994).

***Personal characteristics.*** University sources provided data for all participants on sex, citizenship, and General Management Admissions Test (GMAT) score ($M$ = 713, $SD$ = 34), an indicator of cognitive ability.

## Results

The interdependent nature of interpersonal interactions demands specific types of analysis. In particular, during interactions, people consciously and unconsciously reciprocate their partner's emotions (Barsade, 2002; Dimberg, Thunberg, & Elmehed, 2000; Hatfield, Cacioppo, & Rapson, 1994; Neumann & Strack, 2000; Pugh, 2001). In our setting, therefore, people's emotions were influenced by (a) their stable tendencies to experience particular emotions (trait affect), (b) the stable tendencies of their partners to elicit particular emotions from others (trait affective presence), and also (c) the emotions that their interaction partners experienced. Statistically controlling for the contagious nature of emotions in our analysis helped to distinguish between people eliciting consistent emotions because they infected counterparts with their own emotions and people possessing some other stable factor in their personal repertoire that consistently led to the same affective response.

We analyzed these round-robin emotions data using the social relations model (SRM; Kenny, 1994; Kenny & La Voie, 1984), a modified analysis of variance that can accommodate dyadic interdependence. The SRM measures how much of the variance in dyadic phenomena—such as, in our case, which

emotions a person feels around which partners—is explained systematically by people's stable traits (actor effects, or trait affect in this study) and by the stable traits of their interaction partners (partner effects, or trait affective presence in this study) while controlling for reciprocity in the two people's interaction (dyadic reciprocity, or *dyad-level emotional contagion* in this study). Further, SRM calculates trait-level contagion (also called the *actor- partner correlation*), which is the extent to which people's trait affect tends to correspond with their trait affective presence.

Table 1 shows the SRM variance partitioning both for positive affect and negative affect and for the individual emotions used to derive these composites. The percentages in this table can be interpreted similarly to the coefficient of determination ($R^2$) used to summarize the total explanatory power of a regression model. That is, similar to $R^2$, these percentages reveal the existence of individual differences in terms of their predictive power but do not explain the specific effects. We used Lashley and Bond's (1997) formulas to calculate the significance of the SRM coefficients.

### Trait affect

The trait-affect column in Table 1 describes the degree of stability in the emotions people tend to feel from one interaction partner to the next. A high value suggests that people experience the same emotions regardless of their partner.

Such trait affect explained 31% of the variance in positive affect across interaction partners, $t(191) = 6.17$, $p < .01$, $p_{rep} > .99$, and 19% of the variance in negative affect, $t(191) = 4.97$, $p < .01$, $p_{rep} > .99$. On an absolute—rather than percentage—scale, the variance explained by trait affect was consistent across the two dimensions (positive-affect variance = .221,

negative-affect variance = .255), paired $t(47) = -0.682$, $p = .50$, $p_{rep} = .50$, but individuals tend to vary more in their negative affect, so the same absolute variance yielded a lower percentage explained.

### Trait affective presence

The affective-presence column in Table 1 describes the degree of stability in the emotions that people tend to elicit in others, from one interaction partner to the next. A high percentage suggests that people tend to bring out the same emotional experiences across partners.

Such trait affective presence explained 10% of the variance in other people's positive affect, $t(191) = 3.32$, $p < .01$, $p_{rep} = .98$, and 23% of the variance in other people's negative affect, $t(191) = 5.47$, $p < .01$, $p_{rep} > .99$. On an absolute scale, people's affective presence explained significantly more of partners' negative affect (variance = .310) than of their positive affect (variance = .074), $t(47) = 3.43$, $p < .01$, $p_{rep} = .98$. Thus, a person's affective presence is more likely to make other people feel angry or not calm than it is to make others happy or not sad.

Comparing trait affect with trait affective presence, we found that the explanatory power of negative affective presence was substantial—indeed, as large as that of trait negative affect, $t(47) = 0.654$, $p = .52$, or that of trait positive affect, $t(47) = 1.21$, $p = .23$, $p_{rep} = .70$. However, positive affective presence accounted for less variance than either trait positive affect, $t(47) = 2.94$, p $< .01$, $p_{rep} = .97$, or trait negative affect, $t(47) = 3.50$, $p < .01$, $p_{rep} = .99$. That is, other people's stable presence appears to explain just as much about participants' feelings of stress, anger, relaxation, and calmness as the participants' own stable affect. Feelings of positive affect,

**Table 1.** Social Relations Model of Affective Experience With Relationship Partners

| | Rating | | Actor effects (trait affect) | Partner effects (affective presence) | Relationship effects plus error | Dyadic reciprocity (dyad-level contagion) | Actor-partner reciprocity (trait-level contagion) |
|---|---|---|---|---|---|---|---|
| Emotion | M | SD | | | | | |
| Positive affective presence | | | | | | | |
| Overall positive (α = .73) | 5.72 | 0.88 | 31%** | 10%** | 58% | .35** | −.02 |
| Enthusiastic | 4.62 | 1.52 | 32%** | 6%* | 62% | .34** | −.07 |
| Happy | 4.97 | 1.39 | 34%** | 9%** | 57% | .25** | .20 |
| Bored | 6.42 | 1.02 | 26%** | 6%* | 68% | .17** | −.53* |
| Sad | 6.84 | 0.56 | 30%** | 3%† | 66% | .10 | −.01 |
| Negative affective presence | | | | | | | |
| Overall negative (α = .86) | 2.21 | 1.16 | 19%** | 23%** | 58% | .24** | .11 |
| Stressed | 1.85 | 1.31 | 14%** | 21%** | 64% | .20** | −.04 |
| Angry | 1.39 | 0.97 | 15%** | 14%** | 71% | .13* | −.08 |
| Relaxed | 2.79 | 1.57 | 22%** | 18%** | 60% | .17** | .22 |
| Calm | 2.81 | 1.55 | 26%** | 18%** | 56% | .15* | .22 |

Note: N = 239. Affective experience ratings were made on a scale ranging from 1, *not at all*, to 7, *extremely*. Bored, sad, relaxed, and calm were reverse-scored.
†p < .10. *p < .05. **p < .01.

however, are more strongly influenced by people's own trait affect than by other people's affective presence.

## Emotional contagion

There was a moderate degree of emotional contagion at the dyad level, reaffirming the value of using the SRM to analyze participants' affective responses. Dyadic reciprocity ($\bar{r}$) across the 48 groups was .35 for positive affect, $t(191) = 5.13$, $p < .01$, $p_{rep} > .99$, and .24 for negative affect, $t(191) = 3.63$, $p < .01$, $p_{rep} = .99$.

At the trait level, are happy people the same people who make others happy? The evidence regarding such trait-level contagion is less straightforward. Although there was a positive association between people's trait affect and trait affective presence, positive-affect $r = .25$, $t(237) = 3.99$, $p < .01$, $p_{rep} > .99$; negative-affect $r = .26$, $t(237) = 4.23$, $p < .01$, $p_{rep} = .99$, the SRM analyses that controlled for dyadic reciprocity yielded no such effect, positive-affect $r = -.02$, $t(191) = -0.105$, $p = .92$, $p_{rep} = .16$; negative-affect $r = .11$, $t(191) = 0.766$, $p = .91$, $p_{rep} = .17$. These divergent results suggest that any individual-level association is from a contagion phenomenon that lives truly at the dyad level, which should be controlled in individual-level analyses.

## Correlates of presence

Given that affective presence exists, what are some of the factors with which it might be associated? We conducted exploratory analyses, summarized in Table 2. In this nationally diverse group, U.S. citizenship was associated with eliciting greater negative affect in others, $r(237) = .14$, $p = .03$, $p_{rep} = .93$. Eliciting positive affect in others was positively associated with network centrality, $r(237) = .13$, $p = .05$, $p_{rep} = .92$.

Examining affective presence and the Big Five personality factors revealed that individuals who scored higher in negative affective presence self-reported that they were less agreeable, $r(236) = -.12$, $p = .06$, $p_{rep} = .91$, and more extraverted, $r(236) = .22$, $p < .01$, $p_{rep} > .99$.

## Discussion

Results suggest there are consistent individual differences both in people's experience of their own emotions and in people's influence on the emotions of others. We argue that these findings are important for several reasons.

First, this is some of the strongest evidence to date for the existence of partner effects in social interaction. Partner effects consist of the behavior and feelings that one elicits in others and, consequently, the footprint that one leaves behind. Although researchers have found little evidence of strong partner effects during social interactions (see, e.g., Kenny & Malloy, 1988), we found partner effects in the affective states people feel around others—that is, affective presence—as large as individuals' own trait affect in the case of negative affect. Even positive affective presence, which was smaller than negative affective presence, was still significant for most states. We speculate that our evidence for trait affective presence was particularly strong because we studied how people felt around close acquaintances in widely varying settings, not how they behaved when interacting with strangers during constrained laboratory tasks (Kenny & Malloy, 1988). Given the extensive research attention commanded over the decades by trait affect (for reviews, see, e.g., Côté, 1999; Elfenbein, 2007), our strong results suggest that research on affective presence has little-tapped potential.

Second, this study and other research suggest that affective presence may have a range of important social consequences.

**Table 2.** Correlations Between Affective Presence and Demographic, Network, and Personality Variables

| Affective presence | Male | U.S. citizen | GMAT score | Network centrality | Big Five factor | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Agreeableness | Conscientiousness | Extraversion | Neuroticism | Openness |
| Positive | | | | | | | | | |
|   Overall | .07 | .03 | .00 | .13* | −.03 | −.05 | .00 | .07 | −.02 |
|     Enthusiastic | .05 | .10 | −.02 | .14* | −.07 | −.04 | .11† | .05 | −.01 |
|     Happy | .00 | −.10 | −.03 | .09 | .04 | .01 | −.05 | .06 | −.01 |
|     Bored | .12† | .06 | .08 | .12† | −.05 | −.08 | −.06 | .09 | −.02 |
|     Sad | .11† | .04 | −.05 | .03 | −.03 | −.11 | −.07 | .00 | −.03 |
| Negative | | | | | | | | | |
|   Overall | .00 | .14* | .02 | .03 | −.12† | .04 | .22** | −.05 | .10 |
|     Stressed | −.01 | .16* | .00 | −.02 | −.04 | .10 | .15* | −.02 | .08 |
|     Angry | −.02 | −.02 | .03 | .04 | −.07 | .05 | .16* | −.09 | .11† |
|     Relaxed | .00 | .15* | .03 | .02 | −.16* | .03 | .22** | −.04 | .09 |
|     Calm | .03 | .16* | .04 | .07 | −.15* | −.02 | .25** | −.05 | .10 |

Note: $N = 239$. All correlations are bivariate. GMAT = General Management Admissions Test. Big Five factors of personality were assessed using the Ten-Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003). Network centrality was measured as the number of people who listed the participant as a close friend (Wasserman & Faust, 1994). Bored, sad, relaxed, and calm were reverse-scored.
†$p < .10$. *$p < .05$. **$p < .01$.

For example, we found that people who elicited more positive affect were more popular among their peers. Further, recently, Scott and Judge (2009) found that people eliciting more negative emotions in their colleagues were more likely to be targets of counterproductive workplace behaviors such as rudeness and teasing. Affective presence may also contribute to work on phenomena such as "bad apples," that is, colleagues whose detrimental behavior negatively influences others (Felps, Mitchell, & Byington, 2006).

Future research should replicate and extend these findings while overcoming limitations of this research design, in which M.B.A. students retrospectively self-reported their emotions while interacting with different teammates. Subsequent research could use nonstudent samples. Further, subsequent work could directly measure participants' emotional reactions in the presence of others, instead of asking them to reflect on these interactions afterward. It may be possible, for example, to use electronically activated recorders to record expressed emotions during interactions (e.g., Mehl & Pennebaker, 2003; Mehl, Vazire, Ramirez-Esparza, Slatcher, & Pennebaker, 2007), or to use experience-sampling methods to determine how people typically feel while actually in a particular person's presence.

Our exploratory analyses suggested that people who elicited more negative affect in others reported being more disagreeable and extraverted and were more likely to be U.S. citizens. Future research might focus on additional correlates, as these associations merely scratched the surface.

Further work should also investigate the mechanisms responsible for affective presence. Unlike trait affect, affective presence is inherently interpersonal and must be caused or conveyed through some medium. Given that affective presence exists above and beyond emotional contagion, the effect does not result strictly from catching the emotions of others. So what is different about those people who elicit more versus less positive (or negative) affect than others? Plausible mechanisms include differences in mere expressive style (e.g., nonverbal cues; Allport & Vernon, 1933) and in interpersonal behavioral repertoires (e.g., acts of dominance or warmth; see, e.g., Cuddy, Fiske, & Glick, 2008; Osgood, 1970). Understanding the origins of affective presence can help to flesh out a complementary new perspective for researchers interested in individual differences in affect.

## Declaration of Conflicting Interests

## References

Allport, G.W., & Vernon, P.E. (1933). *Studies in expressive movement*. New York: Macmillan.

Barsade, S.G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly*, *47*, 644–675.

Côté, S. (1999). Affect and performance in organizational settings. *Current Directions in Psychological Science*, *8*, 65–68.

Cuddy, A.J.C., Fiske, S.T., & Glick, P. (2008). Warmth and competence as universal dimensions of social perception: The stereotype content model and the BIAS map. *Advances in Experimental Social Psychology*, *40*, 61–149.

Diener, E., & Emmons, R.A. (1984). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, *47*, 1105–1117.

Diener, E., & Larsen, R.J. (1984). Temporal stability and cross-situational consistency of affective, behavioral, and cognitive responses. *Journal of Personality and Social Psychology*, *47*, 871–883.

Dimberg, U., Thunberg, M., & Elmehed, K. (2000). Unconscious facial reactions to emotional facial expressions. *Psychological Science*, *11*, 86–89.

Elfenbein, H.A. (2007). Emotion in organizations: A review and theoretical integration. *Academy of Management Annals*, *1*, 371–457.

Felps, W., Mitchell, T.R., & Byington, E. (2006). How, when and why bad apples spoil the barrel: Negative group members and dysfunctional groups. *Research in Organizational Behavior*, *27*, 175–222.

Goldberg, L.R. (1993). The structure of phenotypic personality traits. *American Psychologist*, *48*, 26–34.

Gosling, S.D., Rentfrow, P.J., & Swann, W.B., Jr. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, *37*, 504–528.

Hatfield, E., Cacioppo, J.T., & Rapson, R.L. (1994). *Emotional contagion*. Cambridge, England: Cambridge University Press.

John, O.P., & Srivastava, S. (1999). The Big-Five trait taxonomy: History, measurement, and theoretical perspectives. In L.A. Pervin & O.P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138). New York: Guilford Press.

Kenny, D.A. (1994). *Interpersonal perception: A social relations analysis*. New York: Guilford Press.

Kenny, D.A., & La Voie, L. (1984). The social relations model. *Advances in Experimental Social Psychology*, *18*, 142–182.

Kenny, D.A., & Malloy, T.E. (1988). Partner effects in social interaction. *Journal of Nonverbal Behavior*, *12*, 34–57.

Lashley, B.R., & Bond, C.F. (1997). Significance testing for round robin data. *Psychological Methods*, *2*, 278–291.

Mehl, M.R., & Pennebaker, J.W. (2003). The sounds of social life: A psychometric analysis of students' daily social environments and natural conversations. *Journal of Personality and Social Psychology*, *84*, 857–870.

Mehl, M.R., Vazire, S., Ramirez-Esparza, N., Slatcher, R.B., & Pennebaker, J.W. (2007). Are women really more talkative than men? *Science*, *317*, 82.

Neumann, R., & Strack, F. (2000). "Mood contagion": The automatic transfer of mood between persons. *Journal of Personality and Social Psychology*, *79*, 211–223.

Oishi, S., Diener, E., Scollon, C.N., & Biswas-Diener, R. (2004). Cross-situational consistency of affective experiences across cultures. *Journal of Personality and Social Psychology*, *86*, 460–472.

Osgood, C.E. (1970). Speculation on the structure of interpersonal intentions. *Behavioral Science*, *15*, 237–254.

Penner, L.A., Shiffman, S., Paty, J.A., & Fritzsche, B.A. (1994). Individual differences in intraperson variability in mood. *Journal of Personality and Social Psychology*, *66*, 712–721.

Pugh, S.D. (2001). Service with a smile: Emotional contagion in the service encounter. *Academy of Management Journal*, *44*, 1018–1027.

Russell, J.A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, *39*, 1161–1178.

Scott, B., & Judge, T. (2009, August). *Identifying targets of counterproductive behavior: The role of personality and physical appearance*. Paper presented at the annual meeting of the Academy of Management, Chicago, IL.

Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge, England: Cambridge University Press.

Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin*, *98*, 219–235.

Watson, D., & Walker, L.M. (1996). The long-term stability and predictive validity of trait measures of affect. *Journal of Personality and Social Psychology*, *70*, 567–577.